

MERLIN LEGEND[®] Communications System Release 6.0

System Programming

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Notice

Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change. See Appendix A, "Customer Support Information," for important information.

Your Responsibility for Your System's Security

Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party, for example, persons other than your company's employees, agents, subcontractors, or persons working on your company's behalf. Note that there may be a risk of toll fraud associated with your telecommunications system, and if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

You and your System Manager are responsible for the security of your system, such as programming and configuring your equipment to prevent unauthorized use. The System Manager is also responsible for reading all installation, instruction, and system programming documents provided with this product in order to fully understand the features that can introduce risk of toll fraud and the steps that can be taken to reduce that risk. Lucent Technologies does not warrant that this product is immune from or will prevent unauthorized use of common-carrier telecommunication services or facilities accessed through or connected to it. Lucent Technologies will not be responsible for any charges that result from such unauthorized use. For important information regarding your system and toll fraud, see Appendix A, "Customer Support Information."

Federal Communications Commission Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense. For further FCC information, see Appendix A, "Customer Support Information."

Canadian Department of Communications (DOC) Interference Information

This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

Le Présent Appareil Numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A préscrites dans le règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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For more information about Lucent Technologies documents, refer to the section entitled "Related Documents" on page -xxi.

Support Telephone Number

In the continental U.S., Lucent Technologies provides a toll-free customer helpline 24 hours a day. Call the Lucent Technologies Helpline at **1 800 628-2888** or your Lucent Technologies authorized dealer if you need assistance when installing, programming, or using your system. Consultation charges may apply. Outside the continental U.S., contact your local Lucent Technologies authorized representative.

Network Engineering Group

For assistance in designing a private network, call the Network Engineering Group at 1 888 297-4700.

Lucent Technologies Corporate Security

Whether or not immediate support is required, all toll fraud incidents involving Lucent Technologies products or services *should be reported* to Lucent Technologies Corporate Security at **1 800 821-8235**. In addition to recording the incident, Lucent Technologies Corporate Security is available for consultation on security issues, investigation support, referral to law enforcement agencies, and educational programs.

Lucent Technologies Fraud Intervention

If you suspect you are being victimized by toll fraud and you need technical support or assistance, call BCS National Service Assistance Center at 1 800 628-2888.

Warranty

Lucent Technologies provides a limited warranty on this product. Refer to "Limited Warranty and Limitation of Liability" in Appendix A, "Customer Support Information."

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IMPORTANT SAFETY INSTRUCTIONS



The exclamation point in an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

When installing telephone equipment, always follow basic safety precautions to reduce the risk of fire, electrical shock, and injury to persons, including:

- Read and understand all instructions.
- Follow all warnings and instructions marked on or packed with the product.
- Never install telephone wiring during a lightning storm.
- Never install a telephone jack in a wet location unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone wiring has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Use only Lucent Technologies-manufactured MERLIN LEGEND Communications System circuit modules, carrier assemblies, and power units in the MERLIN LEGEND Communications System control unit.
- Use only Lucent Technologies-recommended/approved MERLIN LEGEND Communications System accessories.
- If equipment connected to the analog extension modules (008, 408, 408 GS/LS) or to the MLX telephone modules (008 MLX, 408 GS/LS-MLX) is to be used for in-range out-of-building (IROB) applications, IROB protectors are required.
- Do not install this product near water, for example, in a wet basement location.
- Do not overload wall outlets, as this can result in the risk of fire or electrical shock.
- The MERLIN LEGEND Communications System is equipped with a 3-wire grounding-type plug with a third (grounding) pin. This plug will fit only into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace the obsolete outlet. Do not defeat the safety purpose of the grounding plug.

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- The MERLIN LEGEND Communications System requires a supplementary ground.
- Do not attach the power supply cord to building surfaces. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
- Slots and openings in the module housings are provided for ventilation. To protect this equipment from overheating, do not block these openings.
- Never push objects of any kind into this product through module openings or expansion slots, as they may touch dangerous voltage points or short out parts, which could result in a risk of fire or electrical shock. Never spill liquid of any kind on this product.
- Unplug the product from the wall outlet before cleaning. Use a damp cloth for cleaning. Do not use cleaners or aerosol cleaners.
- Auxiliary equipment includes answering machines, alerts, modems, and fax machines. To connect one of these devices, you must first have a Multi-Function Module (MFM).
- Do not operate telephones if chemical gas leakage is suspected in the area. Use telephones located in some other safe area to report the trouble.

A

WARNING:

- For your personal safety, DO NOT install an MFM yourself.
- ONLY an authorized technician or dealer representative shall install, set options, or repair an MFM.
- To eliminate the risk of personal injury due to electrical shock, DO NOT attempt to install or remove an MFM from your MLX telephone. Opening or removing the module cover of your telephone may expose you to dangerous voltages.

SAVE THESE INSTRUCTIONS

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About This Book
Intended Audience

About This Book

The power and versatility of the MERLIN LEGEND® Communication System is due in part to its many options and features. These options and features have been recorded on system planning forms and initially programmed at the time of installation. Changes in use patterns, additional equipment, or a change in operating mode may necessitate additional system programming.

Intended Audience

This book is intended for system managers—people who plan, program, maintain, and manage the communication system. It is also intended for qualified support personnel who are responsible for installation and initial system programming.

How to Use This Book

This book contains all the programming procedures you need to enable your system to function at peak efficiency. Refer to the following documents for additional information:

- Feature Reference describes features in detail and any possible feature interaction.
- System Planning describes the System Planning Forms and how to use them.

"Related Documents," later in this section, provides a complete list of system documentation together with ordering information.

About This Book
Terms and Conventions Used

Old

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In the USA only, Lucent Technologies provides a toll-free customer Helpline (1 800 628-2888) 24 hours a day. Call the Helpline, or your Lucent Technologies representative, if you need assistance when installing, programming, or using your system.

Terms and Conventions Used

The terms described here are used in preference to other, equally acceptable terms for describing communications systems.

Lines, Trunks, and Facilities

Facility is a general term that designates a communications path between a telephone system and the telephone company central office. Technically a trunk connects a switch to a switch, for example the MERLIN LEGEND Communications System to the central office. Technically, a line is a loop-start facility or a communications path that does not connect two switches, for example, an intercom line or a Centrex line. However, in actual usage, the terms line and trunk are often applied interchangeably. In this book, we use line/trunk and lines/trunks to refer to facilities in general. Specifically, we refer to digital facilities. We also use terms such as personal line, ground-start trunk, Direct Inward Dialing trunk, and so on. When you talk to your local telephone company central office, ask them what terms they use for the specific facilities they connect to your system.

Some older terms have been replaced with newer terms. The following list shows the old term on the left and the new term on the right.

New

···	
trunk module	line/trunk module
trunk jack	line/trunk jack
station	extension
station jack	extension jack
analog data station	modem data workstation
7500B data station	ISDN terminal adapter data workstation
analog voice and analog data station	analog voice and modem data workstation
digital voice and analog data station	MLX voice and modem data workstation
analog data-only station	modem data-only workstation
7500B data-only station	ISDN terminal adapter data-only workstation
MLX voice and 7500B data station	MLX voice and ISDN terminal adapter data workstation

About This Book
Terms and Conventions Used

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Typographical Conventions

Certain type fonts and styles act as visual cues to help you rapidly understand the information presented:

Example	Purpose
It is <i>very</i> important that you follow these steps. You <i>must</i> attach the wristband before touching the connection.	Italics indicate emphasis.
The part of the headset that fits over one or both ears is called a <i>headpiece</i> .	Italics also set off special terms.
If you press the Feature button on an MLX display telephone, the display lists telephone features you can select. A programmed Auto Dial button gives you instant access to an inside or outside number.	The names of fixed-feature, factory- imprinted buttons appear in bold. The names of programmed buttons are printed as regular text.
Choose Ext Prog from the display screen.	Plain constant-width type indicates text that appears on the telephone display or PC screen.
To activate Call Waiting, dial *11.	Constant-width type in italics indicates characters you dial at the telephone or type at the PC.

Product Safety Labels

Throughout these documents, hazardous situations are indicated by an exclamation point inside a triangle and the word *caution* or *warning*.



WARNING:

Warning indicates the presence of a hazard that could cause death or severe personal injury if the hazard is not avoided.



CAUTION:

Caution indicates the presence of a hazard that could cause minor personal injury or property damage if the hazard is not avoided.

About This Book Security Page xx

Security

Certain features of the system can be protected by passwords to prevent unauthorized users from abusing the system. You should assign passwords wherever you can and limit knowledge of such passwords to three or fewer people.

Nondisplaying authorization codes and telephone numbers provide another layer of security. For more information, see Appendix A, "Customer Support Information" following Maintenance and Troubleshooting.

Throughout this document, toll fraud security hazards are indicated by an exclamation point inside a triangle and the words Security Alert.



A SECURITY ALERT:

Security Alert indicates the presence of toll fraud security hazard. Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party (for example, persons other than your company's employees, agents, subcontractors, or persons working on your company's behalf). Be sure to read "Your Responsibility for Your System's Security" on the inside front cover of this book and "Security of Your System: Preventing Toll Fraud" in Appendix A, "Customer Support Information."

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Related Documents

In addition to this book, the documents listed below are part of the documentation set. Within the continental United States, these can be ordered from the Lucent Technologies Customer Information Center by calling 1 800 457-1235.

Document No. Title	
	System Documents
555-660-100	Customer Documentation Package [*]
555-660-110	Feature Reference
555-660-111	System Programming
555-660-112	System Planning
555-660-113	System Planning Forms
555-660-116	Pocket Reference
555-660-118	System Manager's Guide
555-660-150	Network Reference
555-660-800	Customer Reference CD-ROM [†]
	Telephone User Support
555-660-120	Analog Multiline Telephones User's Guide
555-660-122	MLX Display Telephones User's Guide
555-660-124	MLX-5® and MLX-10® Nondisplay Telephone User's Guide
555-660-126	Single-Line Telephones User's Guide
555-660-138	MDC and MDW Telephones User's Guide
555-630-150	MLX-10D Display Telephone Tray Cards (5 cards)
555-630-155	MLX-16DP Display Telephone Tray Cards (5 cards)
555-630-152	MLX-28D and MLX-20L Telephone Tray Cards (5 cards)
555-630-151	MLX-10 and MLX-5 Nondisplay Telephone Tray Cards (6 cards)
	System Operator Support
555-660-132	Analog Direct-Line Consoles Operator's Guide
555-660-134	MLX Direct-Line Consoles Operator's Guide
555-660-136	MLX Queued Call Console Operator's Guide
	Miscellaneous User Support
555-660-130	Calling Group Supervisor's Guide
555-640-105	Data/Video Reference
555-025-600	BCS Products Security Handbook
	Documentation for Qualified Technicians
555-660-140	Installation, Programming, & Maintenance (IP&M) Binder
	Includes: Installation, System Programming & Maintenance
	(SPM), and Maintenance & Troubleshooting
555-660-111	System Programming

- * The Customer Documentation Package consists of the paper versions of the System Manager's Guide, Feature Reference, and System Programming.
- † The Customer Reference CD-ROM contains the System Manager's Guide, Feature Reference, System Programming, and Network Reference.

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How to Comment on This Book

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How to Comment on This Book

We welcome your comments, both positive and negative. Please use the feedback form on the next page to let us know how we can continue to serve you. If the feedback form is missing, write directly to:

Documentation Manager Lucent Technologies 211 Mount Airy Road, Room 2W226 Basking Ridge, NJ 07920 Programming Basics
Introduction to System Programming

Page 1-1

Programming Basics



This chapter presents the information you need to master before you begin the programming procedures covered in Chapter 3, "Common Administrative Procedures" and Chapter 4, "Programming Procedures." It covers the following subjects:

- An introduction to system programming basics
- How to use the system programming console
- How the programming screens and keys work
- How to interpret and use the programming procedures
- How to enter and exit system programming
- Which system components require idle states for programming
- New programming features introduced in Release 2.0 and higher

Introduction to System Programming

The communications system offers easy-to-use, menu-driven software for system programming. After your system is installed, you use this software to accommodate your company's changing needs for such enhancements and modifications as upgraded lines, additional modules, and new extension programming.

Programming Basics
Introduction to System Programming

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Planning Forms

Before you begin to program or modify your communications system, you should familiarize yourself with the system planning forms. Initially, system planning forms are used to plan your communications system and program your system during installation. After installation, they remain a source for all programming information on your communications system database. The information ranges from the system time and date to specific equipment configurations and feature programming.

Each planning form is either required or optional:

- Required forms are necessary to program the system.
- Optional forms are needed only if the system manager included the features or options on the forms.

Before you begin to program or modify your system, review the Control Unit Diagram on system planning Form 1 to identify the module types installed in the system's control unit. Use this information to program or modify lines and trunks and assign or reassign lines to extensions. Check the physical control unit to verify that the modules are placed in the slots identified on the diagram. Correct the diagram on Form 1 if there are any discrepancies.

Before you make any changes to your system, be sure to do the following:

- Mark any system modifications or changes on the appropriate planning form. Keep your planning forms up to date.
- Check the *Feature Reference* for possible feature interactions.
- Program the system or the system component during the appropriate idle state. See "Idle States" on page 1–46.

Types of Programming

Listed below are the three types of programming available for the communications system.

- System Programming. This type of programming enables the system manager to program features that affect all or most system users, and requires one of the following:
 - An MLX-20L[™] telephone connected to one of the first five jacks of the first MLX module in the control unit.

Programming Basics
System Programming Console

Page 1-3

- A PC with System Programming and Maintenance (SPM) software. SPM emulates a system programming console on your PC. The PC should be connected to the lower port (labeled ADMIN) on the processor module. A PC with a modem can perform system programming remotely through the public network or by connecting to a tip/ring extension jack (012, 016 or 008 OPT module) on the communications system. A built-in modem in the processor allows the PC and the communications system to communicate.
- Extension Programming. This type of programming enables individual extension users and system operators (except for QCC operators) to change their extension features to meet individual needs. For details about extension programming, see the appropriate user and operator guides.
- Centralized Telephone Programming. This type of programming enables the system manager to program any feature that can be programmed by individual extension users or system operators. Some features can be programmed only in centralized telephone programming. Centralized telephone programming can be done on the programming console or on a PC with the SPM software. See Chapter 5, "Centralized Telephone Programming."

NOTE:

If your system has the Integrated Solution II or Integrated Solution III (IS II/III) UNIX® application, see Chapter 2, "Programming with SPM" for a list of the appropriate documentation.

System Programming Console

The system programming console is an MLX-20L telephone connected to the system programming jack. When you begin system programming on a new system for the first time, the console must be connected to the first jack on the first 008 MLX module or 408 GS/LS-MLX module (Release 2.0 and later versions). This jack is factory set as the system programming jack and as an operator position. When you program for the first time, you can change the system programming jack to any one of the first five jacks on the first 008 MLX module or 408 GS/LS-MLX module (Release 2.0 and later versions). This allows you to program without interfering with the operator's call handling.

You can also have one or two Direct Station Selectors (DSSs) connected to the system programming console. Each DSS adds 50 extension buttons to the console, which facilitates assigning features to extensions.

An MLX-20L telephone with a DSS is shown in Figure 1–1.

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System Programming Console

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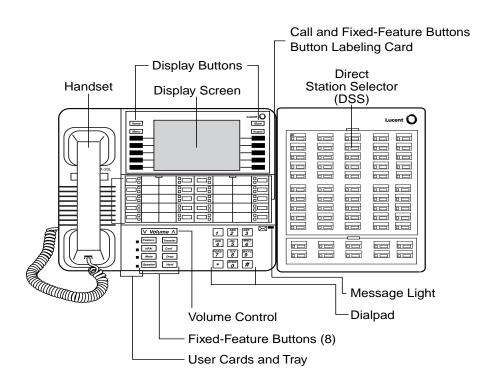


Figure 1–1. MLX-20L Telephone with Direct Station Selector (DSS)

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Console Components

1

Refer to Figure 1–1 for the location of the components described below.

MLX-20L Console Components

Desk Stand (not shown)	An adjustable stand on the console and the DSS, allows a 20- or 30-degree viewing angle.
Button Labeling Cards	Cards labeled with the number or feature assigned to each line button.
Contrast Control (not shown)	A sliding control at the top of the console, used to brighten or dim the display screen.
Fixed Feature Buttons	Eight fixed display buttons for most-used features. Feature for viewing the Feature screen and selecting features.
	HFAI (Hands Free Answer on Intercom) for answering voice-announced calls without the handset.
	Mute for turning the speakerphone's microphone on and off.
	Speaker for talking on a call through the speakerphone without lifting the handset.
	Transfer for sending a call to another telephone.
	Conf for adding a line or extension to a conference call.
	Drop for disconnecting an extension or line from a conference call.
	Hold for putting a call on hold.
Dialpad	Number pad for dialing telephone numbers.
Direct Station Selector	A device that adds extension buttons and other buttons to the console.
Display Buttons	Four fixed display buttons and 10 unlabeled buttons used to view the different screens and select names, features, and options from the display screen. See "Console Buttons" on page 1–7.
Display Screen	Screen with a 7-line by 24-character display area that shows call information, features, prompts, date, and time.
Handset	The hand-held part of the console you pick up, talk into, and listen from.
LEDs	(Light-Emitting Diodes) The lights on the console that assist in checking feature status.
Line Buttons	Twenty buttons to make and receive calls; unlabeled buttons are programmable for one-step feature use.
Message Light	A red light that signals a waiting message.
User Cards and Tray	A slide-out drawer with erasable cards for noting telephone numbers and feature codes.
Volume Control	A button for adjusting the volume of the speaker, handset, headset, and ringer.

0	Programming Basics System Programming Console Page 1-	
DSS Components		
Covers	Removable plastic covers to protect the designation cards. T cover protects the 50 DSS button labels. The lower cover fits the fixed buttons.	•
DSS Designation Cards	Cards for labeling the extension or feature assigned to each	button.
DSS Buttons	Fifty buttons used for one-touch dialing of co-workers' extent to make or transfer calls. DSS buttons are also used to page co-workers over speakerphones, to park calls, and to handle outside calls.)
Fixed Buttons	Ten additional buttons, including Message Status , Direct Volume Mail and three Page buttons. The five remaining buttons on first DSS are not used. If a second DSS is connected to the console, the 10 buttons at the bottom of the second DSS are used.	the
	Fixed Message Status button used with fixed Page buttons	to see

which telephones have Message Lights on.

extensions that the 50 DSS buttons represent.

Fixed Page Buttons are three buttons used to select the pages of

(Light-Emitting Diodes) The lights that assist in checking feature

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status.

LEDs

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System Programming Console

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Console Buttons

Use the 14 buttons located on either side of the console display area for system programming. These buttons are arranged in two columns of seven buttons, as shown in Figure 1–2.

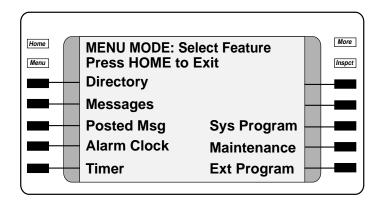


Figure 1–2. Display Buttons and Main Menu

Fixed Display Buttons

The top two buttons in each column have the same labels and functions regardless of the screen display. This type of button is called a *fixed display button*. Table 1–1 describes the functions of the fixed display buttons.

Table 1–1. Fixed Display Buttons

Button	Function
Home	Return to normal call-handling mode after you finish programming.
Menu	Display the main menu shown in Figure 1–2.
More	Display more items when a menu is continued on more than one screen, indicated by an angle bracket (>) on the upper right of the screen.
Inspct	(Inspect) View a list of lines or extensions on which a feature is programmed or the settings for a feature.

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Unlabeled Display Buttons

Use the five unlabeled display buttons on each side of the screen to select commands, options, or items on the screen. The functions of these buttons vary, based on the option you select.

If you are using SPM for system programming, the simulated MLX-20L console screen on your PC screen shows the function keys that correspond to the console screen selections. This book shows function keys in a box: ____. For example, to save an entry, you select Enter on the console or press F10 on your PC. See Chapter 2, "Programming with SPM," for details about using function keys and additional information about SPM.

Console Overlay

The programmable line buttons are on the main part of the console. There are actually 20 line buttons on the console, but you can use the console overlay to program up to 34 line buttons on any extension through centralized telephone programming. Select Page 1 to access line buttons 1 through 20 and Page 2 to access line buttons 21 to 34. The top line of numbers next to each line button on the console overlay represents line buttons. See Figure 1–3 below.

Appendix E shows the button diagrams for the telephones used in the communications system. Refer to this appendix when programming buttons for other telephones.

When labels or filenames are entered, the letters A through F are displayed on the MLX-20L console screen. Additional letters can be entered by using line buttons 1 to 20 to represent letters G through Z. These letters are also displayed on the top line of the console overlay.

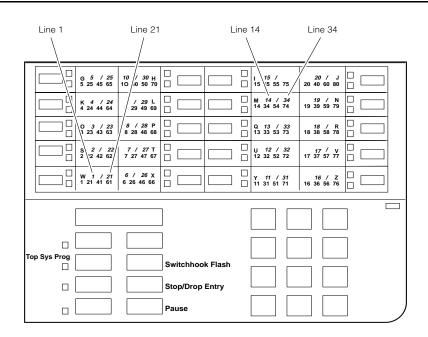


Figure 1–3. Console Overlay

When programming lines/trunks, you can select a block of 20 lines/trunks as shown on the screen below, and toggle the green or red LED associated with each line button on the console to program each line/trunk. The bottom line of numbers next to each line button on the console overlay represents the twenty lines/trunks associated with each line button. See Figure 1–3 above.

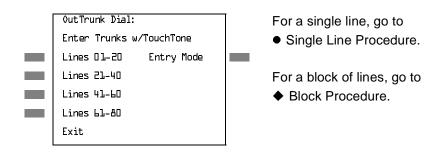


Figure 1–4. Selecting a Block of Lines/Trunks

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Console and DSS Lights

The red and green lights (LEDs) next to each of the 20 line buttons show the status of the line/trunk options. LEDs on the DSS show the status of features programmed on extensions. See Appendix C, "LED Displays," for more information.

Console Lights

The green and red LEDs next to each button on the console display the status of the line/trunk option that is being programmed. For example when you select Pools from the Lines Trunks menu, the red LED is off if the selected line is not in a pool and on if the line is in a pool. Appendix C, "LED Displays," provides a table that shows the default LED status for line/trunk options.

DSS Lights

The lights on the DSS (if one is attached to the console) show the status of features being programmed on the extensions. When you select a feature from a menu, the red LED next to the DSS button is on, off, or flashing, depending on whether the feature is programmed on the corresponding extension. For example, when you select Toll Restrict from the Restrictions menu, the red LED next to the DSS button lights for each toll-restricted extension. Appendix C "LED Displays," provides a table that shows the default DSS status of LEDs for system features.

Programming Procedures

The programming procedures provide step-by-step instructions for programming the communications system. This section details how to make the best use of the programming procedures.

Procedure Organization

The programming procedures in Chapter 3, "Common Administrative Procedures," and Chapter 4, "Programming Procedures," are organized into logical groups. The programming procedures associated with a specific aspect of the system are grouped together under one heading. For example, to assign network services for PRI, you would go to the section titled "PRI" and then locate the network services procedure. For quick reference, see "System Programming Hierarchy" on page 1–24 for a list of procedures based on the menu hierarchy in Appendix B. It traces the menu path for a specific function.

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Programming Procedures

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Procedure Contents

Each procedure begins with a general description of the feature, followed by a summary of programming information that includes the items listed below.

Programmable by	Indicates who has permission to use the procedure.
Mode	Specifies which system mode supports the procedure: Key, Hybrid/PBX, Behind Switch, or a combination.
Idle condition	Specifies the idle state required before the procedure can be performed.
Planning form	Indicates the planning forms that provide information for the procedure.
Factory setting	Shows the default settings, if any, for equipment or features affected by the procedure.
Valid entries	Specifies the characters, numbers, or values accepted during data entry.
Inspect	Specifies whether or not the feature status can be verified using the Inspect feature.
Copy option	Indicates whether or not the feature programmed with the procedure can be copied to another system component.
Console Procedure	Provides a summary of the procedure steps using the system console.
PC Procedure	Provides a summary of the procedure steps using SPM.

This list is followed by the step-by-step programming procedure for the feature. See "Using the Programming Procedures" on page 1–15 for complete information about how to use the programming procedures.

Programming Screens

There are three types of system programming screens:

- Information screens, to view what is currently programmed on the system.
- Menu selection screens, to select options from a menu.
- Data entry screens, to enter values or to identify a specific extension or line/trunk you want to program.

Figure 1–5 shows a sample information screen. When you select Sys Program from the main menu screen (shown in Figure 1–2), the screen shown in Figure 1–5 appears with system setup information

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System Set-up
Review and Exit
Size: xxxx
Type: xxxx
Operator: xxxx xxxx xxxx xxxx
Exit

Your system information appears in place of the *x*'s.

Figure 1–5. Information Screen

You cannot make changes on an information screen. Select Exit (F5 on the PC) to continue to the next screen in the procedure.

Figure 1–6 shows a sample menu selection screen.

System Programming: >

Make a Selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

Screen title and **More** indicator (>)
Prompt
Options

Figure 1–6. Menu Selection Screen

A menu selection screen prompts you to select one of the available options. The screen title is the first line on all screens. The second line contains a system prompt or instruction. The remaining lines of text vary, based on the selected option.

An angle bracket (>) appears in the upper right corner of menu selection screens that have additional option screens. Press **More** (or PgUp on the PC) to see the additional screens. Continue to press **More** to move through the screens and return to the original screen.

Figure 1–7 shows a sample data entry screen.

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Assign Lines/Trunks:
Enter extension

Backspace
Exit Enter

Option Selected Prompt Data Entry Area

Figure 1–7. Data Entry Screen

A data entry screen prompts you to enter specific data or to make specific choices. Data to be entered will be displayed with *n*s in the text. When *n*s appear on the data entry screen they indicate data currently programmed for the feature. An exception is the slot/port number which is displayed as *sspp* to distinguish the 2-digit slot number from the 2-digit port number.

Many screens show data entered on a previous screen, such as an extension or trunk number. Within the programming procedures, this type of variable information is shown with *xs*.

When information to be entered varies in the number of digits required (for example, a telephone number that can range from 7 to 20 digits), the data may be displayed as an uppercase *X* or *N*.

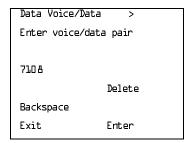
Data entry screens may also contain menu selections. Instead of entering data from the dialpad, you select options on the screen, such as Yes or No, to enable or disable a feature. To select this type of option, press either the unlabeled display button next to the option name, or the function key that corresponds to the option name. Then your selection is highlighted. To program or save the highlighted selection, you press the unlabeled display button next to Enter (F10) on the PC).

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Verifying Data Entry

You can use the Inspect feature to view the entries you save. An example of how to use the Inspect feature begins with <u>Figure 1–8</u>. The figure shows a data entry screen with the first of two required extension numbers needed to assign analog voice and data.

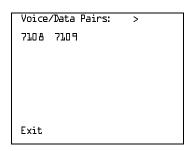


Selected Option Prompt

Extension entered

Figure 1–8. Inspect Example

After you enter and save 7108, the system automatically assigns the next sequential extension jack number. This extension jack pair does not appear on the data entry screen; however, if you press **Inspct** (PgDn on the PC), the pair appears, as shown on the sample Inspect screen in Figure 1–9.



Inspect data displayed

Figure 1–9. Sample Inspect Screen

Whenever you want to return to the previous screen, select Exit (F5) on the PC).

The Inspect feature also allows you to check a value currently programmed for a feature. This is helpful when you are changing or modifying features. You can also use it when you program sequential extensions or lines to verify the last number programmed. See the *Feature Reference* for details about the Inspect feature.

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Using the Programming Procedures

This section contains specific information about how to make the best use of the programming procedures. Make certain that you read and understand the information presented here before you begin any system programming procedures.

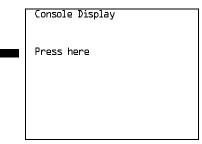
Format

The programming procedures are presented as numbered steps in the format shown below.

Console Display/Instructions Additional Information

PC

1. The step instruction is shown here.



On the PC, press the function key that appears in the PC column.

➤ 2. Enter the B-channel group number (nn = 1 to 69).

Enter B-Channel Groups:x
Enter the group number:

x = B-channel entered in Step 1

Dial or type [nn].

_

The Step Line

The step line contains the step number and instructions. The step may also contain symbols that direct you to a branch procedure. (See <u>"Branching" on page 1–17.</u>)

Sometimes, the step contains data entry information, which follows the step instruction and is shown in parentheses. You use the (nn =) value in the gray bar to replace the variable [nn] in the instruction. For example, in sample Step 2, the parenthetical statement (nn = 1 to 69) indicates that 1 through 69 are acceptable entries for the group number that you dial or type.

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Console/Display Instructions Header

In most cases, the screen shown in the console display area contains the results of the *previous* step. A step with no screen indicates that you should look at the preceding step. The console key that corresponds to the option you are to select is highlighted in black, as shown in sample Step 1 above. The function key that corresponds to the highlighted console option is shown in the right column under the PC header.

When more than one but fewer than six options may be selected from the screen, each console key for each option is highlighted in gray, as shown in sample Step 3 below. To prevent clutter, when six or more options may be selected, no highlighting is shown. See "Additional Information and PC Headers" on page 1–16 for more details about how more than five options are presented.

Additional Information and PC Headers

The information displayed under the Additional Information header may contain notes, a value entered in a previous step, branching instructions, general information, or specific instructions.

Sample Step 2 shows a typical display of a value entered in a previous step. The *x* corresponds to the *x* shown on the console screen. Variable screen information is always shown as *x*s or *n*s in italics.

Variable input information is always shown in brackets ([]), as xs or ns in italics.

In data entry steps, the area under the Additional Information header contains instructions that apply to both the console and the PC. In such cases, the PC column contains the symbol ©. When you see this symbol, follow the instructions under the Additional Information header, for example:

Dial or type [nn].

On the console, dial the entry; on the PC, type the entry.

You also see the c symbol when six or more options can be selected from a screen. Rather than highlighting all of the options and showing all of the PC keys, the Additional Information header contains instructions for both, for example:

Press the button or function key next to your selection.

On the console, press the key next to your selection; on the PC press the function key next to your selection.

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F3

Branching

Many of the procedures contain features that have multiple programming options, while other procedures show more than one way to program a particular feature. To accommodate both of these programming methods, the procedures use *branching*. *Branching* separates the options from the main procedure and places them in subprocedures (branch procedures).

The screen shown in sample Step 3 displays three menu selections for the Network Services feature. The procedure is broken into three branches (or branch procedures) to accommodate the three menu options.

Additional Information PC Console/Display Instructions Specify a network service. Network Services: If you select AT&T Toll, go to Make a selection AT&T Toll Procedure. F1 AT&T Toll Local If you select Local, go to Misc ◆ Local Procedure. F2 Exit If you select Misc, go to

▶ 4. If necessary, continue with this step when you complete the branch procedure.

In the step line, the symbols ($\bullet \bullet \blacksquare \blacktriangle \bullet \bullet \bullet$) alert you to a step that contains branching. The number of symbols in the gray bar indicates the number of available options/branches for that step and make it easy to locate the branch procedure that you want. All branch procedures *follow* the main procedure from which they are branched.

Miscellaneous Procedure.

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Programming Procedures

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The first branch procedure from sample Step 3 is shown below.

AT&T Toll Procedure

Console/Display Instructions Additional Information PC

1 Specify a service.

B-Channel Group xx:

Select one

MegacomWATS MULTIQUEST

ACCUNET SDS LongDistnce

SoftDefNetw

Megacom &00

Exit Enter

xx = number entered in Step 5

Press the button or function key next to vour selection.

C

▶ 2. Save your entry.

Select Enter. F10

- 3. Repeat Steps 1 and 2 of the main procedure for each toll group number.
- ▶ 4. For additional toll services, go to Step 1; then continue with Step 5.
- ▶ 5. Return to Step 4 of the main procedure.

Each branch procedure is self-contained and begins with Step 1. Be sure to complete all of the steps in a branch procedure before you return to the main procedure.

The examples in the following text refer to Steps 1 through 5 of the ● AT&T Toll Procedure (above), which is a branch of the Network Services procedure.

When you are to repeat a step *within the branch procedure*, you are instructed to go to that step. For example, at Step 4 of the branch procedure you would go back to Step 1 of the branch procedure and repeat branch Steps 1 through 4 for additional toll services. If you did not need to enter any other toll services, you would continue with Step 5 of the branch procedure.

When a branch step instructs you to *return to the main procedure*, the branch procedure is complete. At Step 5 of the branch procedure you would return to Step 4 of the Network Services procedure to continue. In some cases, you can select Exit (F5) on the PC) to return to the menu where the branch begins; these are noted in specific programming procedures. In cases where completing the branch procedure also completes the main procedure you are instructed to select Exit (F5) on the PC) one or more times to return to the system programming menu.

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Single or Block Items

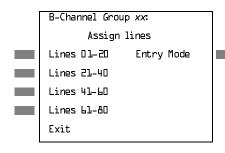
Branching is also used when you can select between programming a single item or a block of items, such as a single line or a block of lines, as shown in sample Step 5.

Console/Display Instructions

Additional Information

PC

▶ 5. Specify the line(s).



xx = number entered in Step 2

To select a single line, go to

• Single Line Procedure.

To select a block of lines, go to

- ◆ Block of Lines Procedure.
- ▶ 6. Continue with this step when you complete the branch procedure.
- Single Line Procedure
- ▶ 1 Specify entry mode.

Select Entry Mode.

F6

- ▶ 2. And so on ...
- 3. Return to Step 6 of the main procedure.
- Block of Lines Procedure
- ▶ 1. Specify the block of 20 lines associated with 20 buttons on the system programming console.

F1

F2

F3

F4

- 2. And so on ...
- ▶ 3. Return to Step 6 of the main procedure.

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Saving Entries and Moving among Screens

At the bottom of each screen are one or more screen keys with functions that allow you to change your entry, save your entry, or return to a previous screen. Various combinations of these screen keys appear on each programming screen. Figure 1–10 shows the QCC Priority screen with a typical display of screen keys.

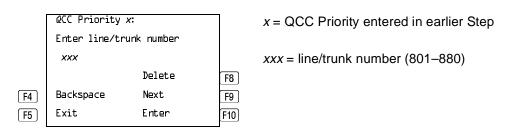


Figure 1–10. Screen Keys

The PC keys that correspond to the screen key selections are shown here for quick reference. These PC keys do not appear on the console display screen.

Table 1–2 contains details on the use of the screen keys.

Table 1–2. Screen Keys

Display	Key	Function
BackSpace	F4 Or ← Bksp	Change your entry. Select Backspace (F4 or ←Bksp) on the PC) to correct your entry. Each time you press the key, the screen cursor moves backward to erase one character at a time.
Enter	F10 or Enter →	Save your entry. Typically, you select Enter (F10) or Enter → on the PC) to complete a procedure and save the information. Occasionally, you must select Exit (F5) on the PC) and return to a previous screen after you use Enter. If the entry is not valid, the system may beep and/or display an error message and does not save the entry.
Delete	F8	Delete a current entry. Select Delete (F8) on the PC) to delete (or remove) a current entry.

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Table 1–2. Screen Keys (Continued)

Display	Key	Function
Next	F9	Program sequentially numbered items. If you are programming a group of sequentially numbered extensions, lines, or trunks, you may have the option to select Next (F9 on the PC). This saves your entry and automatically provides the number of the next extension or trunk in the sequence. Typically, you remain at the same screen until you select Next. In a few cases, you may return to an earlier screen in the procedure.
Exit	F5	Return to the previous screen. Select Exit (F5 on the PC) when you complete a procedure, to move up one screen in the menu hierarchy. (Appendix B provides a reference to the entire System Programming menu hierarchy.)
		Exit a screen without changes. In most cases, you select Exit (F5 on the PC) to exit from a screen without making any changes. Exceptions are noted as part of a procedure.
		Complete a procedure. In a few cases, you return to the System Programming menu when you select Exit. In most cases, you return to an intermediate step within the procedure. You can then select one of the options shown on the screen and continue programming, or you can continue to use Exit until you return to the System Programming menu.

Using Enter

Pressing Enter to save your entry has one of the following results:

- The next screen in the procedure appears. See Steps 4 and 5 in the sample procedure below.
- The screen does not change and you can enter another extension or line/ trunk. In most of these cases, Delete is also an option. Enter is used either to assign the extension to a group or to assign a feature to the extension. Delete is used to remove the extension from a group or to remove the feature from the extension. See Steps 5 and 6 in the sample procedure below for an example of this type of screen.
- The procedure is complete and you return to a previous screen.

F5 F5

Select Exit twice.

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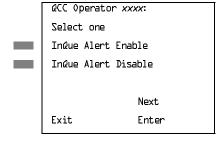
Using Next

When you are programming a feature that can apply to a sequence of extensions, lines/trunks, or groups, the screen key Next appears on the console display. Next (F9) on the PC) permits you to save your current entry and display the next number in the sequence. You can continue to press Next until you finish programming the entire sequence. When the last number in the sequence displays on the screen, press Enter (F10) or Enter—) on the PC) to save the final entry and move to the next step of the procedure. Procedures that allow the use of Next direct you to the correct screen to continue programming as shown in Step 6 in the example below.



If you plan to take advantage of this key, remember to *enter the lowest* number in the sequence at the first prompt.

■ 1. Specify whether the operator receives the alert.



xxxx =operator entered in Step 1

Select InQue Alert Enable or InQue Alert Disable.

F1

2. Save your entry.

Select Enter or Next

F10

Use Next to program the next QCC position. Go to Step 5. The next QCC operator will be displayed on Line 1. After programming the last QCC operator position, select enter and go to Step 7.

3. Return to the System Programming menu.

Select Exit twice.

F5 F5

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System Programming Hierarchy

The following table shows all of the options that are available under each of the System Programming main menu options displayed on the system programming console. Following the option name is a brief description of the option and the page number where detailed instructions can be found.

Main menu options are shown in a separate box. First-level options are bold, second-level options are preceded by an asterisk (*). The remaining levels are shown with increasing degrees of indentation.

	Description	Page
System		
	_	
Restart	Restart the system (cold start)	4-2
SProg Port	Extension used for system programming	<u>3–3</u>
Mode	Sets the system mode. See Equipment	<u>4–8</u>
* Key	and Operations Reference	
* Hybrid/PBX		
* BehindSwitch		
Board Renum	Renumber boards that have already been installed	<u>4–6</u>
MaintenBusy	Enable Automatic Maintenance Busy	<u>4–10</u>
* Enable		
- Auto Busy		
Tie Trunks		
- Enable		
- Disable		
* Disable	Disable Automatic Maintenance Busy	
Date	System date	<u>3–7</u>
Time	System time	<u>3–9</u>
Back/Restore		
* Backup	Back up system programming to a memory card	<u>3–279</u>
* Restore	Restore system programming from a memory card	4-377
* Auto Backup	Automatic backup	3–286
- Off	Turn off automatic backups	
- Daily	Daily backups of system programming	
- Weekly	Weekly backups of system programming	
SysRenumber	1	
Gyartenumber	1	
Default Numbering	Default extension numbering plans	4–14
* 2-Digit	,	
* 3-Digit		
* SetUp Space		

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	Description	Page
SysRenumber	Continued	9-
Gyarteriamber	Joonanded	
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Single * Lines	Single extension renumbering Lines/Trunks	<u>3–14</u>
* Extensions	Extensions	
* Pools	Pools (Hybrid/PBX only)	
* Group Page	Paging Group	
* GrpCalling	Calling Group	
* Adjuncts	Adjuncts	
* Park	Park	
* ARS DialOut	Automatic Route Selection dial out (Hybrid/PBX only)	
* RemoteAccs	Remote Access	
* DSS Buttons	Page buttons on the DSS	
* ListDirctNo	Listed directory number	
Block	Block extension renumbering	<u>3–16</u>
* Lines		
* Extensions		
* Adjuncts		
NonLocal UDP	Specify ranges of extensions on remote networked system	<u>3–19</u>
	1	
Operator		
Positions	System operator positions	<u>3–26</u>
* Direct Line*	Direct-Line Console (DLC)	<u>3–29</u>
* Queued Call*	Queued Call Console (QCC)	<u>3–27</u>
Queued Call	QCC optional features (Hybrid/PBX mode only)	<u>3–35</u>
* Hold Rtrn	Hold Return	<u>3–36</u>
- Return to Queue		
- Remain on Hold		
* HoldRelease	Automatic hold or release	<u>3–38</u>
- Auto Hold		
- Auto Release		
* Threshold	Queue over threshold	3–40
* ElvatePrior	Elevate priority	3–42
* InQue Alert*	Calls-In-Queue Alert	<u>3–44</u>
- InQue Alert Enable - InQue Alert Disable		
- IIIQUE AIEIT DISANIE		

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Operator	Continued	
* Call Types - Dial 0 - Priority - Operator	QCC Operator to Receive Call Types Dial 0 Calls	<u>3–46</u>
Follow/FrwdUnassign DIDPriority	Forward/Follow Me Calls DID call to invalid destinations	
- Operator* - ListedNumber - Priority	Calls to the Listed Directory Number	
- Operator - QCC Ext - Returning - Priority	QCC Extension calls Returning calls	
OperatorGrpCoveragePriorityOperator*	Group Coverage calls	
* Msg Center* * ExtndComplt - Automatic Complete - Manual Complete	Message center operation Extended call completion	3–54 3–56
* Return Ring * QCC Backup * Voice Annc	Return Ring Position Busy Backup Voice Announce for QCC	3–58 3–60 3–62
Hold Timer	Systemwide hold timer for QCCs and DLCs	<u>3–32</u>
* Auto Hold Enable	DLC Operator Automatic Hold	<u>3–34</u>
* Auto Hold Disable		

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LinesTrunks	Lines/Trunks options	1 age
LillesTidliks	Lines/Trunks options	
LS/GS/DS1	Loop-start, ground-start or DS1 options	
* (DS1)	DS1 options	
- Type	Type of DS1 facility	4–87
- T1	Type of 20 Fideling	<u> </u>
- GroundStart	Ground-start emulation on selected channels	
- Loop Start	Loop-start emulation on selected channels	
- TIE	Tie Trunk emulation on selected channels	
- TIE-PBX	Tie-PBX transmit/receive loss parameter	
- Toll	Toll transmit/receive loss parameter	
- S56	Switched 56 Data	
- Unequipped	Unused channels	
- All Ground	Ground-start emulation on all channels	
- All Loop	Loop-start emulation on all channels	
- All TIE	Tie Trunk emulation on all channels	
- TIE-PBX	Tie-PBX transmit/receive loss parameter	
- Toll	Toll transmit/receive loss parameter	
- S56	Switched 56 Data	
- All Unequip	All channels unequipped	
- DID	DID emulation on selected channels	
- All DID	DID emulation on all channels	
- S56 Data	Switched 56 Data	
- Direction		
- Intype		
- Outtype		
- AnsSupv		
- Disconnect		
- Inmode		
- Outmode	All Outlieberd 50 Date	
- All S56Data	All Switched 56 Data	
- Direction		
- Intype - Outtype		
- Outtype - AnsSupv		
- Anssupv - Disconnect		
- Disconnect - Inmode		
- Outmode		
- Galilloue		

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-PRI - Frame Format - D4 Compatible - Extended Super	Primary Rate Interface	<u>4–165</u>
Frame -Suppression - AMI ZCS - B8ZS	Type of zero code suppression	<u>4–112</u>
- Signaling - Robbed Bit	Signaling mode	<u>4–114</u>
- Common Channel - Line Comp - ChannelUnit - Foreign Exchange	Line Compensation Type of equipment provided by local service provider	<u>4–116</u> <u>4–119</u>
- Special Access * (4xx GS/LS) - GroundStart - LoopStart - All Ground	Line/Trunk type for 4xx GS/LS module	
- All Loop* (8xx GS/LS)- GroundStart- LoopStart- All Ground- All Loop	Line/Trunk type for 8xx GS/LS module	

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- Incoming * Intype - Wink - Delay	Signaling type: incoming tie trunk.	4–124
- Immed - Auto * Outtype - Wink - Delay	Signaling type: outgoing tie trunk	4–124
- Immed - Auto * E&M Signal - Type 1S - Type 1C	Type of tie trunk signal	4–127
- Type 5 * Inmode * Outmode * Dialtone * AnsSupvr * Disconnect	Set incoming tie trunk to touch tone or rotary Set outgoing tie trunk to touch tone or rotary Tie trunk dial tone Tie trunk answer supervision time Tie trunk disconnect time	4-130 4-130 4-133 4-137 4-140

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TT/LS Disc		
* OutMode	Outmode Signaling for loop- or ground-start trunks	4–33
* LS Disconnect	Disconnect signaling reliability	4-43
- Yes		
- No		
DID	DID Trunk Options	4–143
* Block		4–143
* Type	DID trunk type	<u>4–147</u>
- Immed - Wink		
* Disconnect	DID trunk disconnect time	4–149
* ExpectDigit		4-149 4-152
* DeleteDigit	Expected digits Delete digits	4-152 4-155
* Add Digits	Add digits	4–155 4–158
* Signaling	Type of dialing signal	4–138 4–160
- Rotary	Type of dialing signal	4 -100
- Touch Tone		
* InvalDstn	Directing outside calls on invalid extension	4–163
- Send To Backup	Directing edicide calle on invalid extension	<u>1 100</u>
Extension		
- Return Fast Busy		
PRI	Primary Rate Interface (PRI) trunk options	4–165
* PhoneNumber	Telephone number to each PRI channel	4–169
* B-ChannelGRP	Assign B-channel groups.	4–172
- Lines	Assign lines to B-channel groups	4–173
- Network Serv	Network service	<u>4–178</u>
- AT&T Toll	AT&T toll service	
- MegacomWATS		
- ACCUNET SDS		
- SoftDefNetw		
- Megacom 800		
- MULTIQUEST		
- LongDistnce		

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- 5ESS Local - OUTWATS - 56/64 Digit - VirtPrivNet - INWATS	Local service	
- MCI Toll - Misc - Other - CallByCall	Miscellaneous network service	
- DMS-100 Local - Legend UDP	Private network tandem trunk	
- ElectTandNwk - Copy Number - Copy PhnNum to NumToSend - Do Not Copy	Copy telephone number to send	<u>4–185</u>
Phone Number - IncomingRtg - Routing by Dial Plan Route by Line	Incoming Routing	<u>4–188</u>
- Route by Line Appearance - Route Directly to UDP * NumberToSend - Extension Only	Telephone number to send to the network	<u>4–191</u>
- Base Number with Ext Line Telephone Number		4.405
* Test TelNum * Protocol	Line/trunk test telephone number	4–195
- Timers - T200 Timer - T203 Timer - N200Counter - N201Counter - K Counter - T303 Timer - T305 Timer - T308 Timer - T309 Timer - T310 Timer	Timers and counters	4–197
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- TEI	Terminal equipment identifier	4–203
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ĺ	*DialPlanRtg	Dial Plan Routing	4-206
	- Service	Service	
	- AT&T Toll	AT&T toll service	
	- Megacom 800		
	- ACCUNET SDS		
	- SoftDefNetw		
	MULTI QUESTMegacomWATS		
	- LongDistnce		
	- Local	Local service	
	- INWATS	2003. 00. 7.00	
	- 56/64 Digit		
	 VirtPrivNet 		
	- OUTWATS		
	- Misc	Miscellaneous service	
	- Other		
	- Any Service		
	- No Service		
	- Patterns		
	TotalDigitsDeleteDigit		
	- Add Digits		
	* OutgoingTbl	Outgoing tables	4–220
	- NetwkSelect	Network selection	4–220
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	 Operator 		
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	- Presubscribed		
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	- National		
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- Voice Data		
- Voice Only		
- Data Only - Voice/Data		
- NetworkServ	Network service	
- AT&T Toll	AT&T toll service	
- Megacom WATS		
- ACCUNET SDS		
- SoftDefNetw		
- LongDistnce		
- Local	Local service	
- OUTWATS		
- 56/64 Digit - VirtPrivNet		
- Misc	Miscellaneous service	
- Other	TVIIGOUIANOGUG GENVIGO	
- No Service		
- Delete Digit	Number of digits to delete	
* Switch Type	Type of switch at far end	<u>4–166</u>
- 4ESS		
- 5ESS		
- DMS-250 - DMS-100		
- DINS-100 - DEX-600E		
- Legend-NTWK	For PRI tandem trunks	
- Legend-PBX	For PRI tandem trunks	
Сору	Copy options for lines/trunks	4–77
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* LinesTrunks	Remote Access trunk assignment	<u>4–337</u>
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- No Remote		
* Non-TIE	Non-Tie Lines: Remote Access options	
- BarrierCode	Barrier code requirements	
- Barrier Code		
Required		
- BarrierCode Not		
Required - Restriction	Non-Tie trunk restriction	
- Unrestricted	THO I THE TRAIN TO STROUGHT	
- Outward Restrict		
- Toll Restrict		

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ADC	Restrict	Non Tig trunk ABS Equility Postriction Layel	
- ARS		Non-Tie trunk ARS Facility Restriction Level Non-Tie trunk Allowed Lists assignment	
	lowLst	Non-Tie trunk Disallowed Lists assignment	
* TIE Li		Tie lines: Remote Access options	
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_	quired		
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Re	quired		
- Rest	riction	Tie trunk restriction	
- Un	restricted		
- Ou	tward Restrict		
	I Restrict		
	Restrict	Tie and DID trunk ARS Facility Restriction Level	
- Allow		Tie and DID trunk Allowed Lists assignment	
	low List	Tie and DID trunk Disallowed Lists assignment	
* Barrie		Barrier code options	<u>4–351</u>
	g/Maint	Not currently available	
- Code		Barrier code information	
	de Length	Barrier code length	
	de Entry	Barrier code assignment Remote Access with barrier code: restrictions	
- Rest		Remote Access with damer code, restrictions	
_	restricted tward Restrict		
	Restrict		
	Restrict	Remote Access with barrier code: ARS Restriction	
- Allow		Remote Access with barrier code: Allowed Lists	
	lowLst	Remote Access with barrier code: Disallowed Lists	
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Clock Sync	Clock Synchronization (100D or 800 NI-BRI modules)	4–66
* Primary	Primary Clock	
- Loop		
- Local		
* Secondary	Secondary Clock	
- Loop		
- Local		
* Tertiary	Tertiary Clock	
- Loop		
- Local		
BRI	Basic Rate Interface	
* SPID/DN	Service Profile Identifier (SPID) and Directory Number (DN)	4-243
* Timers	BRI Timers	4-247
- T200 Timer		
- T203 Timer		
- T303 Timer		
- T305 Timer		
- T308 Timer		
T1 Data NW	Switched 56 Dial Plan Routing	4–106
UDP	Switch identifiers for remote systems connected to tandem trunks	4-83
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* SwNum-Block	Number a block of tandem trunks	

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* Single	Lists	
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* Overflow	Group Calling external alert for Calls-In-Queue Alarms Group Calling overflow and thresholds	<u>3–182</u> 3–171
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* Members	Calling group members	3–150
* Line/Pool	Group Calling line/trunk or pool assignment	3–153
* Group Type	Group type	3–185
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* Queue Control	Group Calling Queue Control	3–188
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* Primary		
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* Calling Num		
* Both		

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* One Touch	One Touch Transfer/One Touch Hold	3–195
- Transfer	The reading randomy energed and reading readin	<u> </u>
- Manual		
- Automatic		
- Hold		
*Audible	Transfer audible	
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- Ringback		
* Type	Type of transfer	3–199
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- Ring		
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* GrpCall/CMS		
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* Format	SMDR format	<u>3–211</u>
- Basic SMDR		
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* Call Length	Minimum length of time before a call is recorded	3–213
* Call Report	SMDR call report type	<u>3–215</u>
- In/Out	Incoming and outgoing calls	
- Out Only	Outgoing calls only	
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* Extension		
* Grp Calling BehndSwitch	Host system (Pohind Switch mode) diel ander	2 220
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* Delay		
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* Sub A Data	Voice and/or data routing for Subpattern A	4–398
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Programming Procedures

Cntr-Prg

Program Ext

Copy Ext

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	Description	Page
Print	Print system reports	3-273
	_	
All	Print all reports	
SysSet-up	System Information report	
Dial Plan	Dial Plan report	
Non-Loci UDP	Non-Local Dial Plan report	
Labels	Label Information report	
Trunk Info	Trunk Information report	
* TIE	Tie Trunk Information report	
* DID	DID Trunk Information report	
* Loop/Ground	GS/LS Trunk Information report	
* General	General Trunk Information report	
* S56 Data	Switched 56 Data Report	
T1 Info	DS1 Information report	
PRI Info	PRI (Primary Rate Interface) Information report	
RmoteAccess	Remote Access (DISA) report	
Oper Info	Operator Information report	
AllowList	Allowed Lists report	
AllowListTo	Access To Allowed Lists report	
DisallowList	Disallowed Lists report	
DisllowListTo	Access To Disallowed Lists report	
ARS	Automatic Route Selection report	
Ext Direct	Extension Directory report	
Sys Direct	System Directory report	
Group Page	Group Paging report	
Ext Info	Extension Information report	
GrpCoverage	Group Coverage Information report	
Grp Calling	Direct Group Calling Information report	
Night Service	Night Service Information report	
Call Pickup	Group Call Pickup report	
Error Log	Error Log report	
Auth Code	Authorization report	
BRI	BRI Information report	

Centralized telephone programming

Extension programming

Copy extension programming

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	Description	Page
Language	Language options	
		
SystemLang	System language	3–5
* English	, 5 5	
* French		
* Spanish		
Extensions	Language for a single extension or block of	3-94
* Single	extensions	
- English		
- French		
- Spanish		
* Block		
- English		
- French		
- Spanish		
SMDR	SMDR language	3-209
* English		
* French		
* Spanish		
Printer	Language for printed reports	3-271
* English		
* French		
* Spanish		

Access to System Programming from the MLX-20L Console

Follow the steps below to begin system programming. All of the procedures in Chapter 3, "Common Administrative Procedures," and Chapter 4, "Programming Procedures," begin at the System Programming menu shown in Step 4 of the following procedure.

For information about accessing system programming through a PC with SPM, see Chapter 2, "Programming with SPM."

1 Programming Basics

Access to System Programming from the MLX-20L Console

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Console Display/Instructions

Additional Information

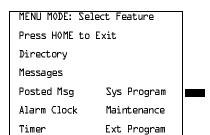
PC

▶ 1. Display the Menu Mode (main menu) screen.

	12/24 11:30	
Anne	Kim	
Andre	Jorge	
Jose	Sarah	
Show Number	Next Page	

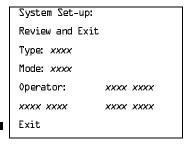
Press Menu.

2. Select System Programming.



Ext Program does not appear on this screen if the programming console is a QCC.

■ 3. Display the System Programming menu.



On the System Set-up screen, system information appears in place of the *xs*.

Type = Voice/Data

Mode = Key, Hybrid/PBX, or Behind Switch Operator = Position extension numbers

Select Exit.

▶ 4. Make a selection.

System Programming: >		
Make a selection		
System	Extensions	
SysRenumber	Options	
Operator	Tables	
LinesTrunks	AuxEquip	
Exit	NightSrvce	

Press the button next to your selection.

Programming Basics
Access to System Programming from the MLX-20L Console

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System Programming Menu

Figure 1–11 shows the two screens that make up the System Programming menu. Table 1–3 describes the options.

Table 1–3. System Programming Menu Options

Option	Description	
System	Set system operating conditions.	
SysRenumber	Select the system numbering plan and/or reassign extension numbers with 1- to 4-digit numbers that are more appropriate or convenient for your company.	
Operator	Assign or remove operator positions and program operator features (such as Operator Hold Timer or QCC options).	
LinesTrunks	Program line/trunk options.	
Extensions	Program extension features such as line assignments.	
Options	Program systemwide features (such as Transfer Return).	
Tables	Program features that require entering information in a table (such as Allowed Lists and Disallowed Lists).	
AuxEquip	Program auxiliary equipment connected to the system (such as loudspeaker paging and fax).	
NightSrvce	Program Night Service features.	
Labeling	Program the labels shown on display telephones (such as entries in the System Directory and Posted Messages).	
Data	Specify extensions that need voice and data capability.	
Print	Print system programming reports (such as system configuration and extension assignments).	
Cntrl-Prog	Perform centralized telephone programming (assign features to specific buttons on telephones).	
Language	Select the language of the system, MLX display telephones, SMDR reports, and print reports.	

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Idle States Page 1-46

System Programming: >
Make a Selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

System Programming: >
Make a Selection

Labeling Language

Data

Print

Cntr-Prg

Exit

Figure 1-11. System Programming Menu Screens

Exiting System Programming

Use the information in <u>Table 1–4</u> to return to the System Programming menu, the main menu (Menu Mode screen), or the Home screen from within a programming screen.

Table 1–4. Exiting System Programming

To return to	On the console press:	On the PC press:
Previous menu	Exit	F5
Main Menu	Menu	End
Normal call handling	Home	Home

Idle States

Some programming procedures can be started only when the entire system, or some part of it, such as a trunk or an extension, is idle (not in use). Some procedures require that a trunk or extension be idle only at the instant of programming. Lengthy procedures require the system, trunk, or extension to remain idle until programming is completed. These procedures wait for the system, trunk, or extension to become idle and then prevent the initiation of any new calls. This condition is called *forced idle*.

NOTE:

If a procedure requires an idle condition, do the programming outside of normal business hours.

Programming Basics

Idle States

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If a procedure requires that the system be idle and the system is busy when you begin, you see the screen shown in Figure 1–12.

System Busy Pls Wait

Dial Code:nnnn S/P:ss/pp

Exit Enter

nnnn = a previously entered extension ss/pp = the slot and port number of the busy extension

Figure 1–12. System Busy Screen

The screen changes to the appropriate programming screen when the system is no longer busy.

System Forced Idle

When the entire system is forced idle, no calls can be made or received. The following procedures can be performed only when the entire system (every line and every extension) is idle:

- Select system mode
- Identify system operator positions
- Renumber system
- Renumber boards
- Identify extensions with voice signal pairs for the Voice Announce to Busy feature
- Identify extensions that need voice and data features
- Restore system programming information
- Identify the Music On Hold jack

When the system is forced idle, the following occurs: multiline telephone users hear a signal, indicating that the telephone cannot be used; display telephone users see the message Wait: System Busy; single-line telephone users do not hear a dial tone.

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Idle States

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Line or Trunk Idle

Because these procedures require the line or trunk to be idle *only* at the instant of programming, the line or trunk is not forced idle (as described in the previous paragraph). The following procedures can be performed only when the line or trunk being programmed is idle:

- Identify loudspeaker paging extension jack
- Assign trunks to pools
- Specify incoming or outgoing DID or tie trunk type
- Specify tie trunk direction
- Specify tie trunk E&M signal

Extension Forced Idle

When an extension is forced idle, no calls can be made or received on that telephone or data equipment. The following procedures can be performed only when the extension being programmed is idle:

- Assign calling restrictions
- Assign pool dial-out restrictions
- Copy extension assignments
- Assign lines, trunks, or pools to extensions
- Assign labels to a personal directory
- Use centralized telephone programming

When the telephone is forced idle, the following occurs: multiline telephone users hear a signal, indicating that the telephone cannot be used; display telephone users see the message Wait: System Busy; single-line telephone users do not hear a dial tone.

100D Module Idle

The following procedures can be performed only when the 100D module is idle:

- Specify board type
- Specify frame format
- Specify board signaling format
- Specify board suppression format
- Specify board facility compensation

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Product Enhancements

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Forced Idle Reminder Tones

The forced idle reminder tone is a high-low "doorphone" tone—400 ms of 667-Hz tone followed by 400 ms of 571-Hz tone. The tone is provided under the following circumstances:

- At the extension, to remind the user that the system or the extension is in the forced idle state
- At the programming console or at a PC running SPM, to remind the system manager that the system (or at least one extension) is in the forced idle state because of administrative activity

In Release 1.1 and higher of the communications system, forced idle reminder tones occur every 20 seconds. You can adjust the volume of these tones with the volume control.

Product Enhancements

Several enhancements were implemented for Releases 1.1, 2.0, 2.1, 3.0, and 4.0. This section briefly describes these enhancements and new features. See the *Feature Reference* and the *Equipment and Operations Reference* for details about each enhancement.

The procedures that cover these enhancements are included in this book. System planning for the enhancements is included in *System Planning*.

Release 1.1 Enhancements

Refer to *Release 1.1 Notes* for detailed descriptions of Release 1.1 enhancements. Release 1.1 includes all Release 1.0 functionality plus the enhancements described in the following sections.

Language Selection

This selection allows you to program the system for the display of prompts, menus, and messages on MLX display telephones in English, French, or Spanish. You can also program the following options in any of these languages, independently of the system language:

- Individual extensions with MLX telephones
- System Programming and Maintenance (SPM)
- System programming reports
- SMDR report headers

1 Programming Basics
Product Enhancements

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MLX-10D, MLX-20L, and MLX-28D display telephones and MLX-10 nondisplay telephones are available in three separate versions, with factory-set buttons in English, Spanish, or French. (The MLX-10DP is available in the English version only.) In addition, user and operator guides and telephone tray cards are available in all three languages.

Programming and Maintenance

Programming and maintenance enhancements include the following:

- Additional Inspect capability in system programming
- Editing capability (Backspace selection) in extension programming
- Improvements to system reports
- An access log that records the last 20 times maintenance or system programming has been accessed
- Longer (20-second) gap between ring cycles for programming mode and Forced Idle tone

Operational

System operational enhancements include the following:

- Automatic selection of an SA button when Conference is invoked (Hybrid/ PBX mode)
- Prompting through Conference feature on MLX display telephones
- Relocation of the More prompt on the MLX-20L display
- Display of the number saved on a programmed Last Number Dial or Saved Number Dial button when the button is inspected

SPM

SPM enhancements include operation in English, French, or Spanish, faster backup and restore, and automatic on-screen display of reports as they are created, with a Browse capability for reading the reports.

Equipment

Additional equipment includes the 8102 and 8110 analog telephones, four headsets, two headset amplifiers, and a transparent protective cover for the MLX-10 and MLX-10D telephones. The 8102 and 8110 telephones are also compatible with Release 1.0.

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PF Registration

PF registration number AS5USA-65646-PF-E is assigned by the FCC for operating the MERLIN LEGEND Communications System in Hybrid/PBX mode in the United States. (The PF registration is also applicable to Release 1.0 systems.)

Release 2.0 Enhancements

Refer to Release 2.0 Notes for detailed descriptions of Release 2.0 enhancements. Release 2.0 includes all Release 1.1 functionality plus the enhancements listed below.

Programming

Programming enhancements include the following:

- Extension Copy is a feature that reduces programming time by allowing the use of any extension as a template for programming another extension or block of extensions through centralized telephone programming.
- Integrated Administration provides a single interface through Integrated Solution III (IS III) for programming entries common to the MERLIN LEGEND Communications System and AUDIX™ Voice Power.
- Any SPM Version 2.xx (where xx is replaced by numbers) provides a Convert function for use in upgrading the system from Release 1.0 or 1.1. This function converts a backup file from a Release 1.0 or 1.1 system to Release 2.0 and later format, allowing reuse of existing system programming on the upgraded system.
- Forced idle reductions keep system interruptions at a minimum. In general, the smallest necessary component is forced idle during programming activities. For example, renumbering a single extension idles only one extension. Only a few systemwide programming activities, such as setting the system mode and system renumbering, idle the entire system.

Operational

System operational enhancements include the following:

- Coverage VMS Off is a feature that prevents incoming outside calls from going to voice mail. (All other coverage remains active as programmed.) The feature is programmed extension by extension, either through extension programming or through centralized telephone programming.
- A Night Service group can be programmed to include either extensions or a calling group as members. However, you should not program both individual extensions and a calling group into the Night Service group, because individuals will not have a chance to answer before calling group members do.

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- When AUDIX Voice Power sends a Leave Message notification to an extension, the system identifies the voice mail system as the sender of the message. When the voice mail subscriber uses the Return Call feature, the call goes to any available voice mail port, not just to the specific port that generated the message. This reduces the chance of getting a busy port.
- Coverage receivers can call coverage senders and have the call receive coverage treatment. If a receiver calls a sender for whom he or she is covering, and the sender is busy or unavailable, the call proceeds to other points of coverage. It does not come back to the receiver who originated the call.
- Enhancements to display prompts include automatic posting of a Do Not Disturb message (for MLX display telephones or other multiline telephones, a Posted Message button must be programmed for the Do Not Disturb message to be posted automatically) when a user activates the Do Not Disturb feature, and confirmation messages when a user activates Hold, Privacy, Saved Number Dial, and Transfer.
- Direct Inward Dialing (DID) trunk emulation on a T1 facility provides up to 24 DID channels on a single DS1 interface, instead of requiring 24 separate physical trunks.
- A telephone user can send a timed flash (switchhook flash) on a loop-start trunk call on a System Access (SA) button.

Fax Attendant SystemTM

Fax Attendant is an application for sending and receiving fax messages; its interface is similar to the voice mail interface provided by AUDIX Voice Power. Fax Attendant System, which co-resides with AUDIX Voice Power on the IS III platform, provides the following services:

- **Fax Call Coverage.** Receives and holds messages for subscribers whose fax machines are busy or out of paper. This service also allows a subscriber to have a personal fax number without having a fax machine.
- Fax Mail. Allows subscribers to create and use fax distribution lists, send and receive fax messages, and record personal greetings for incoming fax calls.
- Fax Response. Prompts callers to select and receive faxes from a customer-created menu of choices, using touch-tone responses.

408 GS/LS-MLX Module

The 408 GS/LS-MLX module (Releases 2.0 and higher only) combines four line/trunk jacks for ground-start or loop-start trunks and eight extension jacks for MLX telephones on a single module in the control unit.

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Primary Rate Interface (PRI)

Primary Rate Interface (PRI) enhancements include the following:

- Connectivity to the 5ESS® Generic 6
- Multiple incoming calls to directory number
- Call-by-Call Service Selection
- Password handling for FTS2000
- Extension ID as Calling Party Number for Automatic Number ID (ANI)

Maintenance

Maintenance enhancements include the following:

- Clear descriptions of module test failures
- Optional printing of hard copy of error logs
- Display that correlates extension numbers with slot/port and logical ID
- Display showing which slots, trunks, and extensions are maintenance busy
- Internal digital switching element (DSE) loopback test for all modules
- B-channel loopback test for MLX modules
- B-channel line or call service states display
- Error log entries for dual-port RAM errors

Release 2.1 Enhancements

Refer to *Release 2.1 Notes* for detailed descriptions of Release 2.1 enhancements. Release 2.1 includes all Release 2.0 functionality plus the enhancements listed below.

Operational

System operational enhancements include the following:

- When a call is forwarded to a multiline telephone that has an Auto Dial or DSS button programmed for the forwarding telephone, the green light next to the Auto Dial or DSS button for the forwarding telephone does not flash.
- People answering calls received on **Cover** buttons are allowed to generate touch tones if their telephones are not outward- or toll-restricted.
- Calls received on personal lines with Do Not Disturb on go immediately to coverage instead of waiting for the coverage delay interval.
- A call put on hold at a Cover button can be added to a conference by someone who has a personal line for the call.

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- A call put on hold at a **Cover** button can be picked up by any person who has a personal line for the call.
- Calls that have been put on hold at a Cover, SA, Shared SA, or Pool button can be picked up by a person who has a personal line button for the call.
- An inside call on hold at an SA button can be picked up and transferred by any person with a Shared SA button corresponding to the button with the held call.
- Calls that are on hold awaiting transfer can be picked up by any user who has a personal line for the call.
- Beginning with Integrated Solution III Version 1.2, the automatic reconciliation program that was run automatically at 3:00 a.m. is disabled and can be invoked manually from the User Maintenance menu.
- If an extension is programmed for Forced Account Code Entry, account codes do not have to be entered when using a programmed Loudspeaker Paging button. In addition, an SMDR record is not generated for calls made to paging ports.
- When an MLX telephone, other than an MLX-20L, is plugged into an MLX port and the Personal Directory does not contain any entries, the allocation of the Personal Directory resource is released. If there are any entries in the Personal Directory, the Personal Directory allocation and the entries in the Personal Directory are saved in the MLX port.
- SMDR call records for calls made on PRI facilities are more accurate than SMDR call records for calls made on non-PRI facilities. Outgoing calls made on PRI facilities receive "answer supervision." Consequently, SMDR timing for calls made on PRI facilities begins when the call is answered. Timing for calls made on non-PRI facilities begins when dialing is completed. Therefore, an SMDR call record is not generated when a call made on a PRI facility is not answered at the far end.
- The Call Type field and the Called Number field on the SMDR report are changed for both the Basic and ISDN report formats.
- An 012 port that is programmed as a *generic* voice messaging interface (VMI) port can transfer an outside call to an outside number.
- In a system where the transfer audible option is programmed for Music On Hold and a music source is provided, outside callers who are transferred to a calling group and are waiting in the queue or who are parked or campedon, hear music while they are waiting. Internal callers never hear music on hold while waiting in the calling group queue or when they are parked, camped-on, or being transferred to another extension.

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Installation and Hardware

Installation and hardware enhancements include the following:

- The control unit covers for the MERLIN LEGEND Communications System are the same easy-to-use covers as those for the MERLIN II Communications System.
- A new 012 (tip/ring) module [apparatus code 517G13 (28) or higher letter] contains a built-in ring generator. The maximum ring equivalency number (REN) supported is 2.2, and the module will ring four ports at one time. Bridging of single-line telephones is not supported because of poor transmission quality.
- A new 008 OPT module (labeled "with RING GEN.") contains a built-in ring generator. It rings four ports at a time.
- Ferrite cores for the power supply modules are shipped from the factory to comply with FCC Part 15 requirements.
- 3129-WTWA (touch tone outdoor telephone equipped with cast aluminum housing and armored handset cord with bell ringers)
- 3129-WRWA (rotary dial outdoor telephone equipped with cast aluminum housing and armored handset cord with bell ringers)
- 3129-WAWA (auto dial outdoor telephone equipped with cast aluminum housing and armored handset cord with bell ringers)
- 3129-WNWA (nondial, automatic ringing on dedicated circuit outdoor telephone equipped with cast aluminum housing and armored handset cord with bell ringers)

Equipment and Operations

Equipment and operations enhancements include the following:

- A new release (Version 2.16) of the System Programming and Maintenance (SPM) software to support international use.
- Support of PRI connection to DEFINITY® Communications Systems
- MLX-10DP telephone, identical to an MLX-10D, except that it provides a jack for access to the PassageWay[™] Solution and PassageWay Direct Connection Solution application.

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Additional Application Packages, Telephones, Adjuncts, and Adapter

Additional application packages, adjuncts, and adapter enhancements include the following:

- A Digital Announcer Unit, compatible with all call management systems and tip/ring applications currently available for the MERLIN LEGEND Communications System.
- The HackerTracker™ system software enhancement to the Call Accounting System (CAS) detects abnormal calling activity by allowing monitoring of facilities or authorization code usage.
- A new digital Magic on Hold unit is available in three configurations:
 - Basic Prerecorded Package
 - Personalized Package
 - Custom Production Package
- The MERLIN[®] Identifier application enables people to receive, store, and use information provided by the local telephone company, specifically, the telephone number of a caller in an area where the service is also supported.
- An Off-Premises Range Extender (OPRE) supports off-premises operation with an off-premises extension capability and extended range operation for tip/ring devices as well as variable gain to improve voice transmission levels.
- PagePac[®] Plus Loudspeaker Paging Systems do not require system adapters. The controller provides eight built-in zones (expandable to 56 zones by using up to three 16-zone expansion units), group zones, talkback, night bell, operator override, tones, door supervision, microphone input, and system access security codes as standard features.
- PassageWay Solution (Release 1.0) software consisting of four applications that run with Microsoft[®] Windows[™] 3.1 or later and provide an interface between an IBM[®]-compatible personal computer and the MERLIN LEGEND Communications System.
- Four single-line telephones with memory buttons: 710, 715, 725, and 730.
- Four specialty handsets compatible with all MLX telephones and the 3101 series, 3178-NHL, 8102, and 8110 single-line telephones.

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Release 3.0 Enhancements

Release 3.0 includes all Release 2.1 functionality plus the enhancements listed below.

Equipment

New hardware includes a variety of components. Additional details are included elsewhere in this book.

- CPU modifications include:
 - A processor running at 16 MHz with a 32-bit wide data bus
 - 1.5 Mbytes of non-volatile (battery-backed) RAM
 - 4.0 Mbytes of Flash ROM
 - PCMCIA memory card interface
 - A full-duplex 1200/2400 bps modem
 - Error/Status code display for maintenance support
- An 800 GS/LS-ID line/trunk module delivers the calling party's telephone number to the customer premises (MLX display telephones only) if the service is subscribed to by the customer and if it is supported by the caller's telephone company.
- Support for:
 - MDC 9000 (six-line, cordless)
 - MDW 9000 (six-line, cordless, wireless)
 - 8101 (single-line telephone, desk or wall-mount, data/fax jack, selectable positive disconnect)
 - 2500YMGL and 2500 MMGL (single-line desk telephones, selectable positive disconnect)
 - Picasso[™] Still-Image telephone (for interactive display of still images)
 - Videophone 2500 single-line phone with interactive video display
- Pre-fabricated and pre-drilled backboard

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Installation, Upgrade Administration, and Maintenance

These are the new MERLIN LEGEND Communications System capabilities:

- SPM (Release 3.18) conversion of translations from Release 1.0, 1.1, 2.0, and 2.1 to 3.0
- Remote operation at 1200/2400bps
- Advice and feedback administration screens for new Release 3.0 functionality
- PCMCIA Memory Card Interface (a Release 3.0 processor board required) allowing:
 - System software installation
 - System software upgrade
 - 800 GS/LS-ID port module firmware upgrade
 - Integrated backup and restore of translations
 - Automatic and manual options for backup and restore are available on the system. Automatic backup can be scheduled weekly or daily to fit the customer's needs.
- Inter-digit dialing timer values are administrable
- Inspection of Lines/Trunks displays only those lines and trunks configured on system rather than all 80 facilities
- Extensions and facilities in Maintenance Busy (both manual and automatic)
 can be identified by the maintenance monitor

User Features

Security

The Remote Access feature allows people at remote locations to enter the system by dialing the number of a line or trunk designated for remote access. The system can be programmed to require the remote user to dial a barrier code (a type of password) after reaching the system. In earlier versions, the systemwide barrier code length is fixed at four digits. Release 3.0 allows a systemwide barrier code length ranging from a minimum of four digits to a maximum of 11 digits, with a factory setting of seven digits. SMDR records are enhanced to provide information for remote access calls. If the remote access call is received on a facility providing Caller ID information (see below), the SMDR report can help trace the call.

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Caller ID

Caller information (telephone number) is furnished to MLX display telephones by an 800 GS/LS-ID module using the LS (loop-start) option. This allows customers to screen calls before answering the phone, as well as providing calling party information for use with various applications. This function is available only when the customer subscribes to caller identification service from the telephone company, if the telephone company supports that service.

Shared System Access (SSA)

A telephone may have up to 27 **Shared SA** buttons to expand extension coverage.

Authorization Codes

The Authorization Code feature allows you to make calls using your calling privileges when you are dialing from an extension other than your own. When you enter your authorization code (ranging from 2 to 11 characters and unique across the system), the privileges and restrictions assigned to your home extension override the current restrictions at the host extension. This includes toll restriction, outward restriction, Facility Restriction Level (FRL), Allowed Lists, Disallowed Lists, Night Service Exclusion List, and Dial Access to Pools. All other functions on the telephone are those of the local telephone, not the home extension.

Authorization codes can also be used for the purpose of call accounting through the SMDR printout. The SMDR account code field can hold either the authorization code extension number or the authorization code itself.

Direct Voice Mail

If your company has voice mail, this feature allows you to dial a co-worker's voice mailbox directly without ringing that person's extension. Direct Voice Mail is especially useful for transferring calls when a co-worker is not available.

Additional Features

The status of Leave Word Calling (LWC) and Privacy are retained across cold starts.

Caller ID (CLASSSM ICLID and PRI) are available on primary coverage and return from transfer.

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Additional Application Packages, Adjuncts, and Adapter Enhancements

PassageWay Direct Connection Solution

PassageWay Direct Connection Solution (Release 2.0) is a computer telephony integrated product that links a desktop Windows PC to the MERLIN LEGEND Communication System's MLX-10DP, MLX-20L, or MLX-28D telephone. The Windows applications are: AT&T Call (autodial/contact manager), AT&T Buzz (screen-pop applications), AT&T Set (extension programming interface), and Log Viewer (call log application). PassageWay Direct Connection Solution (Release 2.0) is the version supported on MERLIN LEGEND Communications System Release 3.0.

PagePalTM

PagePal connects several paging systems to the MERLIN LEGEND Communications System. No other system adapter is necessary for loudspeaker paging.

Fax Attendant 2.1.1

Fax Attendant Release 2.1.1., which co-resides with AUDIX Voice Power on the IS III Release 1.2 platform, provides the same functionality as earlier versions, plus the following enhancements:

- Personal Fax Messaging. Inbound faxes can be stored until the subscriber asks that they be printed, at any fax machine he or she specifies, on company premises or off-site (when the subscriber retrieves fax messages remotely).
- **Fax Mail.** Allows subscribers to send fax messages, get fax messages, record personal greetings, and program outcalling.
- Fax Broadcast. Provides a simple way to send one fax to as many as 1000 fax numbers.

Call Accounting System (CAS) for Windows

This stand-alone version of CAS takes advantage of the easy-to-use graphical environment offered by Microsoft Windows. Through data communications, it also allows one CAS system to serve multiple business sites.

Group Videoconferencing

Group videoconferencing is supported over DS1 (Digital Signal Level 1) facilities with PRI. (Videoconferencing has been available since Release 2.0.)

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Release 3.1 Enhancements

Release 3.1 includes all Release 3.0 functionality plus the enhancements listed below.

Security Features

New security features include a variety of components. Additional details are included elsewhere in this book.

Call Restriction Checking for Star Codes

The system manager can add star (*) codes to Allowed and Disallowed Lists to help prevent toll fraud. Star codes, typically dialed before an outgoing call, enable telephone users to obtain special services provided by the central office (CO). For example, in many areas, a telephone user can dial *67 before a telephone number to disable central office-supplied caller identification at the receiving party's telephone. (You must contract with your telephone service provider to have these codes activated.)

When users dial star codes, the MERLIN LEGEND Communications System's Calling Restrictions determine whether the codes are allowed. If allowed, the system's Calling Restrictions are reset, and the remaining digits that the users dial are checked against the Calling Restrictions.

Trunk-to-Trunk Transfer for Each Extension

This enhancement to the trunk-to-trunk feature enables the system manager to allow or disallow trunk-to-trunk transfer on a per-extension basis. Beginning with Release 3.1, the default setting for all extensions is restricted.

Programmable Second Dial Tone Timer

The system manager can assign a second dial tone timer to lines and trunks to help prevent toll fraud (for example, when star codes are used). After receiving certain digits dialed by a user, the CO may provide a second dial tone, prompting the user to enter more digits. If this second dial tone is delayed, and the user dials digits before the CO provides the second dial tone, there is a risk of toll fraud or the call being misrouted. The second dial tone timer enables the system manager to make sure that the CO is ready to receive more digits from the caller.

Disallowed List Including Numbers Often Used for Toll Fraud

Disallowed List #7 contains default entries, which are numbers frequently associated with toll fraud. By default, Disallowed List #7 is automatically assigned to both generic and integrated VMI ports used by voice messaging systems. The system manager must manually assign this list to other ports.

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Pool Dial-Out Code Restriction by Default

The default setting for the Pool Dial-Out Code restriction has changed to restricted. No extension or remote access user with a barrier code has access to pools until the restriction is removed by the system manager.

Outward Restrictions for VMI Ports by Default

Ports assigned for use by voice messaging systems (generic or integrated VMI ports) are now assigned outward restrictions by default. If a voice messaging system should be allowed to call out (for example, to send calls to a user's home office), the system manager must remove these restrictions.



SECURITY ALERT:

Before removing restrictions, it is strongly recommended that you read "Appendix A: Customer Support Information."

Default Facility Restriction Level (FRL) for VMI ports

The default FRL for VMI ports has changed to 0, restricting all outcalling.

Default FRL for the Default Local Route Table

The default FRL has changed to 2 for the Default Local Route Table. Now, system managers can easily change an extension default of 3 to 2 or lower in order to restrict calling. No adjustment to the route FRL is required.

Maintenance Procedure Password for Testing Outgoing Trunk Problems

A password is now required for technicians to perform trunk tests.



SECURITY ALERT:

The enhancements in Release 3.1 help increase the security of the MERLIN LEGEND Communications System. To fully utilize these security enhancements, be sure to read and understand the information in these upgrade notes.

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Release 4.0 Enhancements

Release 4.0 includes all Release 3.1 functionality plus the enhancements listed below:

Equipment

016 Tip/Ring Module

This module supports the 200-extension dial plan by providing 16 ports for tip/ring devices. Applications that use a tip/ring interface can connect to this board. All 16 ports can ring simultaneously. Four touch-tone receivers (TTRs) are included on the module as well. The module's ringing frequency (default 20 Hz) can be changed through programming to 25 Hz for those locations that require it.

800 NI-BRI Module

This module connects NI-1 BRI trunks to the MERLIN LEGEND Communications System for high-speed data and video transmission.

System Features

Support for up to 200 Extensions

Release 4.0 has an expanded dial plan that supports up to 200 tip/ring devices.

Support for National ISDN BRI Service

This service provides a low-cost alternative to loop-start and ground-start trunks for voice and digital data connectivity to the Central Office. Each of the two B (bearer)-channels on a BRI line can carry one voice or one data call at any given time. The data speeds on a B-channel are up to 14.4 kbps for analog data and up to 64 kbps for digital data, which is necessary for videoconferencing and other video applications. Release 4.0 supports the IOC Package "S" (basic call handling) service configuration and Multi-Line Hunt service configuration on designated CO switches.

Support for 2B Data Applications

Release 4.0 has certified group and desktop video applications that use two B-channels to make video/data calls from endpoints (extensions) that are enabled to use 2B Data. The endpoints that support these applications connect to an MLX-port on the MERLIN LEGEND Communications System. 2B Data applications can make use of the NI-1 BRI, PRI, or T1 Switched 56 network interfaces to make outside connections using one or two data channels at a time.

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Support for T1 Digital Data Transmission

Release 4.0 expands its T1 functionality by providing access to digital data over the public switched 56 kbps network in addition to data Tie-Trunk services. Users who have T1 facilities for voice services can now use them for video calls at data rates of 56 kbps per channel (112 kbps for video calls using two channels). The Release 4.0 T1 offering also includes point-to-point connectivity over T1 Tie-trunks, allowing customers to connect two MERLIN LEGEND Communications Systems or a MERLIN LEGEND Communications System with a DEFINITY Communications System. The two communications systems can be co-located or off-premises.

Downloadable Firmware for 016 T/R Board and NI-BRI Board

The Personal Computer Memory Card International Association (PCMCIA) technology introduced in Release 3.0 continues to support these two new boards in Release 4.0 for installation and upgrade. A Release 3.0 or later processor is required for PCMCIA technology.

User Features

Delayed Call Forwarding

Each user can program a Forwarding Delay setting for the Forward, Remote Call Forwarding, or Follow Me features. The forwarding delay is the number of times that a call rings at the forwarding extension before the call is sent to the receiver. During the delay period, the user can screen calls by checking the displayed calling number (if it is available). The delay can be set at 0 to 9 rings. The factory setting for Forwarding Delay is 0 rings (no delay).

Voice Announce on the QCC

The QCC operator can enable the fifth **Call** Button to announce a call on another user's speakerphone if the destination telephone has a Voice Announce capable SA button available. A QCC cannot receive Voice Announce calls; they are received as ringing calls. The factory-set status for the fifth Call Button is to have Voice Announce disabled.

Time-Based Option for Calling Group Overflow

Release 4.0 has added a *time limit* for calls in queue in addition to the previous number limit. If the Overflow Threshold Time is set to a valid number between 1–900 seconds, calls that remain in the Calling Group Queue for the set time are sent to the Overflow Receiver. If the Overflow Threshold Time is set to 0, Overflow by time is turned off. The factory-set time limit is 0 seconds (Overflow by time off).

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Single-Line Telephone Enhancements

- **Disable Transfer.** Through centralized telephone programming, the system manager can disable the ability to transfer calls by removing from the telephone all but one **SA** or **ICOM** button.
- No Transfer Return. When a handset bounce in its cradle, the MERLIN LEGEND Communications System interprets this as a switchhook flash and attempts to transfer a call. When the transfer attempt period expires, the user's telephone rings. Release 4.0 eliminates this unintended ringing by disconnecting the call in situations where a switchhook flash is followed by an on-hook state when dial tone is present.
- Forward Disconnect. All ports on 012 and 016 modules now send forward disconnect to all devices connected to them when forward disconnect is received from the CO. This enhancement prevents the trunk/line form being kept active when one end disconnects from the call. If an answering machine is connected to the port, it will not record silence, or busy tones, or other useless messages. This is a non-administrable operation.

Security Features

7-Digit Password for SPM

Release 4.0 has increased system security by requiring a seven-digit password when using SPM to perform remote administration or when performing the Trunk Test procedure. This password is to be used in addition to the Remote Access barrier codes.

Release 4.1 Enhancements

Release 4.1 includes all Release 4.0 functionality, plus the enhancements listed below. There are no hardware changes in Release 4.1.

Coverage Timers Programmed for Individual Extensions

Beginning with Release 4.1, coverage timers, which control the duration of the delay before calls are sent to each level of coverage, are changed as follows:

- The Group Coverage Ring Delay (1–9 rings) is programmed on individual extensions and replaces the Coverage Delay Interval programmed systemwide in previous releases.
- The Primary Cover Ring Delay (1–6 rings) and Secondary Cover Ring Delay (1–6 rings), programmed on individual extensions, replace the Delay Ring Interval programmed systemwide in previous releases.

These enhancements allow the system manager to customize coverage call delivery to match individual extensions' call-handling requirements.

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Night Service with Coverage Control

Beginning with Release 4.1, a system manager can enable the Night Service Coverage Control option to automatically control the status of telephones programmed with Coverage VMS (voice messaging system) Off buttons, according to Night Service status.

When Coverage Control is enabled and the MERLIN LEGEND Communications System is put into Night Service, all programmed Coverage VMS Off buttons are automatically turned off (LED is unlit) and all eligible outside calls are sent to the assigned voice messaging system calling group with normal ringing delay. When Night Service is deactivated during the day, all programmed Coverage VMS Off buttons are automatically turned on (LED is lit) and voice mail coverage is disabled for outside calls.

Users can override the Coverage VMS Off button status at any time by pressing the programmed Coverage VMS Off button to turn the LED on or off.

Night Service Group Line Assignment

Beginning with Release 4.1, a system manager can assign lines to Night Service groups to control handling of after-hours calls received on individual lines. This capability replaces the automatic assignment to Night Service groups of only those lines that ring on the Night Service operator console. An outside line must be assigned to a Night Service group to receive Night Service treatment.

With this enhancement, Night Service can be activated and deactivated on lines that do not appear on operator consoles (for example, personal lines), and lines appearing at operator positions can be excluded from Night Service.

Forward on Busy

Beginning with Release 4.1, the Forward, Follow Me, and Remote Call Forward features are enhanced to remove the requirement that a call be ringing at an extension before it can be forwarded. With the Forward on Busy enhancement, a call to an extension with no available **SA** (System Access) or **ICOM** (Intercom) buttons is forwarded immediately to the programmed destination, preventing the caller from hearing a busy signal from the intended call recipient's extension.

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Maintenance Testing for BRI Facilities that Are Part of Multiline Hunt Groups (MLHGs)

Beginning with Release 4.1, the NI-1 BRI (National Integrated Services Digital Network-1 Basic Rate Interface) Provisioning Test Tool is enhanced to include testing for BRI facilities that are part of Multiline Hunt Groups (MLHGs).

The NI-1 BRI Provisioning Test Tool is used by Lucent Technologies maintenance personnel on MERLIN LEGEND Communications Systems that include a 800 NI-BRI module. Technicians use the tool during system installation and maintenance to test the functionality of the BRI lines and to report analyzed results.

Release 4.2 Enhancements

Release 4.2 includes all Release 4.1 functionality, plus the enhancements listed below. There are no hardware changes for Release 4.2.

Additional Network Switch and Services Options for ISDN PRI

Release 4.2 of the system supports connectivity to MCI® or local exchange carrier (LEC) PRI services and to the following central office switch types (in addition to the 4ESS and 5ESS switch types that carry for AT&T Switched Network services):

- NORTEL® DMS™-100 BCS 36 for local exchange carrier services
- NORTEL DMS-250 generic MCI07 serving the MCI network
- Digital Switch Corporation DEX600E generic 500-39.30 serving the MCI network

The following MCI PRI and PRI local exchange carrier (LEC) services (along with AT&T Switched Network Services) can be provided to users of the MERLIN LEGEND Communications System:

- MCI Toll Services for DMS-250 or DEX600E switch type:
 - MCI Prism® service for domestic outgoing long-distance and international voice calls; for domestic outgoing 56-kbps restricted, 64-kbps unrestricted, and 64-kbps restricted circuit-switched data calls
 - MCI VNet® service for incoming and outgoing domestic and voice calls; for 56-kbps restricted, 64-kbps restricted, and 64-kbps unrestricted circuit-switched data calls
 - MCI 800 for domestic, toll-free, incoming voice calls
 - MCI 900 service numbers

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- LEC services for DMS-100 switch types:
 - DMS Virtual Private Network service for calls between the MERLIN LEGEND Communications System and another communications system (such as another MERLIN LEGEND Communications System)
 - DMS INWATS (Inward Wide Area Telephone Service) for domestic toll-free incoming voice calls
 - DMS OUTWATS (Outward Wide Area Telephone Service) for domestic outgoing long-distance voice calls
 - DMS FX (foreign exchange) to provide local call rating for calls from the local exchange to the area serviced by the foreign exchange.
 - DMS tie trunk service to provide private exchange call rating for calls placed on a dedicated central office facility between the MERLIN LEGEND Communications System and another communications system (such as another MERLIN LEGEND Communications System)

Improvements to Station Message Detail Recording (SMDR) and Support for MERLIN LEGEND Reporter Application

The SMDR feature is enhanced to provide more details about calling group agent activities and to help system managers assess the effectiveness of call centers in terms of both agent performance and the adequacy of facilities to handle inbound calls. These improvements apply to calling groups that are programmed as Auto Login or Auto Logout type. The SMDR and MERLIN LEGEND Reporter features listed are administrable:

- TALK Field. For Auto Login and Auto Logout calling groups, the TALK field records the amount of time a calling group agent spends on a call.
- DUR. (DURATION) Field. For Auto Login and Auto Logout calling groups, call timing begins when a call arrives at MERLIN LEGEND Communications System and not after a preset number of seconds. Call timing ends when the call is disconnected; either the caller or the agent hangs up. This allows the system manager to determine how long a caller waited for an agent's attention.
- Coding of Calls on Reports. An asterisk (*) appears in the call record when:
 - A call is not answered by an Auto Login or Auto Logout calling group agent and is abandoned while waiting for an agent.
 - The call is answered by someone not a member of an Auto Login or Auto Logout calling group.

An exclamation point (!) signals that an Auto Login or Auto Logout agent handled a call that was answered by someone who was not a member of that Auto Login or Auto Logout with Overflow group. An ampersand (&) in the call record indicates that the group's overflow receiver answered the call.

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MERLIN LEGEND Reporter

MERLIN LEGEND Reporter provides basic call accounting system reports for all incoming calls to Auto Login or Auto Logout type calling groups. MERLIN LEGEND Reporter assists in determining the effectiveness of calling group agents, assessing the level of service provided to callers, and ascertaining whether adequate incoming phone lines and agents are available to handle peak-call load. MERLIN LEGEND Reporter is an administrable option. The default is Off, in which case the Release 4.0 SMDR reports are available. If the option is set to On, the following new reports are provided:

- Organization Detail Report
- Organization Summary and Trends Report
- Selection Detail Report
- Account Code Report
- Traffic Report
- Extension Summary Report
- Data Report
- Talk and Queue Time Distribution Report
- Time of Day Report
- ICLID Call Distribution Report
- Facility Grade of Service Report

Maintenance Enhancements

Change to Permanent Error Alarm

Beginning with Release 4.2, the most recent permanent error alarm is not shown on the System Error Log menu screen but is available as an option from that screen. For details, refer to the Maintenance section of the technician guide, *Installation, Programming, and Maintenance.*

Enhanced Extension Information Report

Beginning with Release 4.2, the Extension Information Report includes the Extension Status (ESS) and supervisory mode of each extension.

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Release 5.0 Enhancements

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> Release 5.0 includes all Release 4.2 functionality, plus the enhancements listed below.

Computer Telephony Integration (CTI)

A PassageWay Telephony Services CTI link from the MERLIN LEGEND Communications System to a LAN server running Novell® NetWare® software allows Lucent Technologies-certified telephony applications to control and monitor MLX and analog multiline telephone (BIS only) operations. The physical connection for the CTI link is an MLX port on a 008 MLX or 408 MLX module on the MERLIN LEGEND Communications System control unit and ISDN link interface card plugged into the customer's server. The feature is available for Hybrid/PBX mode systems only.



The NetWare server software version must be 3.12, 4.1 or 4.11.

The 008 MLX and 408 MLX modules must have firmware vintage other than 29. If the module has firmware 29, programming a CTI link on the module is prevented. An earlier or later vintage firmware is supported.

Basic Call Control

A CTI link application on a user's computer can assume basic call control of the user's analog multiline or MLX telephone's SA buttons. Basic call control includes:

- Answering calls arriving on an SA button
- Making calls from an SA button
- Hanging up calls
- Hold and retrieving a call on hold at the user's extension



Transfer and 3-way conference, when handled through a CTI link application, provide the original caller's calling number information or other information to the transfer receiver or new conference participant, if the user has screen-pop capability.

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Screen Pop

Screen pop occurs when the calling number, called number, or other user-defined identifier (such as account code that a voice-response unit prompts the caller to dial) is used to display a screen associated with the far-end party. For example, Caller ID services can be used to support screen pop on a system that includes a CTI link; using the calling party number as a database key code, information about a caller automatically appears on the user's computer screen when the call arrives at the extension. Depending on the application, screen pop may be available for calls that arrive on line buttons other than **SA** buttons and/or calls that are answered manually at the telephone rather than by the application.

Screen pop can occur on incoming calls from the following sources:

- Calling group distribution
- ISDN PRI Routing by Dial Plan
- An extension on the MERLIN LEGEND Communications System
- Remote access



In the case of remote access calls, the only information that the application can collect about the caller is the remote telephone number.

- A transfer of a call that was answered by a voice response unit
- A transfer, redirection, or conference of a call that was answered at a DLC or at a QCC

NOTES:

- DLCs (Direct-Line Consoles) may use CTI applications. If they do, they
 perform the same way as other extensions. A DLC assigned to use a
 CTI link application is a monitored DLC. When a DLC is used as a
 regular operator console and not using a CTI link extension, it is nonmonitored.
- Calls to a QCC or non-monitored DLC do not initiate screen pop at the
 operator position, but when an operator directs a call to an extension
 using a CTI application, caller information does initiate screen pop. If the
 DLC is non-monitored, screen pops can occur after the DLC releases
 the call.
- 3. Calls transferred from Cover buttons on non-monitored DLCs do not initiate screen pop at the destination extension.

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HotLine Feature

The Release 5.0 HotLine feature is designed for retail sales, catalogue sales, and other types of businesses and organizations and is available in all three modes of system operation. It allows a system manager to program a single-line telephone extension connected to an 008 OPT, 012, or 016 module as a HotLine. When a user lifts the handset at the HotLine extension, the telephone automatically dials the inside extension or outside telephone number programmed as the first Personal Speed Dial number (code #01) for the extension. The system does not permit calls to be transferred, put on hold, or conferenced. (A user can press the telephone's **Hold** button, if it has one, to put a call on local hold, but the call cannot be redirected in any way. Switchhook flashes are ignored.)

Personal Speed Dial codes can be programmed from the extension prior to HotLine assignment (a system programming function). Alternatively, a Personal Speed Dial code can be programmed from the single-line telephone after HotLine operation is assigned. However, because of security considerations, this is a one-time opportunity. Once the Personal Speed Dial number is programmed, any changes to it or any other extension programming must be performed using centralized telephone programming.

Any type of inside or outside line that is normally available to a single-line telephone can be assigned to a HotLine extension. Generally, the HotLine telephone does not receive calls, and its lines should be set to No Ring.



SECURITY ALERT:

If a HotLine extension accesses a loop-start line, that line should provide reliable disconnect and be programmed for reliable disconnect. Otherwise, a user at the extension may be able to stay on the line after a call is completed and then make a toll call.

Group Calling Enhancements

Release 5.0 and later systems include Group Calling features that enhance group calling operations.

Most Idle Hunt Type

In addition to the Circular (factory setting) and Linear hunt types supported in earlier releases, a third hunt type distributes calling group calls in an order based on which agent has waited the longest since transferring or hanging up on an incoming calling group call. For some applications, this hunt type is more efficient than the circular type because it takes into account the varying duration of calls. The system distributes calls based on when an agent last completed a call, not on when he or she last received one. This hunting method ignores non-calling group calls. For example, if an agent transfers a call that arrived on a line not assigned to the calling group, the calling group member's most-idle status is unaffected.

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Delay Announcement Devices

The system manager can designate as many as ten primary delay announcement devices per group rather than the single device for each group that is available in Release 4.2 and earlier systems. Furthermore, an additional secondary delay announcement device can be specified, for a total of ten primary device extensions and one secondary device extension per group.

A primary delay announcement device operates in the same fashion as a single delay announcement device, playing once, as soon as it is available, for the caller who has waited the longest for a calling group agent and has not heard a primary delay announcement. If a secondary announcement device is used, it can use the factory setting, which plays the announcement once, or it can be set to repeat the announcement after a certain amount of time. The system manager programs the time (0–900 seconds) between announcements. This setting controls both the interval between primary and secondary announcements and the interval between repetitions of the secondary announcement if it is set to repeat. (See "Optional Group Features" on page –300 for guidelines on setting the delay.)

The primary and secondary announcement options, when used together, allow an initial message to play for callers, followed by a repeating announcement that, for example, urges callers to stay on the line and wait for a calling group member.

Two or more groups may share an announcement device.

A primary delay announcement device can be administered as a secondary delay announcement device.

Enhanced Calls-in-Queue Alarm Thresholds

Three Calls-in-Queue Alarm thresholds can be set to more clearly indicate the real-time status of the calls waiting in the queue according to the behavior of programmed Calls-in-Queue Alarm buttons. In earlier releases, only one Calls-in-Queue Alarm Threshold setting is available to activate the LEDs at programmed Calls-in-Queue Alarm buttons for a calling group.

Using all three levels, the system manager sets Threshold 3 to the highest value, Threshold 2 to a middle value, and Threshold 1 to the lowest value. A Calls-in-Queue Alarm button indicates the severity of the alarm conditions in the following ways:

- If the number of waiting calls is less than the value programmed for Threshold 1 or drops below that level, the LED is unlit.
- If the number of waiting calls is greater than or equal to the Threshold 1 value but less than the Threshold 2 value, the LED flashes.
- If the number of waiting calls is greater than or equal to the Threshold 2 value but less than the value for Threshold 3, the LED winks.

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If the number of waiting calls is greater than or equal to the highest value, Threshold 3, the LED lights steadily.



NOTE:

A DSS (Direct Station Selector) button that is used as a Calls-in-Queue Alarm button can only indicate two threshold levels, either by flashing or by lighting steadily. If a calling group must use this type of Calls-in-Queue Alarm button, only two threshold levels should be programmed.

If all three thresholds are set to the same value, the result is one threshold only (steady) with LED state either off or on. If two values are the same, then the result is two alarm levels (flash, steady). The factory is setting is one call for all three thresholds with LED states of off, flash, and steady.

An external alert only signals when the number of calls in the queue meets or exceeds the programmed Threshold 3 value.

MLX-5 and MLX-5D Telephones

The MLX-5 nondisplay and MLX-5D display telephones are compatible with all system releases. The display telephone includes a 2-line by 24-character display, and both telephones come with 5 line buttons. In systems prior to Release 5.0, the MLX-5 and MLX-5D telephones are treated as MLX-10 and MLX-10D telephones respectively. As of Release 5.0, the system recognizes the MLX-5 and MLX-5D telephones as 5-button telephones.

If these telephones are connected to communications system releases prior to 5.0, they are recognized by the communications system as 10-button telephones.

Release 6.0 Enhancements

Release 6.0 includes all Release 5.0 functionality, plus the enhancements listed below.

Private Networks

In Hybrid/PBX mode systems only, MERLIN LEGEND Communications Systems can be networked with one another or with DEFINITY® Enterprise Communications Server (ECS) and ProLogix[™] Communications Systems in private networks. In previous releases, this functionality is available using tie lines, but users handle calls between networked switches as outside calls. In this release, dialing the pool access code is not necessary for a call going from one networked switch to another. Also, delay-start tie trunks or T1 trunks administered as PRI can act as tandem trunks to connect networked systems.

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Available for Hybrid/PBX mode systems, the private network features of the MERLIN LEGEND Communications System Release 6.0 provide the following advantages for geographically dispersed organizational sites:

- Intersystem Calling. In a private network, users on one local system can call extensions on other systems in the network. Release 6.0 can support 2-, 3-, 4-, or 5-digit dial plans. They dial these extensions as inside calls. To implement this function, the system manager programs the extension ranges of remote networked switches to create a non-local dial plan. This programming does not actually affect numbering on the remote system. To correctly set up systems for transparent calling among non-local dial plan extensions, the system manager assigns networking tie and/or PRI tandem trunks to pools. Then he or she programs as many as 20 patterns, associates with routes, Facility Restriction Levels (FRLs), digit absorption, and digit prepending. This allows ARS-like routing of non-local dial plan calls. In addition, system managers can control whether calling name, calling number, or both are shown at MLX display telephone for incoming calls across PRI tandem trunks.
- **Toll Savings.** Private networked trunks may allow you to realize significant cost savings on long-distance and toll calls by performing tandem switching in the following two ways:
 - Callers on a local system, or individuals dialing in to remote access at a local system, can reach the public switched telephone network (PSTN) via outside trunks connected to other systems in a private network, avoiding toll charges or decreasing the cost of toll calls. No special dialing is required. For example, an organization might have a main office in Boston and a subsidiary office in New Jersey, connected by networked private tandem trunks between two systems. A user in the New Jersey office who wishes to make an outside call to the 617 area code (Boston) can do so through a line/trunk connected to the system in Boston. For example, he or she might dial, 716175551211. The local ARS tables would route this call over the private network trunks and use the ARS tables of the remote system in Boston to route this call. The system managers at each end of a private network set up ARS and Remote Access features to implement this functionality.
 - In addition, local organizations or incoming DID calls use private networked trunks to make intersystem calls between networked systems, which may be geographically distant from one another, also resulting in toll savings.
- Service Cost Savings. In addition to toll call saving, there are two ways that organizations can save on service costs incurred from telecommunications providers that provide public switched telephone network access:

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- You order a point to point T1 facility from a service provider, then use system programming to set it up for PRI signalling. As necessary, a service provider can provide amplification on the T1 facility, but does not supply switching services.
- You can tailor your use of PRI B-channels with drop-and-insert equipment that allows fractional use of B-channels for dedicated data/video communications between systems at speeds greater than 64kbps per channel or 128 kbps for 2B data, while keeping the remaining B-channels for PRI voice traffic. The PRI D-channel must remain active.
- You can tailor use of T1 channels to support both T1-emulated tandem tie service and T1 Switched 56 service for data communications at 56 kbps per channel, allowing 2B data transfers at 112 kbps. You can also use drop-and-insert equipment to provide fractional T1 use.
- Voice Mail and Auto Attendant. Networked systems should have their own local voice mail and/or auto attendant applications as well as their own external alerts and Music On Hold sources. However, a single auto attendant can transfer calls throughout the network. It can answer only those calls that arrive on the PSTN facilities of the system where it is connected.

Although many features are available using tie trunks for network connectivity, PRI tandem trunks provide greatly enhanced features and faster call setup. For this reason, PRI is recommended over tie functionality in private networks.

Group Calling Enhancements

Release 6.0 and later systems include Group Calling features that enhance group calling operations.

Queue Control

The system manager can control the maximum number of calls allowed in the primary calling group queue for calls that arrive on certain facilities often assigned to calling groups. When the number of the calls in queue reaches the programmed maximum, subsequent callers receive a busy signal.

Queue control applies to calls received on the following types of facilities:

- DID (Direct Inward Dialing)
- PRI facilities programmed for dial-plan routing
- All calls transferred from a VMI (voice messaging interface) port
- Dial-in Tie

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Queue control also applies to internal calls to a DGC group and calls to a calling group through the QCC.

Internal calls that dial #0 or #800 and are directed to a calling group administered as Position-Busy Backup are eligible for queue control. Calls that come in on a trunk assigned to the Queued Call Console (QCC) are not eligible for queue control if the call is directed to a calling group designated as Position-Busy Backup.

Remote-access calls to a calling group, coverage calls directed to a calling group, calls directed to calling group through QCC Position-Busy backup, and all other outside calls are not eligible for queue control.

Prompt-Based Overflow

System managers can activate the Prompt-Based Overflow option. This option allows callers waiting in queue and listening to a delay announcement to press the # key in order to reach the overflow receiver for the group, which may be the QCC queue or another calling group (including a calling group assigned for a voice mail system).

All three overflow distribution options—based on the number of calls, the time a caller has waited, and according to the caller's prompt—may be used at one time. In this case, time-based and number-of-calls based options take precedence over overflow distribution based on the caller's prompt.

When prompt-based overflow distribution is used, an extra TTR must be provided for each delay announcement device assigned to the associated calling group. The delay announcement informs the caller of the # key option to exit the queue and leave rather than waiting for an agent. If no TTR is available when a calling group call arrives, the call is not sent to a delay announcement extension.

Centrex Transfer via Remote Call Forwarding

Centrex Transfer via Remote Call Forwarding can be used in all system modes of operation to send outside calls to a remote telephone number or another Centrex station. In this context, the term *outside calls* refers to calls from outside the communications system, which may originate at extensions in the Centrex system but not connected to the local MERLIN LEGEND Communications System.

An outside call that uses this feature is defined as a call that arrives on an analog Centrex loop-start line at the MERLIN LEGEND Communications System. It may arrive directly or be transferred without consultation or without transfer supervision (in the case of an automated attendant). The forwarding call to the outside number is made on the same line/trunk on which the call arrived, conserving system facilities. The following considerations and rules apply:

Only outside Centrex calls are forwarded using this feature.

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- The system must be equipped with analog loop-start Centrex lines and all loop-start lines in the system must be Centrex facilities. Loop-start lines do not have to provide reliable disconnect for use by the Centrex Transfer via Remote Call Forwarding feature.
- To transfer calls outside the Centrex system, the organization must subscribe to a Centrex trunk-to-trunk transfer feature.

Activating Centrex Transfer via Remote Call Forwarding is just like activating regular Remote Call Forwarding and requires that Remote Call Forwarding be enabled for the extension. However, the user dials * instead of a dial-out code, and a Pause character may be required after the *. The Centrex service provider determines whether the Pause is needed.

Pause cannot be originated from a single-line telephone or a remote access user. A multiline telephone user in the local system must enter an authorization code to activate the feature.

A remote access user may activate the feature without using an authorization code. Barrier code requirements do apply, however.

Authorization Codes and Remote Call Forwarding

In Release 6.0 and later Key or Hybrid/PBX mode systems, forwarding features, including Centrex Transfer via Remote Call Forwarding, but excluding Follow Me, can be activated or deactivated at a multiline telephone by entering the authorization code for the extension from which calls are to be forwarded. The user enters the authorization code, then activates or deactivates the forwarding feature in the normal fashion. This is especially useful for a single-line telephone user who must include a Pause character in a Centrex Transfer via Remote Call Forwarding dialing sequence, because the character cannot be dialed at a single-line telephone. It is also useful when activating Call Forwarding or Remote Call Forwarding at phantom stations, or via remote access (e.g. from another switch in the network). No other features can be used by entering an authorization code in this fashion.

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Programming with SPM



The System Programming and Maintenance (SPM) software package offers an alternate method of programming the MERLIN LEGEND Communications System using a PC. This method frees the system programming console for other uses and also provides the additional functions listed below:

- Backing up system programming information
- Restoring system programming information from a backup
- Converting system programming information from one release to another (part of the upgrade procedure)
- Upgrading the communications system to a newer release
- Printing, viewing, and storing reports
- Programming the communications system remotely
- Programming in surrogate mode

SPM runs on a DOS-based PC as a standalone program or on a UNIX System platform as part of Intuity, Integrated Solution II, or Integrated Solution III (IS II/III are discontinued products). It is available on a 3.5-inch diskette for DOS or UNIX, or on a 5.25 inch diskette for DOS.



NOTE:

SPM software can be used directly from the floppy disks on a DOS machine; however, if your PC has a hard disk, you should install SPM onto the hard disk.

Programming with SPM System Requirements

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This book describes the use of SPM on a PC with a DOS operating system. If your system includes the Intuity or IS II/III applications, you have the UNIX System version of SPM.

For information about accessing SPM from the IS II/III application, refer to the following books:

- Integrated Solution III System Manager's Guide, order no. 555-601-010
- Integrated Solution III Installation and Maintenance Guide, order no. 555-601-011
- Integrated Solution II System Manager's Guide, order no. 555-600-726
- Integrated Solution II Installation and Maintenance Guide, order no. 555-600-720

System Requirements

To use SPM for system programming, you need the SPM diskette and an approved PC with version 3.3 (or later) of MS-DOS[®]. At a minimum, your PC should support and include the following items:

- At least 640 kbytes of RAM
- A floppy disk drive that will accommodate the SPM diskette (3.5-inch or 5.25-inch)
- A monochrome or color monitor
- A serial port that can use either a DB-9 or DB-25 connector
- For a DB-9 connector, use a 9-pin to 25-pin adapter to attach the 25-pin connector of the RS-232 interface cable.
- An RS-232 interface cable of appropriate length for your site connection(s)

Depending on how you connect the PC to the control unit, you also need the following items:

- Direct local connection, if the PC is within 50 ft. of the control unit.
 - Either a 355AF modular adapter (if there is a male connector on the interface cable) or a 355A modular adapter (if there is a female connector on the interface cable)
 - A four-pair modular cord (D8W)

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- Direct local connection, if the PC is more than 50 ft, from the control unit.
 - 355AF adapter
 - EIA crossover cable
 - Two Z3A2 Asynchronous Data Units (ADUs)
 - ADU crossover cable
 - 400B2 power adapter
 - 2012D transformer
 - BR1A-4P adapter and either a 102 connecting block or 103 connecting block
 - 248B adapter
 - Eight-position wall jacks
 - Four-pair plug-ended cable
 - D8W cords
 - D6AP power cord
 - EIA-232-D cables
- Modem (local or remote) connection
 - A modem that supports 1200- or 2400-bps connections

In addition, a parallel printer is useful for reports (the PC needs a parallel port for the connection).



SPM uses Interrupt 4 and I/O address 3F8 for COM1. It uses Interrupt 3 and I/O address 2F8 for COM2.

Installing the SPM Software

Before you install or run SPM, use diskcopy on a DOS PC (see your operating system guide) to make a backup copy of the SPM diskette and store the original in a safe place. Use the backup copy to run the installation program.

For installing SPM on a DOS PC, follow the appropriate instructions in the next section of this book.



NOTE:

If your PC does not have a hard disk, you do not need to run the installation program. Go to "Initializing the SPM Software" on page 2-9.

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DOS Installation

Use the following procedure to install SPM on the hard drive of a DOS PC.



If you are updating SPM, you do not need to remove the current SPM files. The new files will overwrite your current SPM files.

Considerations

Review the following items before you begin the installation procedure.

The installation program automatically performs the following:

- Checks available space on the hard disk. If space is insufficient, the installation is terminated and an error message is generated.
- Checks the autoexec.bat and config.sys files. If either file is write-protected, the installation is terminated and an error message is generated. SPM must make changes to these files.
- Saves a copy of autoexec.bat as autoexec.old.
- Saves a copy of config.sys as config.old.
- If autoexec.bat has not already been configured for SPM, performs the following:
 - Adds c: \spm to the path statement
 - Adds the line SET AMS PATH=C:
 - Adds the background print command PRINT /D: PRN /B: 4096 /U: 3 /M: 200 /S: 1 > NUL
- Adds the following line to config.sys if it is not already present DEVICE=C:\ANSI.SYS.
- Copies the ansi.sys file from the floppy disk to c:\.
- Creates the directory c:\spm.
- Copies the following files from the floppy disk into c:\spm:
 - spm.exe
 - ams_hlp.eng (English language help file)
 - ams_hlp.fre (French language help file)
 - ams_hlp.spa (Spanish language help file)

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- Creates the following directories if they do not already exist:
 - c:\spm\backup
 - c:\spm\reports
 - c:\spm\tmp
- Does one of the following:
 - Creates the SPM configuration file c:\spm\ams.cfg, if it does not already exist. In this case, the ams.cfg file consists of only one line, in which the language attribute is specified: LANG 1 if you specified English or did not specify a language with the install command;
 - Modifies the ams.cfg file, if it already exists, by adding or changing the LANG value.

Follow the steps below to install SPM on the PC's hard disk.

Switch to Drive A, if it is not already the current drive.

A: > appears on the screen.

- 2. Insert the backup copy of the SPM diskette into Drive A.
- ▶ 3. Type one of the commands shown below and press Enter -.
 - install
 - install french
 - install spanish

Because English is the default language, install and install english have the same result. If you do use the language argument (english, french, or spanish), you must type it in lowercase letters as shown. The command install may be uppercase or lowercase.

▶ 4. Wait for the message shown below to appear.

SPM HARD DISK INSTALLATION PROGRAM Strike a key when ready

▶ 5. Press any key to begin the installation.

When the installation is finished, the following message appears:

SPM HARD DISK INSTALLATION IS NOW COMPLETE
YOU MUST REBOOT YOUR SYSTEM BEFORE USING SPM

▶ 6. Remove the SPM diskette from Drive A and reboot your system.

The installation procedure is complete.

Go to "Initializing the SPM Software" on page 2–9.

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DOS Installation with Windows 95

Using DOS SPM with Windows 95 improves the interaction of SPM with the operating system as compared to Windows 3.x installation. For example, the interaction with the print driver is improved. If an online printer is not available when you try to print while using SPM, you see a message box explaining the problem. You can correct the problem by bringing the printer on-line and continuing, or you can cancel the print operation. SPM operation is not affected by the error message or the action you take to correct the problem.

Use the following procedure to install SPM. You do not need to remove the current SPM files. The new files automatically overwrite your current SPM files.

Considerations

Review the following items before you begin the installation procedure.

The installation program automatically performs the following:

- If you typed install (the command for DOS installation) instead of install95, checks if your PC has Windows 95 installed. If Windows 95 is detected, you see an error message that tells you to run the Instal95 program.
- Creates the directory c:\spm if it does not already exist.
- Checks if the print.exe file is present in any directory listed in the PATH environment variable.
- Runs the DOS SETVER command to set the version table for print.exe to 6.22. This is required to enable print.exe to run on Windows 95.
- Creates an spm.bat file in the directory c:\spm. The spm.bat file contains the ams path and print statements required to run SPM.
- Unzips and copies the remaining files into the directory c:\spm.
- Instructs you to refer to this document for details on using the PIF Editor to configure an SPM PIF file to work with the spm.exe file.

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Installation

With Windows 95 running on your PC, follow these steps to install SPM on the PC's hard drive:

- 1. Insert a backup copy of SPM in any floppy disk drive (usually the A drive).
- 2. Choose *one* of the following two methods to install SPM:

Method 1– Install DOS SPM with French, Spanish, or English Language:

- a. Open a DOS Window from Windows Explorer.
- b. At the DOS prompt, switch to the drive with the backup copy of SPM diskette (usually the A drive).
- c. At the DOS prompt, type one of the commands shown below and press Enter .
 - instal95 or instal95 english
 - instal95 french
 - instal95 spanish



Because English is the factory-set language, *instal95* and *instal95* english have the same result. If you do use the language argument (english, french or spanish), you must type it in lowercase letters as shown. The command *instal95* may be in uppercase or lowercase letters.

Method 2– Install DOS SPM with French, Spanish, or English Language:

- a. From the Windows Explorer, select the floppy drive that contains the backup copy of SPM diskette.
- Select and run Instal95 (either by double clicking on the file name or single clicking on the file name and using the menu choice File:Open).
- 3. After you start DOS SPM installation using either method, the following message appears:

SPM WINDOWS 95 HARD DISK INSTALLATION PROGRAM Press any key to continue.

4. Press any key to begin the installation.

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5. If your PC does not have a copy of PRINT.EXE in any directory listed in your system's PATH environment, the following message appears:

Copying print.exe to directory c:\spm file(s) copied

WARNING - The application you are adding to the Windows version table may not have been verified by Microsoft in this version of Windows. Please contact your software vendor for information on whether this application will operate properly under this version of Windows. If you execute this application by instructing Windows to report a different MS-DOS version number, you may lose or corrupt data, or cause system instabilities. In that circumstance, Microsoft is not responsible for any loss or damage.

Version table successfully updated.

The version change will take effect the next time you restart your system.

SPM Note: The warning message seen above was produced by the SETVER command. This command was used in the SPM install program to set the proper version of PRINT.EXE file in the DOS version table. Please note that in Windows 95, running SETVER always produces the warning message seen above, even when the command is run properly.

Press any Key to continue . . .

6. Press any key to continue installation. When SPM installation is complete the following message appears:

Installation of SPM for DOS on your Windows 95 hard drive is now complete. For easy access to SPM from Windows 95, configure an SPM.PIF file. See the SPM Manual for details. Press any key to continue . . .

- 7. Press any key
 - If you installed DOS SPM using Method 1 in Step 2, close the DOS Window by typing exit at the DOS prompt and pressing Enter → . If the window does not close, then the Close on Exit option for the DOS window is not set. In this case, close the window by clicking on the upper right window icon (the box with an x in it).
 - If you installed DOS SPM using Method 2 in Step 2, the DOS window closes automatically.
- If the print.exe file was copied to your PC in Step 5, you must reboot your PC.
- 9. You should now configure a PIF file for SPM. Use the instructions that follow.

Programming with SPM Installing the SPM Software

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Configuring a PIF file for DOS SPM

Refer to the Windows 95 Help topic, "PIF editor," for details about using the PIF editor to implement an SPM PIF file to work with the spm.exe file.

Configure a PIF file for DOS SPM by doing the following:

- In the Windows Explorer, select the SPM application file. Then select the menu item File:Properties. The screen that pops up will have tabs along the top.
- 2. In **Program Tab**:, put the following line in the **Working Directory** entry:

C:\SPM

3. In **Program Tab**:, put the following line in the **Batch File** entry:

C:\SPM\SPM.BAT

4. In **Program Tab:**, make sure the **Close on Exit** checkbox is checked.

You can now double click on either the SPM application icon or the SPM "Shortcut to MS-DOS" icon to run SPM. When you quit SPM (by pressing the **Home** key), the window closes automatically.

Hiding the spm.exe and spm.bat Files

If you want to hide the spm.exe and spm.bat files, use the following steps:

- 1. In the Windows 95 Explorer, select each file.
- 2. Click **File** from the menu bar, then select **Properties**.
- In the Properties dialog box, click on the Hidden checkbox located under the General Tab in the Attributes section.

Initializing the SPM Software

To run correctly, the DOS version of SPM requires certain information (transmission speed, type of monitor, and so on). You need to supply this information only once, the first time you run SPM.

The information you provide during the initialization process is written to the SPM configuration file (ams.cfg). If you need to change this information at some later time, you can do so in either of the following ways:

- Use any of the options in Table 2–1 to change the information in ams.cfg.
- Edit the ams.cfg file. (If you are unsure about editing the file, you can remove it. You are prompted to reinitialize the next time you invoke SPM. The file is created at that time.)

Programming with SPM Installing the SPM Software

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The DEBUG attribute is also specified in ams.cfg as DEBUG=0 (off), the default setting, or DEBUG=1 (on). This attribute is used to enable the Escape-to-Shell feature of SPM, activated by pressing [Ctrl] + [9]. To turn DEBUG on, you must edit the ams.cfg file; it is not part of the initialization process. The DEBUG attribute is for use by qualified service personnel only

Table 2–1. SPM Configuration File (ams.cfg) Options.

Option	Use
spm -coml	Specifies COM1 as the serial communications port used by SPM
spm —com2	Specifies COM2 as the serial communications port used by SPM
spm -s l 200	Specifies modem speed of 1,200 bps
spm -s2400	Specifies modem speed of 2,400 bps
spm -color	Specifies color monitor
spm -mono	Specifies monochrome monitor
spm -l english	Specifies English as the PC language
spm –l french	Specifies French as the PC language
spm –l spanish	Specifies Spanish as the PC language

Follow the steps below to perform the SPM initialization.

- ▶ 1. Type *spm* and press Enter— to display the SPM Welcome screen shown in Step 2.
 - Make your entry at the C:> prompt if your PC has a hard disk.
 - Make your entry at the A:> prompt if you are using the floppy drive.

2. Press any key.

Welcome to SPM
The MERLIN LEGEND
System Programming
& Maintenance Utility
Please press any key
to continue
Version X.XX

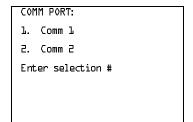
X.XX = current version of SPM

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The screens shown in Steps 3 through 7 appear only if the system has not been initialized. Otherwise, the screen shown in Step 8 appears.

■ 3. Select the serial communications port used for SPM and press Enter - ...



Type \mathcal{I} for serial port 1 (COM1). Type \mathcal{I} for serial port 2 (COM2).

▶ 4. Select the communications port speed and press Enter - .

Speed:
1. 1200
2. 2400
Enter selection #

Type \mathcal{I} for 1,200 bps. Type \mathcal{I} for 2,400 bps.



Type y if you have a color monitor. Type n if you do not have a color monitor.

▶ 6. Select a language and press Enter → .

Language:

1. English

2. French

3. Spanish

Enter selection #:

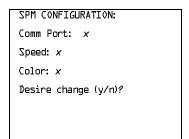
Type 2 for French.
Type 3 for Spanish.

Programming with SPM
Installing the SPM Software

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The language you select here becomes the SPM (PC) language.

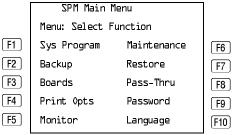
▶ 7. Review your selections.



x = the values entered for each entry in Steps 3 through 6

- To change any of the information shown, type Y and press Enter . The screen shown in Step 3 appears. Repeat Steps 3 through 6.
- - If the PC is connected to the processor, the SPM Main Menu appears as shown in Step 8.
 - If the PC is not connected, go to "Connecting the PC" on page 2–13.

▶ 8. Press the function key that corresponds to the option you want.





The function keys shown on either side of the display are included here for quick reference. See <u>"SPM Screens" on page 2–21</u> for details on using the PC keys in SPM.

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Connecting the PC

There are three ways to connect the PC to the control unit. Choose the method below that is most useful for your installation.

- Direct local connection
- Local modem connection
- Remote modem connection

Direct Local Connection

For a direct local connection, you must connect the PC to the system programming jack. This is the lower modular RS-232 jack on the processor module, as shown in Figure 2-1. (The upper jack is reserved for the SMDR printer.)

To connect a PC more than fifty feet from the control unit, see Figure 2–2.

For direct local connections, the system supports speeds of 1,200 and 2,400 bps.



You must use a direct local connection to program in surrogate mode.

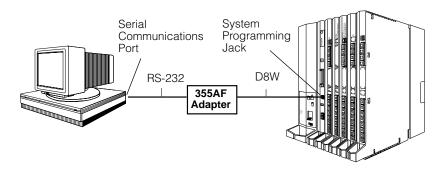


Figure 2–1. **Direct Local Connection**

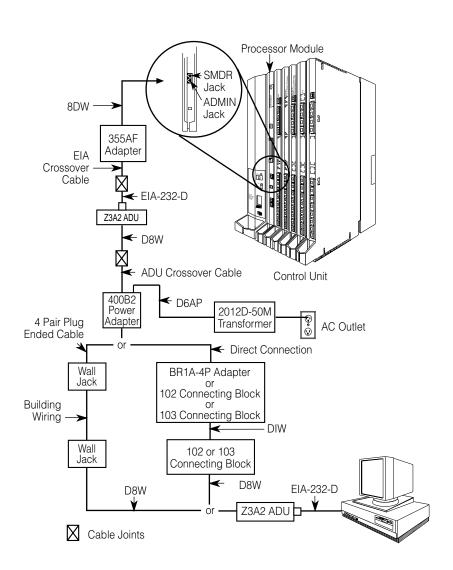


Figure 2-2. Direct Local Connection, PC More Than 50 ft. Away

Programming with SPM Connecting the PC

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Local Modem Connection

For a local modem connection, you must use a modem (either connected to, or built into, the PC) to access the internal modem in the control unit. Connect the modem to an 012 or 016 module in the control unit, as shown in Figure 2–3.

The internal modem operates at speeds of 1,200 and 2,400 bps.

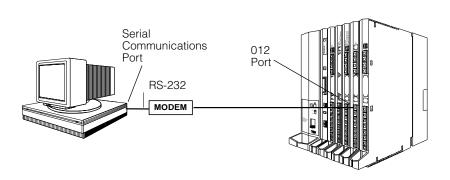


Figure 2–3. Local Modem Connection

Remote Modem Connection

For a remote modem connection, you must use a modem (either connected to, or built into, the PC) to access the internal modem in the control unit. You must also use a dial-up connection, as shown in Figure 2-4. See "Accessing SPM" on page 2-16 for details on accessing SPM with a remote modem connection.

The internal modem operates at speeds of 1,200 and 2,400 bps.

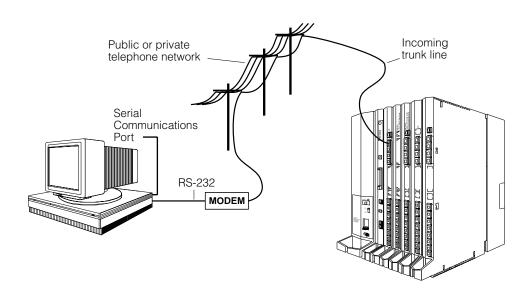


Figure 2-4. **Remote Modem Connection**



Remote access (modem connection) has priority over local access (direct connection), unless a backup or restore procedure is in progress through a direct local connection. If a modem connection is attempted while any other type of on-site programming is in progress (either at the system or at a directly-connected PC), the system sends a message to the on-site programmer. The message indicates that a modem connection is being established and the on-site programming session is terminated.

Accessing SPM

The procedure for accessing SPM depends on whether your PC is connected to the control unit with a modem (either local or remote) or without a modem (direct). This section covers both of these access procedures.

With a Direct Local Connection

To access SPM when your PC is connected directly to the control unit, follow the steps below.

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▶ 1. Set up the appropriate physical connections between the PC and the control unit.

See "Connecting the PC" on page 13.

- ▶ 2. If you installed SPM on the hard disk of the PC, go to Step 5.
- 3. If the PC does not have a hard disk, insert the SPM diskette into Drive A.
- ▶ 4. Type a: and press Enter .

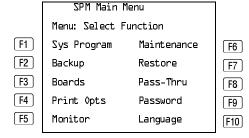
A: > appears on the screen.

▶ 5. Type spm and press Enter→ to display the SPM Welcome screen shown below.



X.XX current version of SPM

▶ 6. Press any key to display the SPM Main Menu shown below.





The function keys shown on either side of the display are included here for quick reference. See <u>"SPM Screens" on page 2–21</u> for details on using the PC keys in SPM.

- If the SPM Main Menu does not appear or if the information on the screen is garbled, press any key again.
- If the COM Port (communications port) screen appears instead of the SPM Main Menu, it indicates that the SPM software has not been initialized. See "Initializing the SPM Software" on page 9.
- 7. To select an option, press the function key that corresponds to the option you want. For example, to select Language press [F10].

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With a Local or Remote Modem Connection

The method you use to access SPM by modem depends on whether you are programming on site (locally) or from a remote location.

- If you are on site, the modem must be connected to an 012 or 016 module on the control unit. To establish a connection to the control unit's internal modem, dial *10.
- If you are at a remote location, do one of the following:
 - Place a call to the system on a Remote Access line, enter the barrier code (if required), and dial the code for the internal modem (*1□).
 - Place a voice call to the system using the line to which the modem is connected and ask the operator to transfer you to the modem (by pressing **Transfer**, dialing *10, then hanging up the telephone).
 When you hear the modem answer tone, switch to data mode.

Considerations

Review the following items before you begin the modem connection procedure.

Set the Programming Language

If you prefer to program in a language other than the current SPM language setting, see "Language" on page 2–41

Modem Connections

You must make a data connection to a modem. The following modem dialing commands are for Hayes® and Hayes-compatible modems. These may not be the commands your modem uses—refer to the user guide that came with your modem for specific information.

- If the PC is in the same location as the control unit, type *10.
- If the PC is in a remote location and your system has activated the Remote Access feature, type the following and press [Enter ←]:
 - Without barrier codes type:

ATDT; the remote access telephone number; and #*10. For example: ATDT12015551234 #*10 Enter—).

— With barrier codes type:

ATDT; the remote access telephone number; the barrier code preceded by a "W" and W*LD. The barrier code in the example below is 555555.

For example: *ATDT12015551234 W555555 W*10* Enter→.

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- The password prompt appears on the screen when the connection is made. (You may have to press Enter—) more than once to get the password prompt.)
- If the PC is in a remote location and your system has not activated the Remote Access feature, do the following:
 - Use the main telephone number to place a voice call to the system on the line to which the modem is connected.
 - Instruct the operator to transfer you to the modem (by pressing Transfer, dialing *10, then hanging up the telephone).
 - To put the modem on line, type ATH1 and press Enter —, then hang up the telephone.

NOTE:

If you enter a telephone number of fewer than 11 digits, you must end it with a pound sign (#).

To access SPM through a local or remote modem connection, follow the steps below.

- ▶ 1. Set up the appropriate physical connections between the PC and the control unit. See "Connecting the PC" on page 13.
- ▶ 2. Type *spm* and press Enter→ to display the SPM Welcome screen shown below.

Welcome to SPM
The MERLIN LEGEND
System Programming
& Maintenance Utility
Please press any key
to continue
Version *X.XX*

X.XX = current version of SPM

If you wish to program in a language other than the current language set for SPM, see "Set the Programming Language" on page 2–18.

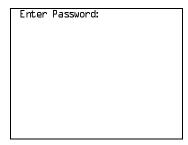
- ▶ 3. Press any key to display a blank screen on which you can enter modem commands. (You may have to press the key several times.)
- ▶ 4. Make a data connection to the modem of the control unit.

See <u>"Modem Connections" on page 18.</u> When the connection is made, the password prompt appears as shown in Step 4.

2 Programming with SPM Accessing SPM

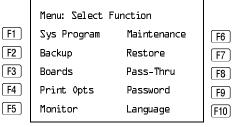
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▶ 5. Type the SPM password to display the SPM Main Menu shown in Step 6.



The password does not display as you type it.

▶ 6. To select an option, press the function key that corresponds to the option you want. For example, to select Language press [710].



SPM Main Menu



The function keys shown on either side of the display are included here for quick reference. See <u>"SPM Screens" on page 2–21</u> for details on using the PC keys in SPM.

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Using SPM

This section describes how to use the SPM screens, SPM Help, and the SPM options listed below.

- Backup
- Boards
- Browse
- Convert
- Language
- Maintenance
- Monitor
- Pass-Thru
- Password
- Print Options
- Restore
- System Programming



Some of the procedures described in this section should be performed by qualified service personnel only.

SPM Screens

SPM screens simulate the system programming console. Each SPM screen includes a 7-line by 24-character console simulation window that corresponds to the display area of the MLX-20L telephone. To the right and left of this console simulation window are columns that list the keys corresponding to similarly located buttons on the MLX-20L telephone. If you are working with Version 2.0 or higher, the version number appears in the upper left corner of the screen (for example, VL). Figure 2–5 illustrates the SPM display screen.

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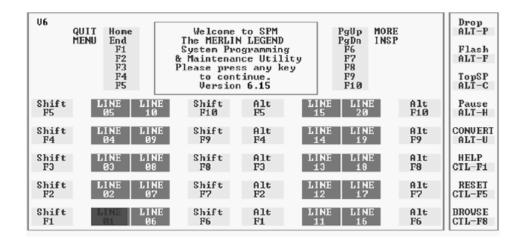


Figure 2–5. SPM Display

F1 through F5, and F6 through F10 display on either side of the console simulation window. They represent the function keys to use when you select screen options. When a screen contains several choices, press the function key identified by the label next to your choice. (If you were programming on the console, you would press the telephone button next to your choice.)

Below the console simulation window are 20 simulated line buttons. The 20 line buttons can be selected using the arrow keys to position the cursor on the appropriate button. Using PgDn (the Inspect feature), you can determine the status of each line and the features programmed on each line according to the letter that appears next to the line number (see below).

On the PC screen, the letters R and G represent the ON state of the red and green LEDs, respectively, that are on the console. For example, if a line, trunk, or pool is assigned to a line button, on the console a green LED lights next to the button. On the PC screen, the letter G (for green) displays next to the button. Similarly, if a line, trunk, or pool is not assigned to a line button, neither G nor R display next to the button on the PC screen. If a trunk is assigned to a pool, an R (for red) displays on the PC screen.

The labels in the column on the right side of the screen show key combinations that correspond to buttons on the MLX-20L telephone. <u>Table 2–2</u> describes the function of PC keys in SPM.

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Table 2–2. Function of PC Keys in SPM

PC Key	Console	SPM Function
Home	Home	Quit. Exit from SPM and return to the DOS prompt when you finish with system programming. If you are using a modem, the call is disconnected.
End	Menu	Return to the SPM Main Menu.
PgUp	More	Display more menu items (when there is another screen and the > symbol appears next to the key).
PgDn	Inspct	Show the current information that has been programmed for a feature or button.
Alt + P	Drop	Enter a stop in a speed dialing sequence. This combination also deletes an entry in a field on any screen except one in which you are entering a speed dialing sequence.
Alt + F	Conf	Flash. Enter a switchhook flash in a speed dialing sequence.
Alt + C	n/a	TopSP. Return to the top of the System Programming menu.
(Alt) + (H)	Hold	Pause. Enter a pause in a speed dialing sequence.
Alt + U	n/a	Convert. Convert a backup file from its original Release format to a different Release format.
Alt + N	n/a	Toggle modem speed between 1,200 and 2,400 bps.
Ctrl + F1	n/a	Help. Display a help screen about SPM operations. To exit from Help, press End.
Ctrl + F5	n/a	Reset. Reset the communications port. For example, if the information on the screen is garbled, try exiting from and then re-entering the screen. If the screen remains garbled, use [Ctrl] + [5] to clear the screen and return to the SPM Welcome screen. Note that using [Ctrl] + [5] drops the modem connection.
Ctrl + F8	n/a	Browse. View print reports saved with Print Opts.

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Table 2–2. Continued

PC Key	Console	SPM Function
Ctrl + F9	n/a	Escape to shell. To use this key sequence, you must set DEBUG=1 in the configuration file ams.cfg. You can then use this key sequence to execute DOS (or UNIX System) commands. To return to SPM, type exit.
Enter ←	Enter	The Enter key on your PC can be used instead of F10 when Enter appears as a choice in the console simulation window.
Bksp	Backspace	The key on your PC can be used instead of Backspace) when it appears as a choice in the console simulation window.
Del	Delete	The Del key on your PC can be used instead of F8 (Delete) when it appears as a choice in the console simulation window.
1 I 	n/a	The up, down, left, and right arrow keys can be used to highlight selections in a menu and to select the 20 line buttons below the console simulation window.

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SPM Main Menu Options

The SPM Main Menu provides access to system programming and to the SPM functions listed in Table 2–3.

Table 2-3. SPM Main Menu Options

CDM M	
SPM Menu Option	Function
Sys Program	To program the system
Backup*	To make a backup copy of your system programming and store it on diskette or on hard disk
Boards*	Shows which modules (port boards) are in each slot of the control unit and allows you to assign boards to slots
Print Opts*	Directs reports to the printer or to the PC for storage on diskette or hard disk
Monitor*	Restricted to use by your technical support organization
Maintenance	Restricted to use by your technical support organization and qualified technicians
Restore*	To restore your system programming from diskette or hard disk
Pass-Thru*	(IS II/III only) To make a remote connection, through the control unit, to an IS II/III PC to administer applications on the IS II/III PC.
Password*	To change the password for remote entry into the system.
Language	To select a language (English, French, or Spanish) for the console simulation window on the PC. (There is also a Language option available on the System Programming menu that allows you to set the system language.)

^{*} SPM option only. Not available on the MLX-20L system programming console. To be used only by qualified service personnel.

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SPM Help

To access the SPM help screens, press Ctrl + F1.

To review the help screens press, [PgUp] and [PgDn].

To return to the first help screen, press [Home].

To exit from SPM help, press End.

A typical help screen is shown in Figure 2–6.

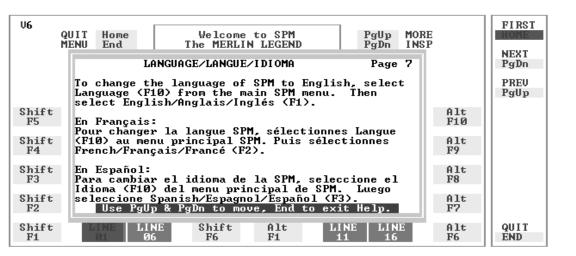


Figure 2–6. SPM Help

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Backup

The Backup procedure is used by qualified service personnel to create a file of system programming information either in the \spm\backup directory (on the hard drive of the PC) or in the root directory of a diskette (on the floppy disk drive of the PC).



NOTE:

Back up your system programming information on a regular basis. A current backup file allows you to quickly and easily restore your system, if the need arises.

Determining the Release Number of a Backup File

If you have a backup diskette but do not know its release number, you may be able to find this information in the backup header. Beginning with later versions of Release 1.1, the backup file contains a backup header 128 bytes long. Approximately 59 of these bytes are currently used. Bytes 55 through 59 of the header contain the MERLIN Legend Communication System Release number, as shown in Table 2–4. (Release 1.0 and early versions of Release 1.1 do not contain this information in readable form.)

Table 2–4. Backup Header: Release Number

	Release No.	Build No.	System Size	Mode
Size	2 bytes	12 bytes	1 byte	1 byte
Examples	03 00	32	01	01 - Key
	02 01			02 - Behind Switch
				03 - Hybrid/PBX

The release number is found in the first two bytes (four characters) of the identification number. For example, 0300 = 3.0, 0201 = 2.1.

If the backup file is compressed, you can read the header but you cannot read the data area following the header. Use *type* [backup filename] to read the header on a DOS system or cat [backup filename] to read the header on a UNIX System.

Note that the communication system release number, not the version number of SPM, reflects whether the backup file is compressed or uncompressed. Release 1.0 backups are uncompressed and Release 1.1 and later backups are compressed. Uncompressed files take longer to restore.

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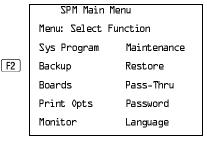
Considerations

Review the following items before you begin the backup procedure:

- The communications system does not have to be idle during backup; however, extension programming is blocked.
- Any objects that are in a maintenance-busy state are stored in that state. When you restore system programming, these objects are busied out, even if they have since been released from the maintenance-busy state.
- If you plan to store your backup file on a diskette, format a DOS diskette.
 (DOS formatting can be done on either a UNIX System PC or a DOS PC).
- Uncompressed backup files are 100,000 to 210,000 bytes in size; compressed files are about 70,000 to 85,000 bytes.
- Maintenance data (error logs and other data used by qualified service technicians) is not saved in the backup file.

Follow the steps below to perform the backup procedure.

▶ 1. At the SPM Main Menu, press F2 to select Backup.



▶ 2. Follow the instructions for a floppy or a hard disk.

A second window appears which displays the G0T0 FL0PPY and MAKE NEW FILE options and a directory listing for the C:\spm\backup directory.

- If you are saving the backup file to a floppy disk, go to Step 3.
- If you are saving the backup file to the hard disk, go to Step 4.

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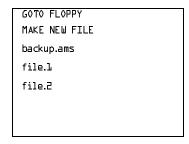
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■ 3. Remove the SPM diskette and insert a formatted diskette. Use the arrow keys to highlight GOTO FLOPPY and press Enter—].

Make a selection for
the BACKUP file.

MAKE NEW FILE will
create a new file
on selected device.

Press ESC to abort.

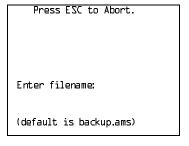


After you press Enter—, the GOTO FLOPPY statement shown above changes to GOTO HARD DISK and the directory listing for A:\ is displayed. Continue with Step 4.

The screen displays the default name for the backup file (backup.ams).

4. Specify a backup filename.

- To select the default filename, use the arrow keys to highlight backup.ams and press [Enter --]. Go to Step 6.
- To enter a different filename, use the arrow keys to select MAKE NEW FILE and press [Enter →]. Go to Step 5.
- ► 5. Type the new filename and press Enter .



If you are working from the floppy drive, A: \ appears on the screen.

You can specify a drive letter with the filename but no path information.

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▶ 6. Verify that the filename chosen does not already exist.

The following screen appears only if the filename chosen already exists. Continue with Step 7 if this screen does not appear.

The file already exists.

If you continue, the old version will be deleted.

Press ESC to abort.

or c to continue.

Press Esc to abort the backup. Go to Step 1 to create a different backup file.

Press © to continue. Go to Step 7.

7. Observe the backup status screen.

Press ESC to Abort.

Est. Blocks: xxx - xxxx

filename

BACKUP IN PROGRESS

Received Block xx

filename = the backup filename specified in Step 5

SPM indicates the status of the backup by displaying the number of the last block received (xx). Line 2 of the display screen shows the estimated number of blocks to be sent from the control unit (xxx-xxxx). This line is blank if you are backing up from Release 1.0.

If you abort the backup, the partial backup file is deleted to prevent restoration from a corrupted file and you see the screen shown in Step 8.

When the backup is complete, you see the screen shown in Step 9.

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▶ 8. To abort the backup press Esc to return to the SPM Main Menu.

Press ESC to Abort.
Est. Blocks: xxx - xxxx

filename

BACKUP IN PROGRESS

XMODEM ABORT - User

▶ 9. When the backup is complete, press Enter→ to return to the SPM Main Menu.

Backup successful.

Please press Enter

to see the Main Menu

Received xxx Blocks

xxx = total number of blocks received

Boards

The Boards option allows qualified service personnel to add a board to the next available slot. The system must be idle to use this option. This option is not available from the system programming console.

The Boards option is also available in surrogate mode. In surrogate mode, you can assign trunk and extension modules (boards) to slots, even though the boards have not actually been installed. This type of board is referred to as a "phantom" or "null" board.

You cannot use the Boards option to change an actual board type. All boards assigned with the Boards option, including phantom boards, are cleared (unassigned) if you perform a board renumber (System—Board Renum).

\Rightarrow

NOTE:

You must assign phantom boards to higher slot numbers than those you assign to any real boards. If you assign a phantom board to a lower slot number than a real board, the control unit does not recognize the real board(s) that follow the phantom board.

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If you remove a board but do not replace it, and then perform a board renumber, the control unit will not recognize any boards that follow the empty slot. You must reseat all of the boards to fill the empty slot before you perform the board renumber.

The Inspect function (PgDn) lets you see which modules have been assigned to slots on the control unit. Note that both phantom boards and real boards display if you use the Inspect function. Table 2–5 shows the type of boards that you can select. To see only real board assignments, you must print the System Information report:

 $System \rightarrow More \rightarrow Print \rightarrow SysSet-up.$

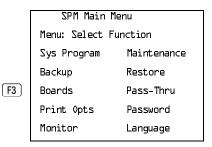
Table 2–5. Board Types

Board Type	Description
400LSR	4 loop-start line jacks with 4 touch-tone receivers
400 <i>G</i> LR	4 ground-start/loop-start line jacks with 4 touch-tone receivers
800LS	8 loop-start line jacks
800GLID	8 ground-start/loop-start line jacks with Caller ID capability available on the loop-start lines and 2 touch-tone receivers
800GLS	8 ground-start/loop-start line jacks
408LSA	4 loop-start line jacks and 8 ATL analog extension jacks
408GLA	4 ground-start/loop-start line jacks and 8 ATL analog extension jacks
408GLM	4 ground-start/loop-start line jacks and 8 MLX extension jacks (16 endpoints)
OOBATL	8 analog extension jacks
OOAMLX	8 MLX-20L extension jacks (16 endpoints)
Oletr/Opt	12 tip/ring extension jacks with 2 touch-tone receivers or 008 OPT jacks
O JLTR	16 tip/ring extension jacks with 4 touch-tone receivers
AOODID	8 DID trunk jacks with 2 touch-tone receivers
400E&M	4 E&M tie trunk jacks
700D	1 DS1 jack (24 channels)
800BRI	8 BRI trunk jacks (16 channels)

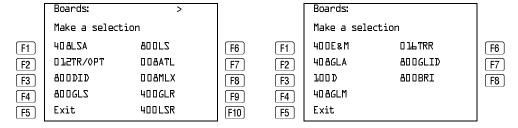
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Follow the steps below to assign modules.

▶ 1. At the SPM Main Menu, press [F3] to select Boards.

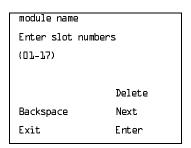


▶ 2. Press the function key that corresponds to the module you want to select.



If the module you want to assign is not shown on the first screen of the Boards menu, press PgUp to display the next menu screen.

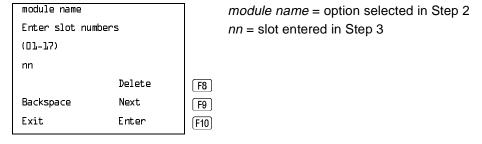
➤ 3. Type the control unit slot number (01 through 17) in which the module is to be installed.



module name = option selected in Step 2

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▶ 4. Assign or remove the module from the slot entered in Step 3.



To remove the module type from the specified slot number, press F8 (Delete). The Boards menu reappears.

To assign the module type to the specified slot number and assign that same module type to another slot, press [F9] (Next).

To assign the module type to the specified slot number and assign a different module type to another slot, press [F10] (Enter).

To terminate the procedure and assign a different module, press F5 (Exit) and repeat Steps 2 through 4.

To view types of modules assigned to all slots, press PgDn (Inspect).

▶ 5. Save your entry.

Select Exit. F5

The programming session terminates and the system restarts.

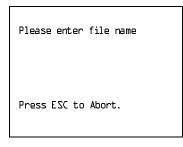
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Browse

The Browse option allows you to browse through reports saved in the Reports directory (\spm\reports) on the hard disk of the PC or on a floppy.

▶ 1. At the SPM Main Menu press Ctrl + F8.





FILENAME.XXX and FILENAME.YYY from the \spm\reports directory

▶ 2. Use the arrow keys to highlight the source (hard disk or floppy) from which you want to view the reports and press [F10].

A list of the current reports appears.

3. Use the arrow keys to highlight the report you want to view and press [F10].

The report appears.

- To view the next page of a report, press PgDn.
- To view the previous page of a report, press (PgUp).
- To return to the beginning of a report, press Home.
- To exit from the Browse option and return to the SPM Main Menu, press [Esc].

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Convert

The Convert option (which can be used remotely) simplifies upgrading from an earlier release to a current release of the communications system (see "Upgrading the System" on page 2–57). This procedure should be done only by qualified service personnel.

Convert uses two files: the existing backup file (the "convert from" file) and the converted file (the "convert to" file), which is created when you run the Convert option. The converted file contains system programming information in an uncompressed form. The "convert from" file is unchanged. Because uncompressed files take longer to process than compressed files, you may want to restore this uncompressed backup to the old control unit and then create a new backup. This new backup is in compressed form and does not have to be converted. For more information about compressed and uncompressed files see "Backup" on page 2–27.

To convert system programming to Release 6.0 format, Version 6.15 (or later) of SPM is required. This version can be easily identified by the version number, VL, in the upper left corner of the screen.

Help screens are available to guide you through the Convert procedure. See "SPM Help" on page 26.

Before you use the Convert option, you must complete the following tasks:

- If your PC has a hard disk, install the appropriate version of the SPM software. See "Upgrading the System" on page 57.
- Back up system programming. See "Backup" on page 27.
- Make sure you know the name of the backup file that you have created.

NOTES:

- 1. Once the actual file conversion begins, you cannot stop the process; pressing [Esc] has no effect.
- 2. If multiple MERLIN LEGEND Systems are networked together, when converting to Release 6.0 the hub switch should be converted first. This will provide a working network in the event that all of the switches in the network are not converted at the same time.

Follow the steps below to perform the conversion.

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▶ 1. At the SPM Main Menu, press Alt + U to begin the conversion.

SPM Main Menu		
Menu: Select Function		
Sys Program Maintenance		
Backup	Restore	
Boards	Pass-Thru	
Print Opts	Password	
Monitor	Language	

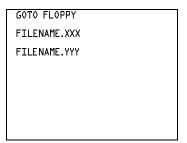
➤ 2. Follow the instructions for a floppy or a hard disk.

A second window appears which displays the G0T0 FL0PPY option and a directory listing for the C:\spm\backup directory.

- If the backup file is stored on a floppy disk, go to Step 3.
- If the backup file is stored on a hard disk, go to Step 4.
- 3. Use the arrow keys to highlight GOTO FLOPPY and press Enter—.

Please select file name
to convert from,
then press Enter.

Press ESC to Abort.



FILENAME.XXX and FILENAME.YYY are from the \spm\backup directory.

After you press Enter—, the GOTO FLOPPY statement shown above changes to GOTO HARD DISK and a directory listing from the root directory of the floppy disk appears. Go to Step 4.

Please select file name
to convert from,
then press Enter.

Press ESC to Abort.



FILENAME.XXX and FILENAME.YYY are from the root directory of the disk in Drive A.

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- ▶ 4. Use the arrow keys to highlight the name of the backup file to be converted and press Enter → .
 - If the backup file you select is a 6.0 backup, it cannot be converted. The following message appears:

File has already been converted. Press Enter to continue.

Press $\boxed{\text{Enter---}}$ to select another filename, or press $\boxed{\text{Esc}}$ to abort the convert procedure.

- If the backup file you select can be converted, go to Step 6.
- ▶ 5. Observe the updated file selection screen and press Enter ...

Please select file name
to convert from,
then press Enter.

N: FILENAME.XXX
Press ESC to Abort.

FILENAME.XXX = the backup filename selected in Step 4

N = drive

▶ 6. If converting from Release 1.0 or 1.1, select the CONVERT TO release. Then press Enter→].

To convert from a later release, go to Step 7.

The screen below appears when converting from Release 1.0 or 1.1.

Please enter your

CONVERT TO release

and press Enter.

1.2 1.4 2.0 2.1

3.0 3.1 4.0 4.1

4.2 5.0 6.0

Enter Number:x.x

All characters must be entered as they appear on the screen, including the decimal point.

- ▶ 7. Follow the instructions for a floppy or a hard disk.
 - If the CONVERT TO file will be saved to a floppy disk, go to Step 8.
 - If the CONVERT TO file will be saved to the hard disk, go to Step 9.

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▶ 8. Use the arrow keys to highlight GOTO FLOPPY and press Enter — .

Please select file name
to convert to, or select
NEW FILE to create a new
file on selected drive.
Enter Filename:

GOTO FLOPPY
MAKE NEW FILE
FILENAME.XXX
FILENAME.YYY

After you press Enter , the GOTO FLOPPY statement shown above changes to GOTO HARD DISK and the directory listing from the root directory of the disk in Drive A appears. Continue with Step 9.

Please select file name
to convert to, or select
NEW FILE to create a new
file on selected drive.
Enter Filename:

GOTO HARD DISK
MAKE NEW FILE
FILENAME.XXX
FILENAME.YYY

▶ 9. Specify a filename for the converted file.

- Highlight the name of the file you want to convert to, press Enter→, and go to Step 11.
- To enter a different filename, use the arrow keys to select MAKE NEW FILE and press [Enter --].
- ▶ 10. Enter the new filename and press [Enter --].

Please select file name
to convert to, or select
NEW FILE to create a new
file on selected drive.
Enter Filename:
A:\filename.new
(default is RESTORE.NEW)

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The converted file cannot have the same name as the file from which you converted. If you specify the same filename, the following screen appears:

If you continue, the old version will be deleted press ESC to abort, or "c" to continue.

Press Enter→ and repeat this step.

▶ 11. Check the updated file screen and press Enter-.

Please select file name
to convert to, or select
NEW FILE to create a new
file on selected drive.
Enter Filename:
N: FILENAME.NEW
(default is RESTORE.NEW)

FILENAME.NEW = name entered in Step 10
N = drive

Observe the conversion progress screen.

CONVERSION IN PROGRESS

Converting From:

N: FILENAME.XXX

Converting To:

N: FILENAME.NEW

FILENAME.XXX = name entered at Step 4
FILENAME.NEW = name entered at
Step 10
N = drive

When the conversion completes, the screen shown in Step 12 appears.

▶ 12. Press any key to return to the SPM Main Menu.

Conversion successful.
Please press any key
to continue.

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Language

A language attribute in the SPM configuration file \spm\ams.cfg (DOS version) or /usr/ams/ams.cfg (UNIX System version) specifies whether SPM menus, pop-up windows, and other messages are presented in English, French, or Spanish. A second language selection option affects messages from the control unit to SPM and controls the display on the console simulation window for the duration of the session. These two language options operate independently of each other.

The following discussion refers to the language specified in the SPM configuration file as the *PC language* and the language used by the control unit as the *console window language*.

PC Language

During SPM installation, you select a language that is recorded in the SPM configuration file. Any time thereafter, SPM can be started with the **1** option to specify a different language, using one of the following command lines:

- spm —1 english
- spm —1 french
- spm —1 spanish

Note that the option is a lowercase letter L and not the number 1.

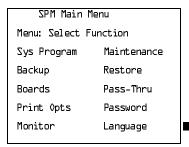
Use of the -1 option changes the language attribute in the ams.cfg file. The language specified becomes the new PC language, used whenever SPM is started without the -1 option.

Console Window Language

By default, the language used in the console simulation window is the language specified in the ams.cfg file; however, you can select a different language for this window for the duration of the current session.

To select a different language, follow the steps below.

▶ 1. At the SPM Main Menu press [F10] to select Language.



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▶ 2. Press the function key that corresponds to your language selection.



The Display Language screen reappears, with the language you selected.

▶ 3. Press 📧 to return to the SPM Main Menu or select another language.

Maintenance



CAUTION:

This option is for use by qualified technicians only. Maintenance procedures are provided in the documentation for qualified technicians. See "Related Documents" in "About This Book."



CAUTION:

This is a password-protected option and is for use by your technical support organization only.

Pass-Thru

The Pass-Thru option allows qualified service personnel to administer IS II/III applications on a remote PC. It permits you to establish a remote connection with the control unit to which the IS II/III PC is directly connected. Figure 2–7 illustrates the relationship of the SPM PC, the communications system control unit, and the IS II/III PC.

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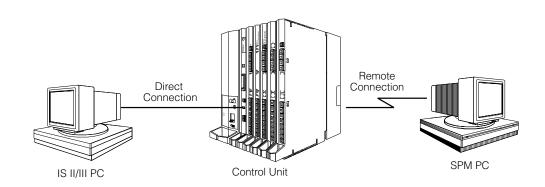


Figure 2–7. Pass-Thru

A Pass-Thru request must be initiated at a DOS PC; it is not available from a UNIX System PC; that is, Pass-Thru cannot be established between two IS II/III PCs. The local admin PC must be in an idle state.

A Pass-Thru request to a locally-connected IS II/III system causes the modem to fall back to 1200 bps if the speed is set to 2400 bps and the modem call to the control unit is at 1200 bps. If necessary, the communications system adjusts its speed to that of the local SPM PC.

Once the Pass-Thru connection is established, you can program in any of the following IS II/III applications from your SPM PC:

- AUDIX Voice PowerTM
- Call Accounting System
- Fax Attendant System[®] (IS III only)
- CONVERSANT Intro[®] (IS III only)

NOTE:

You cannot program the SPM application on the IS II/III PC because the remote call (from your SPM PC) uses the IS II/III PC's COM1 port; therefore, the system programming jack cannot be used for system programming. For the same reason, a user at the IS II/III PC end of the connection cannot use SPM while your Pass-Thru is in effect. If use of SPM is attempted, the user at the IS II/III end sees the following message:

PRE-EMPT IN PROGRESS Please try again.

To initiate Pass-Thru, establish a modem connection between the SPM PC and the control unit.

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If the IS II/III PC does not respond to the Pass-Thru request from the control unit (for example, because the PC is turned off), you see the following message:

Pass-thru failed. Please try again.

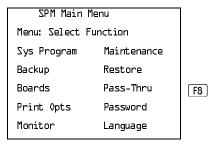
If the connection between the control unit and the IS II/III PC fails, the connection between the control unit and the SPM PC is dropped. You see the following message:

Pass-through Session unexpectedly terminated. Please press Enter to continue.

When you press Enter→ you return to the SPM Main Menu.

Follow the steps below to initiate the Pass-Thru.

1. At the SPM Main Menu press F8 to select Pass-Thru.



The display area changes to 24-lines by 80-characters, which is much larger than the display area on the console simulation window (7-lines by 24-characters).

▶ 2. Type your login name and press Enter → .

Welcome to

login:

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3. Type the IS II/III password and press Enter → .

Password:

▶ 4. Type ams for the terminal emulation type and press Enter—.

Unix disk usage information

Term=

- If you are working with IS II, the IS II main menu appears.
- If you are working with IS III, the system prompts you for your login registration. After you enter your login and press Enter →, the IS III main menu appears.
- ▶ 5. To exit from IS II/III programming, press [F5] (Exit).

The system prompts you for confirmation that you want to exit. After confirmation the following message appears.

Returning to SPM

Password

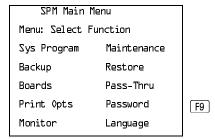
The Password option is used by qualified service personnel to change the modem connection password. A password is always required to establish a connection with the built-in modem. The password always consists of seven characters. You can perform remote system programming only if you enter the password correctly. A default password is set at the factory. You must obtain this password from your system consultant (SC).

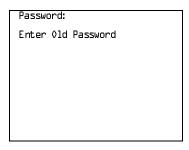
Follow the steps below to change the modem connection password.

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▶ 1. At the SPM Main Menu, press 🗐 to select Password.





If you type the old password incorrectly, the bottom of the screen displays the message Not Equal. Repeat Step 2. If you fail to enter the password correctly after three attempts, the bottom of the screen displays the message *Old Password in Use* and the procedure terminates. Press Enter—I to return to the SPM Main Menu.

▶ 3. Type the new password (any five characters). Do not press Enter - .



The password does not appear on the screen as you type it.



SECURITY ALERT:

Always use the longest length password allowed on the system.

Passwords should consist of a random, non-repetitive, hard-to-guess sequence of digits.

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▶ 4. Type the new password again. Do not press Enter — .



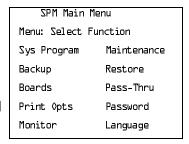
▶ 5. Press [F5] to return to the SPM Main Menu.

Print Options

The Print Opts option allows qualified service personnel to direct the output of system programming reports either to the PC (where you can save them, browse through them, or print them with the system programming Print option) or to the SMDR printer.

Follow the procedure below to direct the output of the system programming reports.

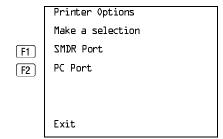
▶ 1. At the SPM Main Menu press [F4] to select Print Opts.



F4

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Using SPM Page 2-48

▶ 2. Select the target device for the reports.



▶ 3. Press 🔂 to return to the SPM Main Menu.

SMDR Port Output

See <u>"Printing System Reports" on page –273</u> for more information about the print procedure using the system console and the SMDR port.

PC Port Output

See <u>"Printing Reports" on page 2–55</u> for more information about the print procedure using SPM and the PC port.

Restore

The Restore option allows qualified service personnel to load system programming from either a diskette or from the hard disk into the processor module memory.

This procedure is used either to program a new system if a disk was created through surrogate mode programming, or to restore information (using a backup disk) lost through system failure. It is also part of the upgrade procedure.

Considerations

Review the following items before you begin the restore procedure.

- The system will be forced idle during a restore procedure.
- You must have a backup file containing system programming before you use this procedure. See "Backup" on page 27.
- Features that were not programmed when the backup file was created are reset to factory defaults.
- The data restored reflects the number of extensions and lines available on the system at the time the backup was created. The remaining extensions and lines are set to the default values that are initialized during a Restart (cold start).

Programming with SPM Using SPM

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- Restore is terminated under the following conditions:
 - If fewer boards are listed on the disk than on the control unit If any real board is out of sequence with the boards listed on the disk
 - If phantom boards are not listed last
 - If the operating mode of the system being restored is Hybrid/PBX, but the control unit processor module has been modified to operate only in Key mode
- A successful restore is followed automatically by a Restart (cold start)

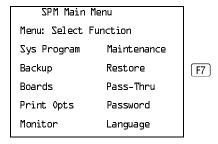


A WARNING:

An unsuccessful or terminated restore results in a System Erase (frigid start). All calls are dropped. The system configuration is erased. All system programming is lost and the system returns to the factory settings. If the restore is being done remotely, the connection is dropped immediately. If this happens, attempt to reconnect to the control unit and immediately perform another restore. If this is not successful, programming must be restored on site.

Follow the steps below to perform a restore.

At the SPM Main Menu, press F7 to select Restore.



Follow the instructions for a floppy or a hard disk.

A second window appears which displays the GOTO FLOPPY option and a directory listing for C:\spm\backup.

- If you are performing a Restore with a file saved on a floppy disk, go to Step 3.
- If you are performing a Restore with a file saved on the hard disk, go to Step 4.

2 Programming with SPM Using SPM

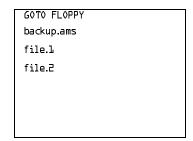
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■ 3. Use the arrow keys to highlight GOTO FLOPPY and press Enter—.

Make a selection for the RESTORE file.

If upgrading, convert files before restoring.

Press ESC to Abort.



After you press $\boxed{\text{Enter}}$, the G0T0 FL0PPY statement shown above changes to G0T0 HARD DISK. Go to Step 5.

▶ 4. Specify the filename to restore from.

- To select the default backup filename, use the arrow keys to highlight backup.ams and press F10 Enter → .
- If you used a different backup filename, use the arrow keys to select one of the other filenames and press [Enter --].

If the file you select is not in the same format as the communications system, the screen below appears. Press Enter— to return to the SPM Main Menu. See "Convert" on page 2–36 for details about converting a backup file.

File must be converted before restoring.

Please press Enter to see the main menu:

▶ 5. Observe the restore progress screen.

Press CTRL-F5 to Abort
Est. total time: xx min

filename
RESTORE IN PROGRESS
Blocks Sent Remaining
xxxx xxxx

xx = approximate number of minutesfilename = name entered in Step 5xxxx = number of blocks

To abort the restore press Ctrl + F5. You return to the SPM Main Menu.

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▶ 6. When the restore completes, press Enter→ to return to the SPM Main Menu.

Restore successful.

Please press Enter

to see the Main Menu

Sent xxxx Blocks

xxxx = number of blocks sent

System Programming

A primary function of SPM is to provide a method for programming the communications system. The Sys Program option gives you access to all of the system programming features available from the system programming console.

Basic Programming Information

To begin programming, you must perform one of the following to display the System Programming menu on the console or PC:

On the console: Menu \rightarrow Sys Program \rightarrow Exit

On the PC: Type $spm \rightarrow [Enter \leftarrow] \rightarrow Press \ any \ key \rightarrow [F1] \rightarrow [F5]$

In most cases, you can press Exit or 5 to exit from a screen without making any changes. Exceptions to this are noted as part of a procedure. When you complete a procedure and press Exit (F5), you usually move up one screen in the menu hierarchy. Occasionally, when you press Exit (F5), you return to the previous screen. *In a few cases*, pressing Exit brings you back to the System Programming menu where you can select another option to program or exit from system programming.

To complete a procedure and save the information you have programmed, press Enter (F10).

If you are programming a group of sequentially numbered extensions or trunks, you may have the option of pressing Next (F8). This saves your entry and automatically provides the number of the next extension or trunk in the sequence, thus saving you a couple of steps. If Next displays on the screen, you can use it with the current option.

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In most cases, you will be at an intermediate step in the procedure you have just completed. At that point, you can select one of the options shown on the screen and continue programming, or you can press Exit (F5) again. This usually takes you back to the System Programming menu. If not, you again can continue programming on the current screen or press Exit (F5) again.

Idle States

A few of the programming procedures can be started only when the entire system or some part of it, such as a trunk or an extension, is idle (not in use). Some procedures require that the trunk or extension be idle only at the instant of programming. Other procedures, which take longer, require the system, trunk, or extension to be forced into remaining idle until programming is completed. These procedures wait for the system, trunk, or extension to become idle and then prevent the initiation of any new calls. This condition is called *forced idle*.



If a procedure requires an idle condition, perform the programming outside of normal business hours.

If a procedure requires that the system be in an idle state and the system is busy when you begin, you see the screen shown below.

System Busy Pls Wait

Dial Code: nnnn

Slot/Port: ss/pp

Exit

The screen changes to the appropriate programming screen when the system is no longer busy.

System Forced Idle

When the entire system is forced idle, no calls can be made or received. The procedures listed below can be performed only when the entire system (every line and every extension) is idle:

- Select system mode
- Identify system operator positions
- Renumber boards
- Renumber system

Programming with SPM System Programming

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- Identify telephones with voice signal pairs for the Voice Announce to Busy feature
- Identify telephones that need the Simultaneous Voice and Data feature
- Restore system programming information
- Identify the Music On Hold jack

When the system is forced idle, the following occurs: multiline telephone users hear a reminder tone that indicates the telephone cannot be used; display telephone users see the message Wait: System Busy; single-line telephone users do not hear a dial tone.

Line or Trunk Idle

Since these procedures require the line or trunk to be idle *only* at the instant of programming, the line or trunk is not forced idle. The following procedures can be performed only when the line or trunk being programmed is idle:

- Identify loudspeaker paging line jack
- Assign trunks to pools
- Specify incoming or outgoing DID- or tie-trunk type
- Specify tie-trunk direction
- Specify tie-trunk E&M signal

Extension Forced Idle

When an extension is forced idle, no calls can be made or received on that extension. The following procedures can be performed only when the extension being programmed is idle:

- Assign call restrictions
- Assign pool dial-out restrictions
- Copy extension assignments
- Assign lines, trunks, or pools to extensions
- Assign labels to a personal directory
- Use centralized telephone programming

When the extension is forced idle, the following occurs: multiline telephone users hear a reminder tone that indicates the telephone cannot be used; display telephone users see the message Wait: System Busy; single-line telephone users do not hear a dial tone.

Programming with SPM System Programming

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Forced Idle Reminder Tone

The forced idle reminder tone is a high-low "door-phone" tone—400 ms of 667 Hz tone followed by 400 ms of 571 Hz tone. The tone is provided under the following circumstances:

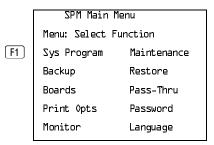
- At the extension, to remind the user that the system or the extension is in the forced idle state
- At the programming console or at a PC running SPM, to remind the system manager that the system (or at least one extension) is in the forced idle state because of administrative activity

In Release 1.1 and higher of the communications system, forced idle reminder tones occur every 20 seconds. You can adjust the volume of these tones with the volume control on the system console.

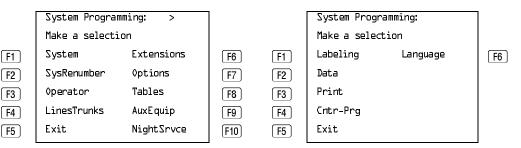
Accessing System Programming

Follow the steps below to access system programming.

▶ 1. At the SPM Main Menu press [f] to select Sys Program.



2. Press the function key next to the option you want.



If the option you want does not appear on the first screen of the System Programming menu, press \boxed{PgUp} to display the second screen of the menu.

2 Programming with SPM System Programming

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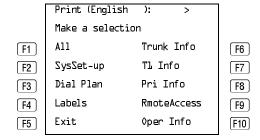
Printing Reports

Use the following procedure to print system reports using SPM at the PC. The SPM Print Opts must be set to PC Port. See <u>"Print Options" on page 2–47</u> for details about setting the printer output port.

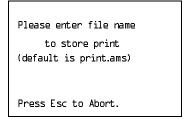
▶ 1. At the second page of the System Programming menu, press 🛐 to select Print.

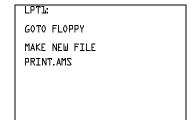


▶ 2. Press the function key that corresponds to the report to be printed.



3. Use one of the methods shown after this procedure to print the report(s).

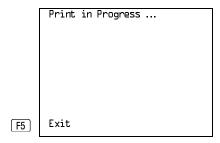




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▶ 4. Observe the print status screen.



You can press [F5] to interrupt printing and return to the SPM Main Menu.

Print Hard Copy

To print a hard copy of the report, use the arrow keys to highlight LPT1: and press [Enter --].

Print to Hard Disk

To print the reports to the hard disk if the print file does not exist, use the arrow keys to highlight MAKE NEW FILE and press Enter--.

- To save to the filename of your choice, type [filename] and press [Enter].

To print the reports to the hard disk if the print file already exists, use the arrow keys to highlight the [filename] and press Enter -].

Print to Floppy Disk

Use the arrow keys to highlight 60T0 FL0PPY: and press Enter → . Use one of the methods shown below.

- To print the reports to a floppy disk if the print file does not exist, use the arrow keys to highlight MAKE NEW FILE and press [Enter +--].
 - To save to the default print filename (print.ams), press Enter→.
 - To save to the filename of your choice, type [filename] and press Enter→.
- To print the reports to a floppy disk if the print file already exists, use the arrow keys to highlight the [filename] and press Enter .

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Upgrading the System



MARNING:

The following procedures are to be used by qualified technicians or service personnel only. Installation or maintenance of this product by anyone other than qualified personnel may damage or impair the product; your limited warranty does not cover such damage. For details, see your limited warranty in the Customer Support Information in the back of this book. Hazardous electrical voltages are present inside this product.

This section describes upgrading your communications system to Release 6.0. You can use this procedure to perform the following upgrades:

- From Release 1.0 to Release 6.0
- From Release 1.1 to Release 6.0
- From Release 2.0 to Release 6.0
- From Release 2.1 to Release 6.0
- From Release 3.0 to Release 6.0
- From Release 3.1 to Release 6.0
- From Release 4.0 to Release 6.0
- From Release 4.1 to Release 6.0
- From Release 4.2 to Release 6.0
- From Release 5.0 to Release 6.0

MERLIN II Communications System programming cannot be upgraded to this communications system. The new communications system must be completely reprogrammed.

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Before You Begin

Before you begin the upgrade to Release 6.0, you will need the items listed below.

- SPM Version 6.15 or later to back up and convert system programming information and to restore system programming information after the processor module has been upgraded.
- One or both of the following:
 - Processor module with a PCMCIA memory card slot (when converting from Release 2.1 or earlier).
 - A forced installation PCMCIA memory card with Release 6.0 system software (when converting from any release).
- DOS-formatted diskette



If SPM is already installed, the Welcome to SPM screen that appears when you start SPM identifies the version on both the last line of the console simulation window and in the upper left corner of the screen. If you are working with Version 6.15, VL appears in the upper left-hand corner of the screen and Version L.15 appears on the last line of the console simulation window.

Inter-Release Compatibility

It is important to understand compatibility between files created on each of the different versions of SPM, not only for upgrading but also for programming.

<u>Table 2–6</u> summarizes programming compatibility. (It is assumed that the majority of the programming is done in surrogate mode and backed up on disk).

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Table 2-6. Programming Compatibility

SPM	Program	Resto	re on							
Version	Backup from	1.0	1.1	2.0/2.1	3.0	3.1	4.0	4.1/4.2	5.0	6.0
1.13	1.0	yes	no	no	no	no	no	no	no	no
1.16	1.0	yes	yes	no	no	no	no	no	no	no
2.09	1.0	yes	yes	yes*	no	no	no	no	no	no
2.16	1.0	yes	yes	yes*	no	no	no	no	no	no
3.18	1.0	yes	yes	yes*	yes*	yes*	no	no	no	no
4.15	1.0	yes	yes	yes*	yes*	yes*	yes*	no	no	no
4.25	1.0	yes	yes	yes*	yes*	yes*	yes*	yes*	no	no
5.15	1.0	yes	yes	yes*	yes*	yes*	yes*	yes*	yes*	no
6.15	1.0	yes	yes	yes*	yes*	yes*	yes*	yes*	yes*	yes*
1.16	1.1	no	yes	no	no	no	no	no	no	no
2.09	1.1	no	yes	yes*	no	no	no	no	no	no
2.16	1.1	no	yes	yes*	no	no	no	no	no	no
3.18	1.1	no	yes	yes*	yes*	yes*	no	no	no	no
4.15	1.1	no	yes	yes*	yes*	yes*	yes*	no	no	no
4.25	1.1	no	yes	yes*	yes*	yes*	yes*	yes*	no	no
5.15	1.1	no	yes	yes*	yes*	yes*	yes*	yes*	yes*	no
6.15	1.1	no	yes	yes*	yes*	yes*	yes*	yes*	yes*	yes*
2.09	2.0	no	no	yes	no	no	no	no	no	no
2.16	2.0	no	no	yes	no	no	no	no	no	no
3.18	2.0	no	no	yes	yes*	yes*	no	no	no	no
4.15	2.0	no	no	yes	yes*	yes*	yes*	no	no	no
4.25	2.0	no	no	yes*	yes*	yes*	yes*	yes*	no	no
5.15	2.0	no	no	yes*	yes*	yes*	yes*	yes*	yes*	no
6.15	2.0	no	no	yes*	yes*	yes*	yes*	yes*	yes*	yes*

Continued on next page

Table 2-6. Continued

SPM	Program	Resto	re on							
Version	Backup from	1.0	1.1	2.0/2.1	3.0	3.1	4.0	4.1/4.2	5.0	6.0
2.16	2.1	no	no	no	no	no	no	no	no	no
3.18	2.1	no	no	no	yes*	yes*	no	no	no	no
4.15	2.1	no	no	no	yes*	yes*	yes*	no	no	no
4.25	2.1	no	no	no	yes*	yes*	yes*	yes*	no	no
5.15	2.1	no	no	no	yes*	yes*	yes*	yes*	yes*	no
6.15	2.1	no	no	no	yes*	yes*	yes*	yes*	yes*	yes*
3.18	3.0	no	no	no	no	no	no	no	no	no
4.15	3.0	no	no	no	no	no	yes*	no	no	no
4.25	3.0	no	no	no	no	no	yes*	yes*	no	no
5.15	3.0	no	no	no	no	no	yes*	yes*	yes*	no
6.15	3.0	no	no	no	no	no	yes*	yes*	yes*	yes*
3.18	3.1	no	no	no	no	no	no	no	no	no
4.15	3.1	no	no	no	no	no	no	no	no	no
4.25	3.1	no	no	no	no	yes	yes*	yes*	no	no
5.15	3.1	no	no	no	no	yes	yes*	yes*	yes*	no
6.15	3.1	no	no	no	no	yes	yes*	yes*	yes*	yes*
4.15	4.0	no	no	no	no	no	yes	no	no	no
4.25	4.0	no	no	no	no	no	yes	yes*	no	no
5.15	4.0	no	no	no	no	no	yes	yes*	yes*	no
6.15	4.0	no	no	no	no	no	yes	yes*	yes*	yes*
4.25	4.1/4.2	no	no	no	no	no	no	yes	no	no
5.15	4.1/4.2	no	no	no	no	no	no	yes	yes*	no
6.15	4.1/4.2	no	no	no	no	no	no	yes	yes*	yes*
5.15	5.0	no	no	no	no	no	no	no	yes	no
6.15	5.0	no	no	no	no	no	no	no	yes	yes*
6.15	6.0	no	no	no	no	no	no	no	no	yes

The backup file must be converted before it is restored.

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The default barrier code and any programmed barrier codes from Release 2.1 and earlier are carried over to Release 3.0 and later with no change and the barrier code length is four (4). It is the responsibility of the system manager to change the barrier code length and the barrier codes if so desired.

Upgrade Procedure



The system upgrade procedure must follow the order of the steps shown

■ 1. Install SPM.

To upgrade the system to Release 6.0, you need to install (or upgrade to) Version 6.15 of SPM. See "Installing the SPM Software" on page 3.

▶ 2. Back up your system programming.

This step creates a file containing system programming information. See <u>"Backup" on page 27.</u>

3. Convert your backup file.

This step converts the backup file created in Step 2. See "Convert" on page 36.

▶ 4. Turn off AC power switches on the control unit in the following order:

- (1) Basic carrier
- (2) Expansion carrier 1, if present
- (3) Expansion carrier 2, if present

▶ 5. Replace the processor module (when upgrading from Release 2.1 and earlier).

- Unplug the interface cords from the SPM and SMDR printer ports on the processor module.
- b. Remove the processor module from Slot 0.
- Install the new processor module in Slot 0.
- Plug the interface cords into the SPM and SMDR printer ports on the processor module.

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▶ 6. Insert the forced installation memory card into the PCMCIA interface slot on the processor module.



Using the forced installation memory card will cause a frigid start.

- ▶ 7. Turn on the AC power switches on the control unit in the following order:
 - (1) Expansion carrier 2, if present
 - (2) Expansion carrier 1, if present
 - (3) Basic carrier
- ▶ 8. Restore your system programming.

The system is forced idle and cannot be used during this procedure. See "Restore" on page 48.

9. Program new features.

If you wish to use the factory defaults for the new features available with Release 6.0, skip this step.

See the following tables, which follow this list:

- <u>Table 2–7</u>. Lists the features added with Release 1.1 of the communications system.
- <u>Table 2–8</u>. Lists the features added with Release 2.0 or 2.1 of the communications system.
- Table 2–9. Lists the features added with Release 3.0 of the communications system.
 - When you upgrade from Release 2.0 or 2.1 to Release 3.0, you must program these features as the last step of the upgrade procedure.
 - When you upgrade from Release 1.1 to Release 3.0, you must program the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–9</u>.
 - When you upgrade from Release 1.0 to Release 3.0, you must first program the features listed in <u>Table 2–7</u>, then the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–9</u>.

- Table 2–10. Lists the features added with Release 3.1 of the communications system.
 - When you upgrade from Release 3.0 to Release 3.1, you must program these features as the last step of the upgrade procedure.
 - When you upgrade from Release 2.0 or 2.1 to Release 3.1, you
 must program the features listed in <u>Table 2–9</u>, then the features
 listed in <u>Table 2–10</u>.
 - When you upgrade from Release 1.1 to Release 3.1, you must program the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–10</u>.
 - When you upgrade from Release 1.0 to Release 3.1, you must first program the features listed in <u>Table 2–7</u>, then the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–10</u>.
- Table 2–11. Lists the features added with Release 4.0 of the communications system.
 - When you upgrade from Release 3.1 to Release 4.0, you must program these features as the last step of the upgrade procedure.
 - When you upgrade from Release 3.0 to Release 4.0, you must program the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>.
 - When you upgrade from Release 2.0 or 2.1 to Release 4.0, you must program the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–11</u>.
 - When you upgrade from Release 1.1 to Release 4.0, you must program the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>.
 - When you upgrade from Release 1.0 to Release 4.0, you must first program the features listed in <u>Table 2–7</u>, then the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>.
- Table 2–12. Lists the features added with Release 4.1 of the communications system.
 - When you upgrade from Release 4.0 to Release 4.1, you must program the features listed in <u>Table 2–12</u>.
 - When you upgrade from Release 3.1 to Release 4.1, you must program the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>.

- When you upgrade from Release 3.0 to Release 4.1, you must program the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>.
- When you upgrade from Release 2.0 or 2.1 to Release 4.1, you must program the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–11</u>.
- When you upgrade from Release 1.1 to Release 4.1, you must program the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>.
- When you upgrade from Release 1.0 to Release 4.1, you must first program the features listed in <u>Table 2–7</u>, then you must program the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>.
- <u>Table 2–13</u>. Lists the features added with Release 4.2 of the communications system.
 - When you upgrade from Release 4.1 to Release 4.2, you must program the features listed in Table 2–13.
 - When you upgrade from Release 4.0 to Release 4.2, you must program the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–14</u>.
 - When you upgrade from Release 3.1 to Release 4.2, you must program the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–13</u>.
 - When you upgrade from Release 3.0 to Release 4.2, you must program the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–13</u>.
 - When you upgrade from Release 2.0 or 2.1 to Release 4.2, you must program the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–13</u>.
 - When you upgrade from Release 1.1 to Release 4.2, you must program the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–13</u>.

- When you upgrade from Release 1.0 to Release 4.2, you must first program the features listed in <u>Table 2–7</u>, then you must program the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–13</u>.
- Table 2–14. Lists the features added with Release 5.0 of the communications system.
 - When you upgrade from Release 4.2 to Release 5.0, you must program the features listed in Table 2–14.
 - When you upgrade from Release 4.1 to Release 5.0, you must program the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–14</u>.
 - When you upgrade from Release 4.0 to Release 5.0, you must program the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–14</u>.
 - When you upgrade from Release 3.1 to Release 5.0, you must program the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–14</u>.
 - When you upgrade from Release 3.0 to Release 5.0, you must program the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–14</u>.
 - When you upgrade from Release 2.0 or 2.1 to Release 5.0, you must program the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–14</u>.
 - When you upgrade from Release 1.1 to Release 5.0, you must program the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–11</u>.
 - When you upgrade from Release 1.0 to Release 5.0, you must first program the features listed in <u>Table 2–7</u>, then you must program the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–14</u>.

- Table 2–15. Lists the features added with Release 6.0 of the communications system.
 - When you upgrade from Release 5.0 to Release 6.0, you must program the features listed in <u>Table 2–15</u>.
 - When you upgrade from Release 4.2 to Release 6.0, you must program the features listed in <u>Table 2–14</u>, then the features listed in <u>Table 2–15</u>.
 - When you upgrade from Release 4.1 to Release 6.0, you must program the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–14</u>, then the features listed in <u>Table 2–15</u>.
 - When you upgrade from Release 4.0 to Release 6.0, you must program the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–14</u>, then the features listed in <u>Table 2–14</u>, then the features listed in <u>Table 2–15</u>.
 - When you upgrade from Release 3.1 to Release 6.0, you must program the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–15</u>.
 - When you upgrade from Release 3.0 to Release 6.0, you must program the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–14</u>, then the features listed in <u>Table 2–14</u>, then the features listed in <u>Table 2–14</u>, then the features listed in <u>Table 2–14</u>.
 - When you upgrade from Release 2.0 or 2.1 to Release 6.0, you must program the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–14</u>, then the features listed in <u>Table 2–15</u>.
 - When you upgrade from Release 1.1 to Release 6.0, you must program the features listed in <u>Table 2–8</u>, then the features listed in <u>Table 2–10</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–14</u>, then the features listed in <u>Table 2–14</u>.
 - When you upgrade from Release 1.0 to Release 6.0, you must program the features listed in <u>Table 2–7</u>, then the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–9</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–11</u>, then the features listed in <u>Table 2–12</u>, then the features listed in <u>Table 2–13</u>, then the features listed in <u>Table 2–14</u>, then the features listed in <u>Table 2–15</u>.

Table 2–7. Programming Needed after Upgrade to Release 1.1

Feature	Sequence
System language	SysProgram ightarrow More ightarrow Language ightarrow SystemLang
Extension language	SysProgram ightarrow More ightarrow Language ightarrow Extensions
SMDR language	SysProgram ightarrow More ightarrow Language ightarrow SMDR
Printer language	SysProgram-> More ->Language->Printer

Table 2–8. Programming Needed after Upgrade to Release 2.0

Feature	Sequence
Primary Rate	${\tt SysProgram}{\rightarrow}{\tt LinesTrunks}{\rightarrow}{\tt LS/GS/DSl}{\rightarrow}{\tt Type}{\rightarrow}{\tt PRI}$
Interface (PRI)	${\tt SysProgram}{\rightarrow}{\tt LinesTrunks}{\rightarrow}{\tt LS/GS/DSL}{\rightarrow}{\tt FrameFormat}$
	${\tt SysProgram}{\rightarrow}{\tt LinesTrunks}{\rightarrow}{\tt LS/GS/DSL}{\rightarrow}{\tt Suppression}$
	SysProgram ightarrow LinesTrunks ightarrow PRI ightarrow PhoneNumber
	${\sf SysProgram}{\rightarrow}{\sf LinesTrunks}{\rightarrow}{\sf PRI}{\rightarrow}{\sf B-ChannlGrp}$
	${\tt SysProgram}{\rightarrow}{\tt LinesTrunks}{\rightarrow}{\tt PRI}{\rightarrow}{\tt NumbrToSend}$
	${\sf SysProgram}{\rightarrow}{\sf LinesTrunks}{\rightarrow}{\sf PRI}{\rightarrow}{\sf Test} \ \ {\sf TelNum}$
	${\sf SysProgram}{\rightarrow}{\sf LinesTrunks}{\rightarrow}{\sf PRI}{\rightarrow}{\sf Protocol}$
	${\sf SysProgram}{\rightarrow}{\sf LinesTrunks}{\rightarrow}{\sf PRI}{\rightarrow}{\tt DialPlanRtg}$
	${\tt SysProgram}{\rightarrow}{\tt LinesTrunks}{\rightarrow}{\tt PRI}{\rightarrow}{\tt OutgoingTbl}$
	$SysProgram \rightarrow Tables \rightarrow ARS$
DID Emulation on T1	SysProgram->LinesTrunks->LS/GS/DSl->Type-> More->DID/All DID
Night Service Calling Group	SysProgram→NightSrvce→GroupAssign→ Calling Group
Coverage VMS Off	SysProgram→More→Cntr-Prg→Program Ext
Data Status	SysProgram→More→Cntr-Prg→Program Ext
Extension Copy	SysProgram→More→Cntr-Prg→Copy Ext
Posted Message button on MLX-10 nondisplay and analog multiline telephones (for use with Do Not Disturb)	SysProgram→More→Cntr-Prg→Program Ext

Table 2–9. Programming Needed after Upgrade to Release 3.0

Feature	Sequence
Automatic Backup	SysProgram→System→Back/Restore→Auto Backup
Incoming Call Line Identification Delay	LinesTrunks→More→LS-ID Delay→Drop→Dial trunk no.→Enter
Remote Access Barrier Codes	LinesTrunks→RemoteAccss→BarrierCode→Code Info→Code Length
	$\label{linesTrunks} \begin{split} &\text{LinesTrunks} {\to} &\text{RemoteAccss} {\to} &\text{BarrierCode} {\to} &\text{Code} \\ &\text{Info} {\to} &\text{Code Entry} \end{split}$
Authorization Codes	Extensions→ More →Auth Code

Table 2-10. Programming Needed after Upgrade to Release 3.1

Feature	Sequence
Trunk-to-Trunk Transfer	Extensions→ More → More →TrkTransfer→Toggle LED On/Off or Dial ext. no.→Enter→Exit→Exit
Second Dial Tone Timer	Options→More→SecDT→dial second dial tone timer value→Enter

Table 2–11. Programming Needed after Upgrade to Release 4.0

Feature	Sequence
Delayed Call Forwarding	Extensions→ More → Delay Frwd→ Dial ext. no.→ Enter→ Dial no. of delay rings→ Enter
Group Calling Overflow and Thresholds	Extensions—More—Grp Calling—Overflow—Dial calling group ext. no.—Enter—Dial ext. no.—Enter—Number Based Overflow—Drop—Dial no. of calls—Enter—Time Based Overflow—Drop—Dial no. of seconds—Enter
Voice Announce on a QCC	Operator→Queued Call→ More →Voice Annc→ Enabled or Disabled→Enter
2B Data	Data→2B Data→Dial adjunct ext. no.→Enter
Basic Rate Interface (BRI)	$\label{linesTrunks} $$\operatorname{DN-BRI-SPID/DNDial\ line/trunk} $$ no. \rightarrow Enter-$Drop-$Dial\ SPID-$Enter-$Drop-$Dial\ DN-$Enter-$Enter-$Drop-$Dial\ DN-$Enter-$Drop-$Dial\ DN-$Dial\ DN-$Dial\$
	$\label{linesTrunks} \begin{split} &\text{LinesTrunks} {\to} \textbf{More} {\to} \text{BRI} {\to} \text{Timers} {\to} \text{Select} \\ &\text{timer} {\to} \textbf{Drop} {\to} \text{Dial no. of seconds or ms} {\to} \text{Enter} \end{split}$
Clock Synchronization	LinesTrunks→More→ClockSync→Primary→Drop→ Dial slot no.→Enter→Dial port no. OR Select source of synchronization→Enter→Secondary→Dial slot no.→ Enter→Dial port no. OR Select synchronization source→Enter→Tertiary→Dial slot no.→Enter→ Dial port no. OR Select source of synchronization→ Enter
Ringing Frequency (016 module)	Options→ More →Ringing Freq→Dial slot no.→Select 20Hz or 25Hz→Enter

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Table 2–12. Programming Needed after Upgrade to Release 4.1

Feature	Sequence
Group Coverage Ring Delay	SysProgram—Extensions—More—More—Cover Delay— Group Cover—sender's extension—number of rings—Enter
Primary Cover Ring Delay	SysProgram—>Extensions—>More—>More—>Cover Delay—>Primary—>sender's extension—>number of rings—>Enter
Secondary Cover Ring Delay	SysProgram—Extensions—More—More—Cover Delay—Secondry—sender's extension—number of rings—Enter
Night Service Group Line Assignment	SysProgram→NightSrvce→GroupAssign→Lines→ Night Service attendant position number→Enter→line number→Enter
Night Service Coverage Control	SysProgram—NightSrvce—CoverContrl—Enable or Disable—Enter
Board Renumber (when an 012 module is replaced by an 016 module)	System→Board Renum→Yes

Continued on next page

Table 2–12. Continued

Feature	Sequence
Switched 56 Data	To select T1 All Tie: Switched 56 Data: LinesTrunks→LS/GS/DSL→Dial slot no.→ Enter→Type→TL→Enter→All TIE→Enter→S5L→ Enter→Dial channel no.→Enter→Exit→ Exit→Exit→Exit
	To select T1 Tie: Switched 56 Data: LinesTrunks→LS/GS/DS1→Dial slot no.→ Enter→Type→T1→Enter→TIE→Enter→S5b→Ent er→Dial channel no.→Enter→Exit→ Exit→Exit→Exit
	To select T1 All:Switched 56 Data: LinesTrunks—LS/GS/DS1—Dial slot no.— Enter—Type—T1—Enter—More—ALL S5L Data—Enter—Select Direction, Intype, Outtype, AnsSupv, Disconnect, Inmode, or Outmode—Program options—Enter—Exit—Exit—Exit—Exit
	To select T1:Switched 56 Data: LinesTrunks→LS/GS/DS1→Dial slot no.→ Enter→Type→T1→Enter→More→S5b Data→ Enter→Dial channel no.→Enter→Select Direction, Intype, Outtype, AnsSupv, Disconnect, Inmode, or Outmode→Program options→Enter→Exit→ Exit→Exit→Exit
Switched 56 Data Network Dial Plan Routing	To specify Expected Digits: LinesTrunks—More—T1 Data NW—S5L Dial Plan Routing—Expected Digits—Drop—Dial expected digits—Enter—Exit—Exit
	To specify Delete Digits: LinesTrunks→ More →T1 Data NW→S5L Dial Plan Routing→Delete Digits→ Drop →Dial delete digits→Enter→Exit→Exit
	To specify Add Digits: LinesTrunks→ More →T1 Data NW→S5L Dial Plan Routing→Add Digits→ Drop →Dial add digits→ Enter→Exit→Exit→Exit

Table 2–13. Programming Needed after Upgrade to Release 4.2

Feature	Sequence
SMDR Talk Time	Options \rightarrow SMDR \rightarrow Talk Time \rightarrow Enable or Disable \rightarrow Enter \rightarrow Exit \rightarrow Exit
PRI Switch Types	To select the Nortel DMS-250 for MCI services: SysProgram→Exit→LinesTrunks→PRI→ SwitchType→Dial slot no.→Enter→DMS-250→Enter
	To select the Digital Switch Corporation DEX600E for MCI services: SysProgram→Exit→LinesTrunks→PRI→ SwitchType→Dial slot no.→Enter→DEXLODE→Enter
	To select the Nortel DMS-100 for local exchange carrier services:
	$\label{eq:SysProgram} \to $
PRI Network Service	To select MCI Toll services for a DMS-250 or DEX600E switch type: SysProgram—Exit—LinesTrunks—PRI— B-ChannlGrp—NetworkServ—B-Channel group no.— Enter—MCI Toll—MCI PRISM, MCI VNET, MCI ⅅ, or MCI 900—Enter
	To select local exchange carrier services for a DMS-100 switch type: SysProgram—Exit—LinesTrunks—PRI— B-ChannlGrp—NetworkServ—B-Channel group no.— Enter—DMS-100Local—DMS-Private or DMS-INWATS or DMS-0UTWATS or DMS-FX or DMS-TieTrk—Enter
PRI Dial Plan Routing	To specify MCI Toll Dial Plan Routing services for a DMS-250 or DEX600E switch type: SysProgram—Exit—LinesTrunks—PRI— DialPlanRtg—Service—Entry no.—Enter—MCI Toll—MCI PRISM or MCI VNET or MCI 800 or MCI 900—Enter
	To specify local exchange carrier Dial Plan Routing services for a DMS-100 switch type: SysProgram—Exit—LinesTrunks—PRI— DialPlanRtg—Service—Entry no.—Enter—DMS- LOOLocal—DMS-Private or DMS-INWATS or DMS- OUTWATS or DMS-FX or DMS-TieTrk—Enter

Table 2-13. Continued

Feature	Sequence
PRI Call-by-Call Services Table	To select MCI Toll Call-by-Call Services for a DMS-250 or DEX600E switch type: SysProgram→Exit→LinesTrunks→PRI→ OutgoingTbl→CBC Service→NetworkServ→List no.→Enter→ MCI Toll→MCI PRISM or MCI VNET→Enter
	To specify local exchange carrier Dial Plan Routing services for a DMS-100 switch type: SysProgram—Exit—LinesTrunks—PRI— OutgoingTbl—CBC Service—NetworkServ—List no.—Enter—DMS-100Local—DMS-Private or DMS-OUTWATS or DMS-FX or DMS-TieTrk—Enter

Table 2–14. Programming Needed after Upgrade to Release 5.0

Feature	Sequence
CTI Link	This is a Maintenance step. Start the procedure from the main menu, not the System Programming screen. Busy out the board first: Menu→Maintenance→Slot→Dial slot no.→ Enter→Busy-Out→Yes
	Program the CTI Link (the switch must be in Hybrid/PBX mode): AuxEquip→CTI Link→Dial extension no.→Enter→ Exit→Exit
	This is a Maintenance step. Start the procedure from the main menu, not the System Programming screen. Restore the slot: Menu→Maintenance→Slot→Dial slot no.→Enter→Restore→Yes.
⇒	NOTE: If the MLX module containing the CTI Link is the first module, use the SPM program to busy-out the slot.

Table 2–14. Continued

Feature	Sequence
Calling Group Alarm Thresholds	Extensions→More→Grp Calling→Queue Alarm→ Dial calling group ext. no.→Enter→Alarm Threshold lor Alarm Threshold 2 or Alarm Threshold 3→ Drop→Dial no. of calls→Enter→Exit→Exit
HotLine	$\begin{array}{l} {\sf Extensions} {\longrightarrow} {\sf More} {\longrightarrow} {\sf HotLine} {\longrightarrow} \ {\sf Dial\ HotLine} \\ {\sf ext.\ no.} {\longrightarrow} {\sf Enter} {\longrightarrow} {\sf Exit} {\longrightarrow} {\sf Exit} \end{array}$
Calling Group Hunt Type	Extensions \rightarrow More \rightarrow Grp Calling \rightarrow Hunt Type \rightarrow Dial calling group ext. no. \rightarrow Enter \rightarrow Circular, Linear, or Most Idle \rightarrow Enter \rightarrow Exit \rightarrow Exit
Group Calling Delay Primary Announcement	Extensions—More—Grp Calling—DelayAnnce— Dial calling group ext. no.—Enter—Primary Announcement—Enter Extension no of announcement device—Enter (to program another announcement device) or Exit (to end procedure)—Exit
Group Calling Delay Secondary Announcement	Extensions—More—Grp Calling—DelayAnnce— Dial calling group ext. no.—Enter—Secondary Announcement—Dial ext. no. of announcement device—Enter—Exit—Exit
Group Calling Announcement Interval	Extensions \rightarrow More \rightarrow Grp Calling \rightarrow DelayAnnce \rightarrow Dial calling group ext. no. \rightarrow Enter \rightarrow Announcement Interval \rightarrow Dial announcement interval in seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit
Group Calling Repeat Announcement	Extensions— More —Grp Calling—DelayAnnce— Dial calling group ext. no.—Enter—Repeat Announcement—Yes or No—Enter—Exit—Exit

Table 2–15. Programming Needed after Upgrade to Release 6.0

Feature	Sequence
UDP Routing Patterns	Sys Program \rightarrow Tables \rightarrow UDP Routing \rightarrow Enter Pattern Number (1-20) \rightarrow Enter \rightarrow Enter Route Number (1-4) \rightarrow Enter \rightarrow Pool \rightarrow Enter pool dialout code
	Sys Program \rightarrow Tables \rightarrow UDP Routing \rightarrow Enter Pattern Number (1-20) \rightarrow Enter \rightarrow Enter Route Number (1-4) \rightarrow Enter \rightarrow FRL \rightarrow Enter restriction level (0-6)
	Sys Program \rightarrow Tables \rightarrow UDP Routing \rightarrow Enter Pattern Number (1-20) \rightarrow Enter \rightarrow Enter Route Number (1-4) \rightarrow Enter \rightarrow Absorb \rightarrow Enter number absorption digits (0-11)
	Sys Program \to Tables \to UDP Routing \to Enter Pattern Number (1-20) \to Enter \to Enter Route Number (1-4) \to Enter \to Digits \to Enter other digits
	Sys Program \to Tables \to UDP Routing \to Enter Pattern Number (1-20) \to Enter \to Enter Route Number (1-4) \to Enter \to Data \to Select Voice Only, Data Only, or Voice/Data
	Sys Program→Extensions→ More→More → DisplayPre→Dial ext. no.→Enter→Select Calling Name, Calling Num, or Both
	Sys Program→SysRenumber→NonLocal UDP→Enter starting number→Enter→Enter ending number
	Sys $Program \rightarrow LinesTrunks \rightarrow More \rightarrow UDP \rightarrow SwNum-Single \rightarrow Enter trunk number \rightarrow Enter switch number \rightarrow Enter$
	Sys Program—>LinesTrunks—> More —>UDP—> SwNum-Block—>Enter starting number—>Enter—>Enter ending trunk—>Enter—>Enter switch number—>Enter
	Sys Program—>LinesTrunks—> More —>UDP—> SMDR—>Enter trunk number—>Enter—>Select Log incoming, Log outgoing, Log both, or Log none
	Sys Program \to LinesTrunks \to PRI \to B-ChannlGrp \to NetworkServ \to Enter \to LegendUDP \to Select ElecTandNtwk
	Sys Program \to LinesTrunks \to PRI \to B-ChannlGrp \to IncomingRtg \to Enter \to Route Directly to UDP \to Enter
	Sys Program \rightarrow LinesTrunks \rightarrow PRI \rightarrow SwitchType (Select Legend-Ntwk or Legend-PBX) \rightarrow Enter

Programming with SPM Surrogate Mode Programming

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Surrogate Mode Programming

Surrogate mode allows qualified service personnel to perform system programming at an off-site service location. The actual communications system hardware does not have to be installed—the programmer needs only a direct connection from the PC to the processor module. By following a customer's set of completed planning forms, the system can be programmed as if the appropriate modules, trunks, telephones, and other communications equipment have been installed. When system programming is completed, a system backup is performed to save the information on disk. This backup disk is then taken to the new installation site and used with the Restore option to provide complete system programming for a new communications system.

You do not "select" surrogate mode programming—you enter it automatically under the following conditions:

- The PC is connected to the lower RS-232 port on a control unit (direct local connection).
- Only the processor and power modules are connected.

Once you enter surrogate mode programming, you must follow the sequence of procedures shown below.

- At the service location, perform the following:
 - 1. System Erase
 - 2. Program the Boards
 - 3. System Programming
 - 4. Backup
- At the installation site, perform a Restore.

While you are in surrogate mode, the Pass-Thru and Password options are not available.



NOTE:

Surrogate mode is available only through the local programming port. You cannot access surrogate features through the system programming console.

MERLIN LEGEND Communications System Release 6.0 System Programming *555-660-111* February 1998 Programming with SPM

Surrogate Mode Programming

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Issue 1

3 Common Administrative Procedures

Page 3-1

Common Administrative Procedures

3

This chapter contains procedures for all of the common administrative tasks performed by the system manager in response to changes in business requirements. The procedures described in this chapter are defined briefly below:

- Change Basic System Operating Conditions. These procedures apply to the system rather than to the operation of telephones, lines/trunks, and operator positions. The procedures covered are:
 - Reassign the extension jack used for system programming.
 - Change the system language.
 - Set the system date and time.
- Renumber Extensions. Use this procedure to assign a new extension number to a telephone, accessory, line/trunk, pool (Hybrid/PBX only), or group. The extension number to be assigned must currently be unassigned.
- Operator Positions. Add or delete a system operator position for either the Queued Call Console (QCC) or the Direct-Line Console (DLC). A maximum of eight operator positions can be assigned: a maximum of four of these could be QCCs.

- Telephone Line Button Assignments and Optional Telephone Features. Use these procedures to assign outside lines/trunks to the buttons on a telephone, to copy these line/trunk assignments to additional telephones, and to assign System Access or Intercom buttons. These procedures can also be used to assign additional extension features including:
 - Identifying analog multiline telephones that do not have built-in speakerphone or Hands Free Answer on Intercom
 - Identifying analog multiline extensions that require pairing of extension jacks to provide Voice Announce to Busy
 - Calling restrictions
- Groups. Assign pickup groups, Group Paging, Group Coverage, calling groups, and lines/trunks assigned to calling groups and change group options.
- Systemwide Features. Assign or change system features such as:
 - Transfer options
 - Camp-On and Call Park return times
 - Extension status
 - SMDR options
 - Allowed and Disallowed Lists and the extensions to which they are assigned
- Labeling. Create or change labels assigned to lines/trunks, extensions and calling groups and create or change Posted Messages or the System Speed Dial Directory.
- **Night Service.** Night Service provides after-hours coverage to extensions and calling groups
- Fax Machines. Install a fax machine and set options for message-waiting indication.

The programming procedures needed to perform these tasks are described in detail in the remainder of the chapter. More advanced programming procedures such as adding lines/trunks, are described in detail in Chapter 4, "Programming Procedures."

Each of the procedures begins on the System Programming menu. Use one of the methods shown below to display the System Programming menu.

- At the console: **Menu**→**Sys Program**→**Exit**
- At the PC or with SPM: Type $spm \rightarrow Press$ any $key \rightarrow F1 \rightarrow F5$

Before you begin any of the procedures in this chapter, you should read and understand all of the information presented in Chapter 1, "Programming Basics."

3 Common Administrative Procedures Basic System Operating Conditions

Page 3-3

Basic System Operating Conditions

The procedures in this section are all related to the system rather than to the operation of extensions, operator positions, lines, or trunks.



You must reset the system time when Daylight Savings Time begins and ends.

This section contains the following programming procedures:

- System Programming Position Assignment
- System Language
- System Date
- System Time

System Programming Position Assignment

Use this procedure to reassign the extension used for system programming. This extension should not be the same extension as that used for the operator position. The system programming position can be reassigned only to one of the first five extension jacks on the first MLX module. Only one system programming console is allowed per system.

If you are programming on the console, be aware of the following:

- The console must be connected to the extension currently assigned for system programming.
- As soon as you change the system programming extension, the system programming session is terminated. To proceed with system programming, you must connect the system programming console to the newly assigned extension and enter system programming again.

NOTE:

The telephone used for system programming must be an MLX-20L.

Summary: System Programming Position Assignment

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 1, System Planning

3 Common Administrative Procedures Basic System Operating Conditions

Page 3-4

Factory Setting First extension jack on the first MLX module (also set as an

operator position)

Valid Entries Extension number of one of the first five extension jacks on

the first MLX module

Inspect No Copy Option No

Console Procedure System→SProg Port→Drop→Dial ext. no.→Enter→Exit

PC Procedure $[F1] \rightarrow [F2] \rightarrow [Alt] + [P] \rightarrow Type ext. no. \rightarrow [F10] \rightarrow [F5]$

Procedure: System Programming Position Assignment

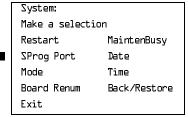
Console Display/Instructions Additional Information PC

1. Select the System menu.



(F1)

2. Select System Programming Port.



F2

■ 3. Erase the current extension (xxxx).

System Programming Port:
Enter extension

xxxx

Backspace
Exit Enter

Press Drop.

(Alt)+P

MERLIN LEGEND Communications System Release 6.0Issue 1System Programming 555-660-111February 1998							
•	Common Administrative Procedures Basic System Operating Conditions Page 3-5						
	Console Display/Instr	ections Additional Information	n PC				
> 4.	Enter the new extensi						
	SP: "Entering an Exten	sion"	C				
▶ 5.	Save your entry.						
> 5.							
	Select Enter.		[F10]				
▶ 6.	Return to the System	Programming menu.					
	Select Exit.		F5				
Creati	I an avana						
Syste	em Language						
		ns system offers you a choice of thre h) for the following options:	ee languages (English,				
	•	guage. For programming.					
	■ Station Mes Language" o	sage Detail Recording (SMDR) Ren page 209.	eports. See <u>"SMDR</u>				
	■ Print Repor	s. See "Printing System Reports" or	n page 273.				
	■ Extensions	See "Optional Extension Features"	on page 93.				
	Use this procedure to set the system language. See the sections listed above to set a different language for an MLX display telephone, SMDR reports and printer reports.						
NOTE: MERLIN LEGEND Communication System Release 1.0 does not offer a choice of languages.							
Summary: System Language							
	Programmable by System Manager						
	Mode	All					
	Idle Condition	Not required					
	Planning Form Form 1, System Planning						
	Factory Setting English						
	Valid Entries	English, French, Spanish					
	Inspect No						

Copy Option

No

Common Administrative Procedures

Basic System Operating Conditions

Page 3-6

Console Procedure **More**→Language→SystemLang→Yes→Select a

language→Enter

PC Procedure $PgUp \rightarrow F6 \rightarrow F1 \rightarrow F3 \rightarrow Select a language \rightarrow F10$

Procedure: System Language

Console Display/Instructions Additional Information

PC

▶ 1. Go to the second screen of the System Programming menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

Press More.

PgUp

2. Select Language.

System Programming
Make a selection
Labeling Language
Data
Print
Cntr-Prg
Exit

F6

3. Select System Language.

Language:

Make a selection

SystemLang
Extensions

SMDR
Printer
Exit

F1

▶ 4. Respond to the prompt.

System Language:
All stations, SMDR, and
printer will be affected
Do you want to continue?
Yes
No
Exit

To set the system language select Yes.

To terminate the procedure and return to the previous screen select No, then select Exit.

F2

[F5]

Common Administrative Procedures

Basic System Operating Conditions

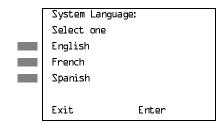
Page 3-7

Console Display/Instructions

Additional Information

PC

5. Select a system language. (The default is English.)



Select English, French, or Spanish. F1 F2

F3

▶ 6. Save your entry.

Select Enter.

F10

To program a single extension or block of extensions, see <u>"Extension Language" on page 3–94.</u>

Set System Date

The System Date feature allows you to set the month, day, and year that appear on MLX display telephones and on Station Message Detail Recording (SMDR) reports.

NOTES:

- 1. If you plan to use the SMDR feature, make sure the current date is set.
- 2. In Release 6.0 and later systems, where a MERLIN LEGEND Communications System switch is networked in a private network with one or more other MERLIN LEGEND Communications System switches or with one or more DEFINITY Communications Systems, SMDR reports may report outgoing calls using more than one call record (for example, for tandem calls), depending upon how SMDR is programmed and how calls are routed. Therefore, if SMDR is reporting outgoing calls and users are employing private network lines to make these calls, ensure that the system date and time are set accurately on each system that carries these calls. As you examine call reports, you may need to be aware of time zone differences among networked system locations.

Summary: Set System Date

Programmable by System Manager

Mode All

Idle Condition Not required

3 Common Administrative Procedures Basic System Operating Conditions

Page 3-8

Planning Form Form 1, System Planning

Factory Setting 01-01-00

Valid Entries Month: 01 to 12

Day: 01 to 31 Year: 00 to 99

Inspect No Copy Option No

Console Procedure System \rightarrow Date \rightarrow Drop \rightarrow Dial current date \rightarrow Enter \rightarrow Exit

PC Procedure $\boxed{F1 \rightarrow F7 \rightarrow Alt + P \rightarrow Type current date \rightarrow F10 \rightarrow F5}$

Procedure: Set System Date

Console Display/Instructions

Additional Information

PC

1. Select the System menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F1

2. Select Date.

System:
Make a selection
Restart MaintenBusy
SProg Port Date
Mode Time
Board Renum Back/Restore
Exit

[F7]

■ 3. Erase the current system date (xxxxxx).

Date:
Enter month (Ol-12),
Date (Ol-31) Year (OO-99)

xxxxxx

Backspace
Exit Enter

Press **Drop**.

Alt + P

	IN LEGEND Communication Programming 555-660		em Release 6.0	Issue 1 February 1998	
	ommon Administrative Proc asic System Operating Con			Page 3-9	
	Console Display/Instr	uctions	Additional Information	PC	
4 .	Enter six digits for the				
	Dial or type [mmddyy].			C	
5 .	Save your entry.				
) J.					
	Select Enter.			(F10)	
6 .	Return to the System	Program	nming menu.		
	Select Exit.			F5	
2-16	Caratama Tima				
set a	System Time				
	The System Time f telephones and on		ows you to set the time that appeports.	ears on MLX display	
	 NOTES: If you are planning to use the SMDR feature, make sure the system time is set accurately. If you change the system time while the system is in Night Service mode, Night Service is deactivated and must be manually reactivated. If you have installed applications such as Call Management System (CMS) or AUDIX Voice Power, you may need to set the time in the applications software whenever you reset the system time. In Release 6.0 and later systems, where a MERLIN LEGEND Communications System is networked in a private network with one or more other MERLIN LEGEND Communications Systems or with one or more DEFINITY Communications Systems, SMDR reports may report outgoing calls using more than one call record (especially for tandem calls), depending upon how SMDR is programmed and how calls are routed. Therefore, ensure that the system date and time are set accurately on each system that carries these calls. When you examine records for network calls, you may need to be aware of time zone differences among different system locations. 				
Sum	mary: Set System Tim	e			
	Programmable by	System	Manager		
	Mode	All			
	Idle Condition	Not Red	quired		
	Planning Form	Form 1,	System Planning		

Factory Setting

0000

3 Common Administrative Procedures Basic System Operating Conditions

Page 3-10

Valid Entries 0000 to 2359

Inspect No Copy Option No

Console Procedure System \rightarrow Time \rightarrow Drop \rightarrow Dial current time \rightarrow Enter \rightarrow Exit

PC Procedure $F1 \rightarrow F8 \rightarrow Alt + P \rightarrow Type current time \rightarrow F10 \rightarrow F5$

Procedure: Set System Time

Console Display/Instructions

Additional Information

PC

▶ 1. Select the System menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

F1

2. Select Time.

System:

Make a selection

Restart MaintenBusy

SProg Port Date

Mode Time

Board Renum Back/Restore

Exit

F8

■ 3. Erase the current system time (xxxx).

Date:
Enter hour (DD-23) and
minutes (DD-59)

xxxx

Backspace
Exit Enter

Press Drop.

Alt + P

Common Administrative Procedures System Renumbering

Page 3-11

Console Display/Instructions

Additional Information

PC

Enter four digits for the current time.

Dial or type [hhmm].

C

Use 24-hour (military) notation (for example, enter 11:30 p.m. as 2330). Use leading zeros if necessary (for example, enter 4 a.m. as 0400).

5. Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit.

F5

System Renumbering

The procedures in this section are used to reassign extension numbers for the 2-digit, 3-digit, and Set Up Space numbering plans.



System Renumbering is called Flexible Numbering in the MERLIN II Communications System. This is *not* the same as Board Renumbering, an option used when modules in the control unit are changed.

This section contains the following programming procedures:

- Single Renumbering
- **Block Renumbering**
- Non-Local Dial Plan Renumbering (Release 6.0 and later systems only)

For the local system, you then select only one of the numbering plans (2-digit numbering, 3-digit numbering, or Set Up Space numbering). In addition, you may need to perform single and/or block renumbering. You do not need to assign DSS Page buttons unless the system programming console or one of the operator positions is connected to a DSS. No matter which procedures you need to perform, assign the numbering plan first, then do single and/or block renumbering, and finally, assign DSS Page buttons (if necessary). To reassign the system numbering plan or DSS Page buttons see "System Renumbering" on page 4-14.

In Release 6.0 and later systems (Hybrid/PBX mode only), you may choose non-local dial plan numbering to specify the numbering of extensions connected to remote networked systems and allow users on your system to access those extensions as if they were connected to your own system. You specify only ranges of extensions.

Common Administrative Procedures System Renumbering

Page 3-12

Use the single renumbering procedure any time the extension numbers you are changing from or to are not sequential.

Block renumbering is quicker, but you can use block renumbering only when the extension numbers you are changing from and to are sequential.

When trunk or extension modules are removed from the control unit, the remaining modules must be rearranged so that no empty slots remain. The system does not acknowledge any modules installed after an empty slot; therefore, if the system is renumbered, extensions are not assigned to extension jacks after the empty slots.

NOTE:

Figure 3–1, Figure 3–2, and Figure 3–3 show the default settings in the gray spaces. Extensions can be renumbered to any number shown in the white spaces.

0	Operator Console (not flexible) 0									
1		Extensions 10–19								
2				Ext	ension	s 20–29				
3				Ext	ension	s 30–39				
4	Extensions 40–49									
5	Extensions 50–59									
6	Exte	Extensions 60–66 Extra				6843-	Extra MFMs/ 6993		6993-	
			Extensions 6700–6842			6849	Terminal Adapters 699 6850–6992		6999	
7	Main Pool MFMs/ 70 Terminal A 710–766		dapters	767– 769	Calling Groups 770-791,7920-7929		Pag Gro 793	•		
8	800* Trunks 801–880				Park 889† Pools 890–899					
9	ARS Access (Hybrid/PBX Mode) / Idle Line Access 9									

Listed Directory Number (QCC Queue)

NOTE: "0" and "10" are the same station.

Figure 3–1. 2-Digit Numbering

[†] Remote Access

0		Operator Console (not flexible) 0					
1		Extensions 100–199					
2			Ex	tension	s 200–299		
3			MFMs/Ter	rminal A	dapters 300-	-399	
4		MFMs/Terminal Adapters 400-499					
5		500–599					
6		600–699					
7					Paging		
	70	70 71–76 770–791, 7920–7929 Groups					
	793–799						
8	800*	800 [*] Trunks			Park	889†	Pools
			801–880		881–888		890-899
9	ARS Access (Hybrid/PBX mode)/Idle Line Access						

^{*} Listed Directory Number (QCC)

NOTE: "0" and "100" are the same station.

Figure 3–2. 3-Digit Numbering

0	Operator Console (not flexible) 0						
1	100–199						
2			200–2	99			
3	300–399						
4	400–499						
5	500–599						
6	600–699						
7	Main Pool Extensions MFMs/Terminal			7500-7699	Calling Group	Paging	
	70 7100-7299 Adapters				770–791,	Groups	
	7300-7499 7920-7929 793-799						
8	800* Trunks			Park	889†	Pools	
	801–880 881–888 890–899						
9	ARS Access (Hybrid/PBX mode)/Idle Line Access 9						

^{*} Listed Directory Number (QCC).

NOTE: "0" and "7001" are the same station.

Figure 3-3. Set Up Space Numbering

[†] Remote Access

[†] Remote Access

3 Common Administrative Procedures System Renumbering

Page 3-14

Single Renumbering

Use this procedure to assign a specified extension number to a telephone, accessory, line, pool (Hybrid/PBX only), calling group, paging group, or Listed Directory Number. Single renumbering is also used for Remote Access, Park, Idle Line Access (Key and Behind Switch only), and Automatic Route Selection (Hybrid/PBX only).



CAUTION:

Select Exit on the console or F5 on the PC after renumbering extensions. If you press **Home**, extensions may remain in the forced idle condition (indicated when the LED next to each DSS button is on). To restore extensions to their normal operating state, restart the system.

Summary: Single Renumbering

Programmable by System Manager

Mode All

Idle Condition System idle

Planning Form Form 2a, System Numbering: Extension Jacks

Form 2b, System Numbering: Digital Adjuncts Form 2d, System Numbering: Special Renumbers

Factory Setting Not applicable

Valid Entries Old and new extension numbers

Inspect Yes
Copy Option No

Console Procedure SysRenumber \rightarrow Single \rightarrow Select item \rightarrow Dial old ext. no. \rightarrow

Enter \rightarrow Dial new ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F2 \rightarrow F2 \rightarrow Select item \rightarrow Type old ext. no. \rightarrow F10 \rightarrow Type$

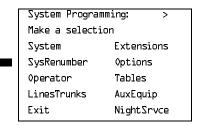
new ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Single Renumbering

Console Display/Instructions Additional Information

PC

▶ 1. Select the System Renumbering menu.



Common Administrative Procedures
System Renumbering

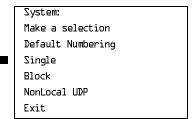
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Console Display/Instructions

Additional Information

PC

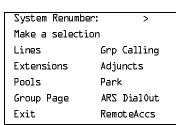
2. Select Single renumbering.



If you get the System Busy message, wait for an idle condition or exit system programming and try again later.

F2

■ 3. Review the menu options.



If the item you want to renumber is not displayed, go to the second screen of the System Renumber menu.

System Renumber:
Make a selection
DSS Buttons
ListDirctNo

Press More.

PgUp

▶ 4. Select an item for renumbering.

Press the button or function key next to your selection.

C

▶ 5. Enter the old extension for the item selected (****) in Step 4.

****:
Enter old **** number

Backspace
Exit Enter

If you get the Station Busy message, wait for an idle connection or exit system programming and try again later.

SP: "Entering an Extension"

▶ 6. Save your entry.

Exit

Select Enter.

Common Administrative Procedures
System Renumbering

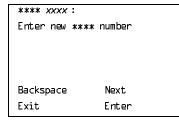
Page 3-16

Console Display/Instructions

Additional Information

PC

➤ 7. Enter the new extension.



**** = item selected in Step 4

xxxx = extension entered in Step 5

SP: "Entering an Extension"

8. Save your entry.

Select Enter or Next.

F10

If you use Next to renumber the next item (****) displayed on Line 1, return to Step 7.

Return to the System Programming menu.

Select Exit two times.

F5 F5

Block Renumbering

Use this procedure to assign extension numbers to a group of extensions, accessories, or lines. Both the original numbers and the numbers they are being changed to must be sequentially numbered.

When required, this procedure should be performed immediately following the selection of a system numbering plan.



A CAUTION:

Select Exit on the console or F5 on the PC when you have finished renumbering extensions. If you press **Home**, extensions may remain in the forced idle condition (indicated when the LED next to each DSS button is on). To restore extensions to their normal operating state, restart the system.

Summary: Block Renumbering

Programmable by System Manager

Mode All

Idle Condition System idle

Common Administrative Procedures
System Renumbering

Page 3-17

Planning Form Form 2a, System Numbering: Extension Jacks

Form 2b, System Numbering: Digital Adjuncts Form 2d, System Numbering: Special Renumbers

Factory Setting Not applicable

Valid Entries Old and new extension numbers

Inspect Yes
Copy Option Yes

Console Procedure SysRenumber→Block→Select type of group→Dial no. of first

group member→Enter→Dial no. of last group

member \rightarrow Enter \rightarrow Dial new beginning no. \rightarrow Enter \rightarrow

Exit→Exit→Exit

PC Procedure $F2 \rightarrow F3 \rightarrow Select$ type of group $\rightarrow T$ ype no. of first group

member \rightarrow F10 \rightarrow Type no. of last group member \rightarrow F10 \rightarrow

Type new beginning no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

Procedure: Block Renumbering

Console Display/Instructions Additional Information

PC

■ 1. Select the System Renumber menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F2

2. Select Block renumbering.

System Renumber:

Make a selection

Default Numbering

Single

Block

NonLocal UDP

Exit

If you get the System Busy message, wait for an idle condition or exit system programming and try again later.

[F3]

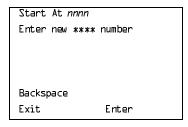
Common Administrative Procedures
System Renumbering

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Console Display/Instructions Additional Information

PC

▶ 8. Enter the new extension number.



nnnn = number entered in Step 6
**** = option name selected in Step 3

9. Save your entry.

Select Enter.

F10

▶ 10. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Non-Local Dial Plan Extension Ranges

In Release 6.0 and later systems (Hybrid/PBX mode only), the system manager can enter ranges of extensions for non-local systems networked to the local MERLIN LEGEND Communications System. The process does not affect programming on non-local systems but allows smooth communications among networked systems.

This topic describes the following two procedures:

- Specifying new extension number ranges
- Deleting extension number ranges

The extension ranges you enter using this procedure are the numbers that users on your system dial in order to make System Access (**SA**) calls to users on the remote system. Users dial these calls in the same way that they dial inside calls on your local system. In most cases they should be the same numbers that users in the remote networked system dial to reach one another. Numbering must be planned to avoid conflicts and provide unambiguous extension numbers across private networks.

Non-local dial plan calls are routed over pools of private trunks using UDP routing. Maintaining existing dial plans when systems are networked may not be possible due to ambiguity or when one system's dial plan changes. UDP routing using digit absorption and digit prepending, which allow dialed numbers to be modified before they are actually sent to the remote system, may help to minimize changes. However, this will quickly increase dial plan complexity for private

Common Administrative Procedures System Renumbering

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network UDP calls. Therefore, these techniques should not be used except in special cases for non-local private network UDP calls. Deleting and prepending digits are very useful methods and are easily set up for routing non-local dial plan calls over the PSTN, if necessary. For additional information about UDP routing, see "UDP (Uniform Dial Plan) Routing" on page -401.



WARNING:

Use extreme caution when employing the Default Numbering option of System Renumbering. Any numbering you have entered is erased and the system numbering is set to factory defaults.



NOTES:

- 1. The Default Numbering option of System Renumbering renumbers local system extensions only. It also removes the local system's nonlocal dial plan entries. It does not affect remote networked systems' numbering.
- 2. Non-local dial plan ranges on local systems should be large enough to minimize range renumbering when a remote system changes. When the numbering of an external networked system changes, the system manager should check the new external numbers and ascertain their impact on the non-local dial plan numbers accessed using this procedure, then make changes manually.

Specifying New Extension Ranges

This procedure verifies that extension numbers on the local system do not conflict with those on a networked external switch. For example, if Extension 110 exists in the local system, Extension 1100 cannot exist on a networked external system. It also checks to see whether new extension number ranges conflict with existing ranges set for the non-local system.

MERLIN LEGEND Communications System non-local dial plan numbering supports extensions up to 4 digits long (2-, 3-, or 4-digit dial plans), while DEFINITY Communications Systems have 5-digit extension numbers. There are two methods you can use to number DEFINITY non-local dial plan ranges. Choose one of the following techniques, depending upon the actual extension numbers you are entering in ranges and potential conflicts:

Specify ranges that include the first four digits in the extension numbers. Each number you enter in the procedure represents 10 numbers in the remote system. For example, an extension range entered as 4321 through 4322 represents remote extensions 43210 through 43220. Users actually dial five digits. The local system recognizes the number range by the first four digits.

Common Administrative Procedures System Renumbering

Page 3-21

Enter the last four digits and use UDP routing to prepend the first digit in the DEFINITY extension number. The local system recognizes the number range using the last four digits. Users dial only the last four digits. This method must be used for DID trunks that terminate on a MERLIN LEGEND system which have numbers in the DID range that terminate on a DEFINITY system. For details about UDP routing, see "UDP (Uniform Dial Plan) Routing" on page -401.

An extension range may stipulate a single extension number.

Renumbering of non-local extensions does not require putting those extensions in the forced-idle condition on the remote system.

The pattern number specified in this procedure creates an index into a group of routes that are used to connect to the non-local dial plan extensions. More than one range of extensions can use the same pattern number. UDP routes within a pattern are assigned pools, routes, and other attributes. For more information, see "UDP (Uniform Dial Plan) Routing" on page -401.



SECURITY ALERT:

Do not program the remote system ARS access code into the non-local dial plan. To do so will allow unauthorized calling over remote system facilities. If the local system interprets the number as an extension on the remote system, no ARS restriction checking is performed locally. Remote systems normally do not perform ARS restriction checking.

Summary: Specifying New Extension Ranges

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition None

Planning Form Form 2a, System Numbering: Extension Jacks

> Form 2b, System Numbering: Digital Adjuncts Form 2d, System Numbering: Special Renumbers

Non-Local Dial Plan Administration Form in the Installation

Specification

Factory Setting Not applicable

Valid Entries Starting and ending numbers for old and new extension

ranges

50 Ranges

Inspect Yes, existing number ranges

Copy Option No

Common Administrative Procedures
System Renumbering

Page 3-22

Console Procedure SysRenumber \rightarrow NonLocal UDP \rightarrow Dial no. of first extension in

range→Enter→Dial no. of last extension in range→
Enter→Dial no. of pattern for extension range→

 $Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F2} \rightarrow \boxed{F4} \rightarrow \boxed{Type}$ no. of first extension in range $\rightarrow \boxed{F10} \rightarrow \boxed{Type}$

no. of last extension in range \rightarrow F10 \rightarrow Type no. of pattern for

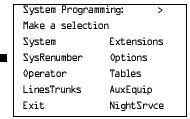
extension range \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Specifying New Extension Ranges

Console Display/Instructions Additional Information

PC

1. Select the System Renumber menu.



F2

2. Select Non-Local UDP renumbering.

System Renumber:
Make a selection
Default Numbering
Single
Block
NonLocal UDP
Exit

F4

▶ 3. Dial or type the first number in the range.

NonLocal UDP:
Enter starting number

Backspace
Exit Enter

If the number conflicts with an existing number on the local system or is not the beginning number of an existing range and is within a range for a remote system, check the system planning forms and try again.

SP: "Entering an Extension"

▶ 4. Save your entry.

Select Enter.

Common Administrative Procedures
System Renumbering

Page 3-23

Console Display/Instructions

Additional Information

PC

▶ 5. Enter the number for the last extension in the range. It must be equal to or higher than the starting number.

NonLocal UDP Start: nnnn:
Enter ending number

DelRange
Backspace
Exit Enter

nnnn = number entered in Step 3
If the range conflicts with existing
number(s) on the local system or is a
starting or intermediate number for a
remote system, check the system planning
forms and try again. The ending number
may be increased without first deleting the
range.

SP: "Entering an Extension"

C

▶ 6. Save your entry.

Select Enter.

F10

→ 7. Choose a pattern number to specify routes for call delivery (nn = 1-20).

NL-UDP Range nnnn-xxxx:
Enter pattern number
to save range (1-20)

Backspace
Exit Enter

nnnn = number entered in Step 3 *xxxx* = number entered in Step 5

Dial or type a pattern number [nn].

8. Save your entry.

Select Enter.

F10

9. Return to the System Programming menu.

Select Exit two times.

F5 F5

3 Common Administrative Procedures
System Renumbering Page 3-24

Deleting Extension Ranges

This procedure deletes the numbering for specified extension ranges of a non-local system and can be used, for example, to prepare for renumbering local or remote system extensions.

Summary: Deleting Extension Ranges

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition None

Planning Form Form 2a, System Numbering: Extension Jacks

Form 2b, System Numbering: Digital Adjuncts Form 2d, System Numbering: Special Renumbers

Non-Local Dial Plan Administration Form in the Installation

Specification

Factory Setting Not applicable

Valid Entries Starting numbers for extension ranges to be deleted

Inspect Yes: existing number ranges

Copy Option No

Console Procedure SysRenumber→NonLocal UDP→Dial no. of first extension in

 $range \rightarrow Enter \rightarrow DelRange \rightarrow Exit \rightarrow Exit$

PC Procedure $F2 \rightarrow F4 \rightarrow Type \text{ no. of first extension in range} \rightarrow$

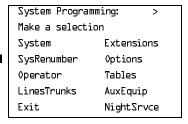
 $F10 \rightarrow F8 \rightarrow F5 \rightarrow F5$

Procedure: Deleting Extension Ranges

Console Display/Instructions Additional Information

PC

1. Select the System Renumber menu.



Common Administrative Procedures
System Renumbering

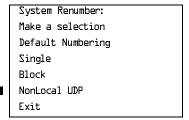
Page 3-25

Console Display/Instructions

Additional Information

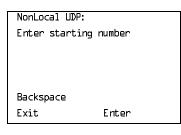
PC

▶ 2. Select Non-local renumbering.



F4

3. Dial or type the first number in the range of extensions to delete.



If the number conflicts with an existing number on the local system or is not the beginning number of an existing range and is within a range for a remote system, check the system planning forms and try again.

SP: "Entering an Extension"

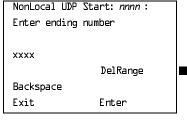
C

4. Save your entry.

Select Enter.

F10

▶ 5. The last extension number in the range is displayed. Delete the range.



nnnn = number entered in Step 3 xxxx = ending number in range that begins with nnnn.

F8

▶ 6. Return to the System Programming menu.

Select Exit two times.

F5 F5

Common Administrative Procedures System Operator Positions

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System Operator Positions

Use the following procedures either to add an operator position or to change an existing operator position.

The Queued Call Console (QCC) operator position is available only for Hybrid/PBX systems. The Direct-Line Console (DLC) operator position is available in any mode and must be programmed if you have Call Management Systems connected to any operator extension jacks.

<u>Table 3–1</u> shows the maximum number of operator positions allowed for any one system.

Table 3–1. Maximum Number of Operator Positions

Position Type	Type of Telephone	Maximum Positions
QCC	MLX-20L	4
DLC	MLX-20L	8
	MLX-28D	
	Analog multiline telephones	
	MERLIN II Display Consoles	
Total QCC + DLC		8

Any combination of operator positions can be assigned as long as no more than four operator positions are QCCs and the total number of operator positions does not exceed eight.

If you want to designate a new operator position and the system already has the maximum number of operator positions, you must change an existing operator position to a nonoperator position before you designate a new operator position.



NOTE:

When you change an extension to an operator position, or vice versa, the system returns the port (extension jack) type of that extension to the factory setting. You must reprogram lines and any features for that telephone or console. You may also need to change any attached accessory equipment and optional features.

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February 1998

Issue 1

Primary Operator Positions

3 Common Administrative Procedures System Operator Positions

> The primary operator position is the extension to which your call is directed when 0 is dialed on a System Access button. The first extension jack on the first MLX module in your system is assigned as the primary operator position. If your system has QCC operator positions, this position must be changed from the factory setting (DLC) to a QCC operator position. (The primary operator extension cannot be changed from the first extension on the first MLX module.)

QCC System Operator Positions

This procedure applies to Hybrid/PBX systems only. Note that both QCC and DLC operator positions can be assigned with this procedure, although its primary purpose is to assign QCC operator positions.

QCC operators serve as central answering positions for all incoming calls. Incoming calls are held in the QCC queue and are directed to each QCC operator in a prioritized sequence. The calls are received one at a time, regardless of the number of incoming calls to the system.

Additional QCC operator positions can be assigned only to the first and fifth extension jacks of the MLX modules. A maximum of four QCC operator positions can be assigned. Use this procedure to specify QCC operator positions that serve as central answering positions for all incoming calls.



NOTE:

If you want to add or remove QCC operator positions, the following conditions apply:

- If other QCC positions remain in your system, the primary QCC operator position cannot be removed.
- When QCC operator positions are added, the primary QCC operator position should be the first one added.
- If QCC operator positions are being removed, the primary QCC operator position must be the last one removed.

Summary: QCC Operator Positions

Programmable by System Manager

Mode ΑII

Idle Condition System idle

Planning Form Form 2a, System Numbering: Extension Jacks

Factory Setting Type: DLC

3 Common Administrative Procedures System Operator Positions

Page 3-28

Valid Entries First or fifth extension jack on MLX module (maximum: two

per module; four QCCs per system)

Inspect Yes
Copy Option No

Console Procedure Operator \rightarrow Positions \rightarrow Queued Call \rightarrow Dial ext. no. \rightarrow

Enter→Store All

PC Procedure $[F3] \rightarrow [F1] \rightarrow [F2] \rightarrow Type ext. no. \rightarrow [F10] \rightarrow [F3]$

Procedure: QCC Operator Positions

Console Display/Instructions Additional Information

PC

1. Select the Operator menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F3

2. Select Positions.

System Operator:
Make a selection
Positions
Queued Call
Hold Timer
DLC Hold
Exit

F1

→ 3. Select Queued Call (QCC).

System Operator:

Make a selection

Direct Line

Queued Call

Exit

If you get the System Busy message, wait for an idle condition or exit system programming and try again later.

3 Common Administrative Procedures System Operator Positions

Page 3-29

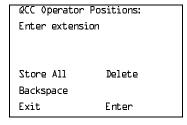
Console Display/Instructions

Additional Information

PC

C

4. Specify the QCC extension as a QCC position.



If no DSS is attached:
SP: "Entering an Extension"
If DSS is attached:
Toggle the red LED on or
off as required. Go to Step 6.
On = extension is currently assigned
Flashing = ext. can be assigned as a QCC
Off = ext. cannot be assigned as a QCC

▶ 5. Assign or remove the QCC operator extension.

Select Enter or Delete.

(F10)

F8

You may continue to assign or remove QCC operator positions by repeating Steps 4 and 5.

6. Indicate that you have finished entering all positions.

Select Store All.

F3

The session is terminated and the system restarts. You must enter system programming again to continue.

DLC Operator Positions

DLC operator positions can be assigned to the first and fifth extension jacks on the first modules with either digital or analog multiline extension jacks. A maximum of eight DLC operator positions can be assigned. Any combination of operator positions can be assigned as long as there are no more than four QCC operator positions and no more than a total of eight operator positions.

Use this procedure to specify extensions that serve as central answering positions for all incoming calls, either for Call Management Systems (CMSs) connected to operator extension jacks, or as calling group supervisor extensions. (You do not need to use this procedure in a Key or Behind Switch system unless you have more than one DLC position.) For a new system, remove the factory-set DLC operator position assignment for any telephone not used as an operator position.

Lines and trunks are assigned to individual buttons.

The system programming console can have several incoming calls ringing simultaneously.

Each CMS requires two DLC operator positions to connect the equipment and one position to serve as CMS supervisor.

3 Common Administrative Procedures
System Operator Positions

Page 3-30

Summary: Identify or Remove DLC Operator Positions

Programmable by System Manager

Mode All

Idle Condition System idle

Planning Form Form 2a, System Numbering: Extension Jacks

Factory Setting Type: DLC

Valid Entries First or fifth extension jack on MLX module (maximum: two

per module; maximum: eight DLCs per system)

Inspect Yes

Copy Option No

Console Procedure Operator \rightarrow Positions \rightarrow Direct Line \rightarrow Dial ext. no. \rightarrow

Enter→Store All

PC Procedure $F3 \rightarrow F1 \rightarrow F1 \rightarrow Type ext. no. F10 \rightarrow F3$

Procedure: Identify or Remove DLC Operator Positions

Console Display/Instructions

Additional Information

PC

1 Select the Operator menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F3

▶ 2. Select Positions.

System Operator:
Make a selection
Positions
Queued Call
Hold Timer
DLC Hold
Exit

Common Administrative Procedures
System Operator Positions

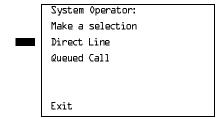
Page 3-31

Console Display/Instructions

Additional Information

PC

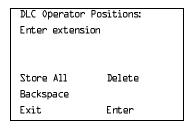
■ 3. Select Direct-Line Console (DLC).



If you get the System Busy message, wait for an idle condition or exit system programming and try again later.

F1

▶ 4. Specify the DLC extension as a DLC position.



If no DSS is attached:
SP: "Entering an Extension"

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 6.
On = extension is currently assigned Flashing = extension can be assigned as a DLC position.

Off = extension cannot be assigned as a DLC position.

▶ 5. Assign or remove the DLC operator extension.

Select Enter or Delete.

F10

F8

You may continue to assign or remove DLC operator positions by repeating Steps 4 and 5.

▶ 6. Indicate that you have finished entering all positions.

Select Store All.

F3

The session is terminated, and the system restarts. You must enter system programming again to continue.

Common Administrative Procedures
Optional Operator Features

Page 3-32

Optional Operator Features

The procedures in this section affect feature programming for both DLC and QCC operator positions and include the following:

- Operator Hold Timer
- DLC Operator Automatic Hold

QCC operator features are covered in the next section.

Operator Hold Timer

Use this procedure to set the length of the operator hold timer for all DLCs and QCCs. If the system operator does not pick up the call within the time programmed, an abbreviated ring reminds the operator that a call is being held.

This option cannot be programmed for individual operator positions.

Summary: Operator Hold Timer

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 60 seconds

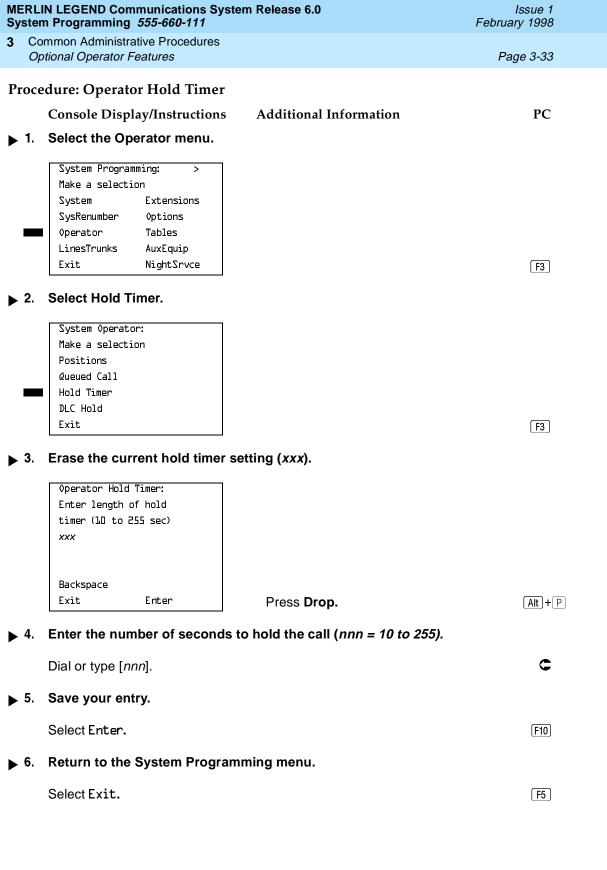
Valid Entries 10 to 255 seconds

Inspect No Copy Option No

Console Procedure $\Diamond perator \rightarrow Hold Timer \rightarrow Drop \rightarrow Dial no. of seconds \rightarrow$

Enter→Exit

PC Procedure $\boxed{F3} \rightarrow \boxed{F3} \rightarrow \boxed{Alt} + \boxed{P} \rightarrow \boxed{Type no. of seconds} \rightarrow \boxed{F10} \rightarrow \boxed{F5}$



3 Common Administrative Procedures
Optional Operator Features

Page 3-34

DLC Operator Automatic Hold

Use this procedure to enable or disable the DLC Operator Automatic Hold feature for DLC operator positions. When this feature is enabled, it prevents accidental call disconnection.

Summary: DLC Operator Automatic Hold

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Disabled

Valid Entries Disabled, Enabled

Inspect No Copy Option No

Console Procedure Operator→DLC Hold→Automatic Hold Enable or

Automatic Hold Disable→Enter→Exit

PC Procedure $[F3] \rightarrow [F4] \rightarrow [F1]$ or $[F2] \rightarrow [F10] \rightarrow [F5]$

Procedure: DLC Operator Automatic Hold

Console Display/Instructions Additional Information

PC

Select the Operator menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F3

▶ 2. Select DLC Hold.

System Operator:

Make a selection

Positions

Queued Call

Hold Timer

DLC Hold

Exit

[F4]

3 Common Administrative Procedures QCC Optional Features

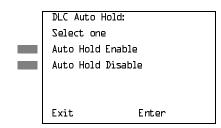
Page 3-35

Console Display/Instructions

Additional Information

PC

■ 3. Specify whether to enable or disable automatic hold.



Select Auto Hold Enable or Auto Hold Disable.

F1 F2

4. Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit.

F5

QCC Optional Features

This section covers how to program the following options for QCC operator positions:

- Hold Return
- Automatic Hold or Release
- Queue over Threshold
- Elevate Priority
- Calls-in-Queue Alert
- QCC Operator to Receive Call Types
- Call Type Queue Priority Level
- Message Center Operation
- Automatic or Manual Extended (Directed) Call Completion
- Return Ring
- Position Busy Backup

NOTE:

These options are available in Hybrid/PBX mode only.

3 Common Administrative Procedures QCC Optional Features

Page 3-36

Hold Return

Use this procedure to determine whether calls on hold are returned to the QCC queue or remain on hold, on the QCC operator console, after the hold timer has expired twice. After the hold timer expires the first time, the operator hears an abbreviated ring as a call-on-hold reminder. If another call is received at the same time that the hold timer expires, 10 seconds are added to the programmed operator hold timer interval for the first call. If the QCC operator does not pick up a call by the time the hold timer expires twice, the call can be programmed either to remain on hold or return to the QCC queue.

This option cannot be programmed for individual QCC operator positions. The single setting applies to all QCC operator positions.

Summary: Hold Return

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Calls remain on hold

Valid Entries Remain on hold, Return to QCC queue

Inspect No

Copy Option No

Console Procedure $Operator \rightarrow Queued Call \rightarrow Hold Rtrn \rightarrow Return to Queue or$

Remain on $Hold \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\overline{(F3)} \rightarrow \overline{(F1)} \rightarrow \overline{(F1)}$ or $\overline{(F2)} \rightarrow \overline{(F10)} \rightarrow \overline{(F5)} \rightarrow \overline{(F5)}$

Common Administrative Procedures

QCC Optional Features

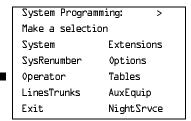
Page 3-37

Procedure: Hold Return

Console Display/Instructions Additional Information

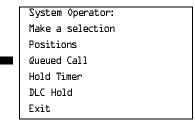
PC

1. Select the Operator menu.



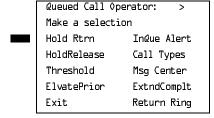
F3

▶ 2. Select Queued Call.



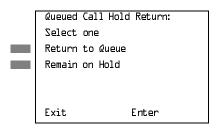
F2

3. Select Hold Return.



[F1]

▶ 4. Specify whether calls on hold return to the QCC queue or remain on hold when the hold timer expires twice.



Select Return to Queue or Remain on Hold.

F1 F2

5. Save your entry.

Select Enter.

3 Common Administrative Procedures QCC Optional Features

Page 3-38

Console Display/Instructions Additional Information

PC

▶ 6. Return to the System Programming menu.

Select Exit twice.

F5 F5

Automatic Hold or Release

Use this procedure to specify whether a call in progress (on a **Call** button) is automatically put on hold (Automatic Hold) or disconnected (Automatic Release) when the operator presses another button.

This option cannot be programmed for individual QCC operator positions. The single setting applies to all QCC operator positions.

Summary: Automatic Hold or Release

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Automatic Release

Valid Entries Auto Hold, Auto Release

Inspect No Copy Option No

 $\textbf{Console Procedure Operator} {\color{red} \rightarrow} \textbf{Queued Call} {\color{red} \rightarrow} \textbf{HoldRelease} {\color{red} \rightarrow} \textbf{Auto Hold or Auto}$

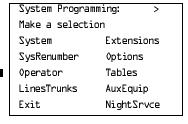
 $Release \rightarrow Enter \rightarrow Exit \rightarrow Exit$

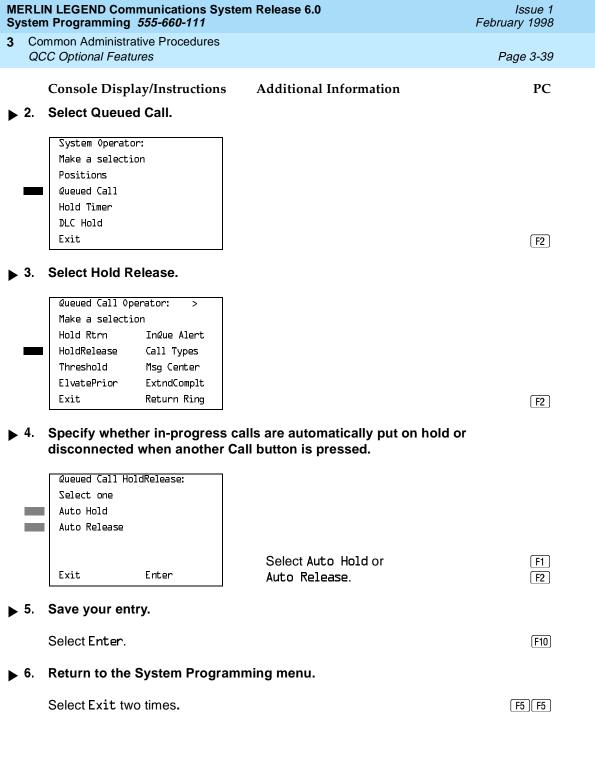
PC Procedure $F3 \rightarrow F2 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Automatic Hold or Release

Console Display/Instructions Additional Information PC

▶ 1. Select the Operator menu.





3 Common Administrative Procedures QCC Optional Features

Page 3-40

Queue over Threshold

Use this procedure to specify the maximum number of calls (threshold) in the QCC queue before system operators are notified with a tone that the threshold has been reached or exceeded. If the threshold is set to 0, operators are not notified.

Summary: Queue over Threshold

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 0

Valid Entries 0 to 99

Inspect No Copy Option No

Console Procedure $Operator \rightarrow Queued Call \rightarrow Threshold \rightarrow Drop \rightarrow Dial no. of$

 $calls \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F3 \rightarrow F2 \rightarrow F3 \rightarrow Alt + P \rightarrow Type no. of calls \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

Procedure: Queue over Threshold

Console Display/Instructions

Additional Information

PC

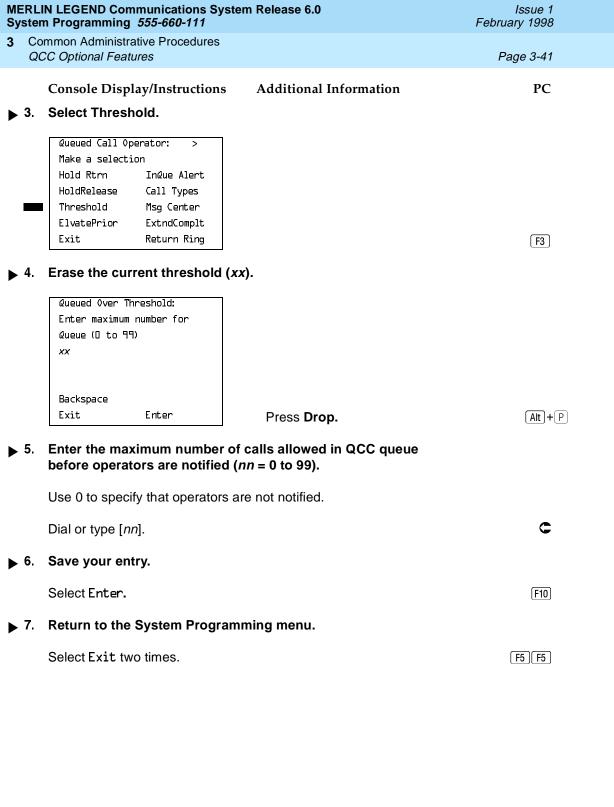
Select the Operator menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

[F3]

2. Select Queued Call.

System Operator:
Make a selection
Positions
Queued Call
Hold Timer
DLC Hold
Exit



3 Common Administrative Procedures QCC Optional Features

Page 3-42

Elevate Priority

Use this procedure to specify the length of time before calls waiting in the QCC queue are automatically reprioritized to a higher level. If priority is set to 0, calls are not prioritized.

Summary: Elevate Priority

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 0 seconds

Valid Entries 0 and 5 to 30 seconds

Inspect No Copy Option No

Console Procedure $Operator \rightarrow Queued Call \rightarrow ElvatePrior \rightarrow Drop \rightarrow$

Dial no. of seconds→Enter→Exit→Exit

PC Procedure $\boxed{F3} \rightarrow \boxed{F2} \rightarrow \boxed{F4} \rightarrow \boxed{Alt} + \boxed{P} \rightarrow \boxed{Type no. of seconds} \rightarrow$

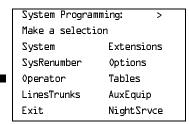
 $F10 \rightarrow F5 \rightarrow F5$

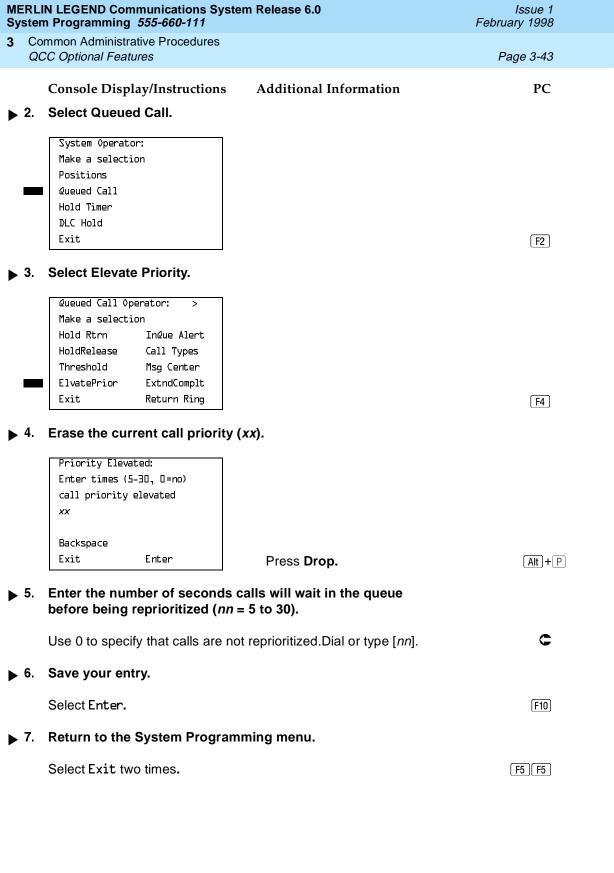
Procedure: Elevate Priority

Console Display/Instructions Additional Information

PC

▶ 1. Select the Operator menu.





3 Common Administrative Procedures QCC Optional Features

Page 3-44

Calls-In-Queue Alert

Use this procedure to specify whether each QCC operator is notified (with a single beep) when a new call enters the QCC queue.

Summary: Calls-In-Queue Alert

Idle Condition

Programmable by System Manager

Mode Hybrid/PBX

Not required Planning Form Form 6a, Optional Operator Features

Factory Setting Disable

Valid Entries Enable, Disable

Inspect Yes Copy Option Nο

Console Procedure Operator \rightarrow Queued Call \rightarrow InQue Alert \rightarrow Dial ext. no. \rightarrow

Enter→InQue Alert Enable or InQue Alert Disable→

Enter→Exit→Exit

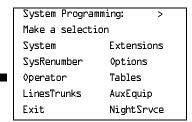
PC Procedure $F3 \rightarrow F2 \rightarrow F6 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F1 or F2 \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

Procedure: Calls-In-Queue Alert

Console Display/Instructions **Additional Information** PC

▶ 1. Select the Operator menu.



Select InQue Alert Enable or

InQue Alert Disable.

[F1]

F2

Next

Enter

Exit

Common Administrative Procedures

QCC Optional Features

Page 3-46

Console Display/Instructions

Additional Information

PC

▶ 6. Save your entry.

Select Enter or Next.

F10 F9

Use Next to program the next QCC position. The next QCC operator is displayed on Line 1.

▶ 7. Return to the System Programming menu.

Select Exit two times.

F5 F5

QCC Operator to Receive Call Types

Use this procedure to specify which QCC operators receive the following types of calls:

- Dial 0 calls (internal calls to the system operator)
- DID calls to invalid destinations (unassigned extension numbers)
- Calls to the Listed Directory Number (extension for the QCC queue)
- Calls programmed to return to the QCC queue (returning from directing, camped-on, held calls, and operator parked calls)
- Group Coverage calls
- Forward/Follow Me calls

The QCC queue can be a receiver for the maximum number of coverage groups (30).

NOTES:

- If you want a QCC operator position to operate as a message center (receiving returning parked and directed calls, Group Coverage calls, and calls to unassigned DID numbers), program the Message Center option before you assign the operator to receive call types.
- This procedure does not include use of the menu options Follow/Frwd
 or QCC Ext. These two options are used to assign queue priorities and
 are not associated with individual QCC operators. "Call Type Queue
 Priority Level" on page 3–51.
- This procedure does not include programming the operator position to receive calls on individual lines or trunks. See "QCC Operator to Receive Call Types" on page 3–46.

3 Common Administrative Procedures QCC Optional Features

Page 3-47

- 4. Programming an operator position to receive DID calls to invalid destinations does not cause the calls to ring into the QCC queue unless you program such calls to be sent to a backup extension. "Invalid Destination" on page 4–163. When no operator is assigned to receive the call types, the call does not ring into the QCC queue, and the caller hears an error tone.
- 5. If a trunk assigned to ring into the QCC queue is to be assigned shared remote access, assign that trunk remote access before performing this procedure. "Remote Access Features" on page –337.

Summary: QCC Operator to Receive Call Types

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting QCC operator receives the following calls:

Dial 0

Unassigned DID

Listed Directory Number

Returning

Valid Entries Not applicable

Inspect Yes
Copy Option No

Console Procedure Operator→Queued Call→Call Types→Select a call

type→Operator→Dial coverage group no.→Enter→
Dial ext. no.→Enter→Exit→Exit→Exit→Exit

PC Procedure $\boxed{F3} \rightarrow \boxed{F2} \rightarrow \boxed{F7} \rightarrow Select a call type \rightarrow \boxed{F2} \rightarrow Type coverage$

group no. \rightarrow [F10] \rightarrow Type ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow

 $F5 \rightarrow F5 \rightarrow F5$

Common Administrative Procedures

QCC Optional Features

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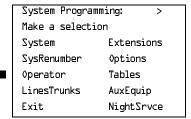
Procedure: QCC Operator to Receive Call Types

Console Display/Instructions

Additional Information

PC

▶ 1. Select the Operator menu.



F3

2. Select Queued Call.

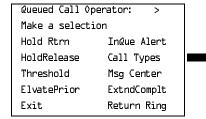
System Operator:

Make a selection
Positions

Queued Call
Hold Timer
DLC Hold
Exit

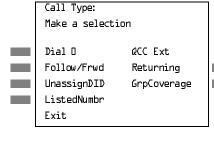
F2

3. Select Call Types.



[F7]

▶ 4. Select a call type.



To use Follow/Frwd or QCC Ext, see "Call Type Queue Priority Level" on page 3-51.

If you select GrpCoverage, go to
■ Group Coverage Procedure.

If you select DialO, UnassignDID, ListedNumbr, or Returning, go to ◆ Call Type Procedure.

Press the button or function key next to your selection.

Common Administrative Procedures

QCC Optional Features

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Group Coverage Procedure

Console Display/Instructions

Additional Information

PC

F2

▶ 1. Select Operator.

Make a selection

Priority

Operator

Exit

**** = option name selected in Step 4

2. Enter the group coverage number (nn = 1 to 30).

Group Coverage Calls:
Enter grp coverage
number (1-30)

Backspace
Exit Enter

Dial or type [nn].

3. Save your entry.

Select Enter.

F10

▶ 4. Specify the operator position.

Operator GrpCoverage xx:

Enter QCC operator

extension number

Delete

Backspace Next

Exit Enter

xx = number entered in Step 6

If no DSS is attached:

SP: "Entering an Extension"

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 6.

On = operator receives Group Coverage

calls.

Flashing = operator does not receive Group Coverage calls.

Off = extension is not an operator position.

MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111 February 1998					
3		mmon Administrative Procedures CC Optional Features	,	Page 3-50	
•	5.	Console Display/Instructions Assign or remove the operator	Additional Information from Group Coverage calls.	PC	
		Select Enter or Delete.		F10 F8	
			You may continue to assign or remove of operators from Group Coverage calls by repeating Steps 4 and 5.		
>	 ▶ 6. Assign operators to the receive calls from the next Group Coverage ngo to Step 7. 			mber or	
		Select Next.		F9	
			Return to Step 4. The next Group Cover number displays on Line 1.	rage	
>	7.	Return to the System Programming menu.			
		Select Exit five times.	F5(F	5 F5 F5	
•	Cal	I Type Procedure			
	_	Console Display/Instructions	Additional Information	PC	
•	1.	**** Make a selection Priority Operator	**** = option name selected in Step 4		
		Exit		F2	

Common Administrative Procedures

QCC Optional Features

Page 3-51

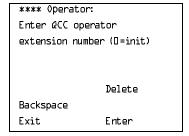
Console Display/Instructions

Additional Information

PC

C

▶ 2. Specify the operator position.



**** = option name selected in Step 4

If no DSS is attached:

SP: "Entering an Extension"

If DSS is attached:

Toggle the red LED on or off as required.

On = operator receives call type.
Flashing = operator does not receive call type.
Off = extension is not an operator position.

■ 3. Assign or remove the operator from the call type specified in Step 4 of the main procedure.

Select Enter or Delete. F10

F8

You may continue to assign or remove QCC operators from the call type by repeating Steps 2 and 3.

▶ 4. Return to the System Programming menu.

Select Exit five times.

F5 F5 F5 F5

Call Type Queue Priority Level

Use this procedure to assign a priority value (1 to 7) that determines the order in which calls programmed to ring into the QCC queue are sent to QCC system operator positions. A value of 1 is the highest priority. The QCC queue priority level is assigned for the following types of calls:

- Dial 0 calls (internal calls to the system operator)
- DID calls to invalid destinations (unassigned extension numbers)
- Calls to the Listed Directory Number (extension for the QCC queue)
- Calls programmed to return to the QCC queue (returning from extending, camped-on, held calls, and operator parked calls)
- Group Coverage calls
- Calls signed in (Follow) or forwarded to the system operator
- Calls to a system operator extension number

This procedure does not include programming the QCC queue priority level for

3 Common Administrative Procedures QCC Optional Features

Page 3-52

individual lines or trunks to ring into the queue. See "QCC Queue Priority Level" on page 54.

Summary: Call Type Queue Priority Level

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 4

Valid Entries 1 to 7
Inspect No
Copy Option No

Console Procedure $Operator \rightarrow Queued Call \rightarrow Call Types \rightarrow Select call$

type→Priority→**Drop**→Dial priority level→Enter→

 $Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F3} \rightarrow \boxed{F2} \rightarrow \boxed{F7} \rightarrow \text{Select call type} \rightarrow \boxed{F1} \rightarrow \boxed{\text{Alt }} + \boxed{P} \rightarrow$

Type priority level \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

Procedure: Call Type Queue Priority Level

Console/Display Instructions Additional Information

PC

▶ 1. Select the Operator menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

F3

2. Select Queued Call.

System Operator:

Make a selection
Positions

Queued Call
Hold Timer
DLC Hold
Exit

Follow/Frwd Returning UnassignDID GrpCoverage ListedNumbr Exit

Press the button or function key next to your selection.

Select Priority.

**** Calls: Make a selection Priority Operator Exit

**** = option name selected in Step 4

If you did not select Group Coverage, go to Step 8.

[F1]

Enter a coverage group number (nn = 1 to 30).

Group Coverage Calls: Enter coverage group (1-30) queue is receiver Backspace Exit Enter

Dial or type [nn].

Save your entry.

Select Enter. F10

Common Administrative Procedures QCC Optional Features

Page 3-54

Console Display/Instructions A

Erase the current priority level (x).

Additional Information

PC

**** Priority:
Enter queue priority
(1-7)

X

Backspace
Exit Enter

**** = option name selected in Step 4

Press Drop.

Alt + P

▶ 9. Enter a queue priority level (n = 1 to 7).

Dial or type [n].

C

10. Save your entry.

Select Enter.

F10

▶ 11. Return to the System Programming menu.

Select Exit four times.

F5 F5 F5 F5

Message Center Operation

Use this procedure to designate one or more QCC operator positions to operate as a message center. The following options are automatically set for the message center position:

- Incoming calls are not directed to this position.
- Returning calls are directed to this position (return from extending and operator parked calls).
- All group coverage calls are directed to this position.
- All DID calls to invalid destinations are directed to this position.

Designating message center operation does not change any call type option programming, except that the call types mentioned above are added to the calls received at the QCC Message Center.

Summary: Message Center Operation

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

3 Common Administrative Procedures QCC Optional Features

Page 3-55

Planning Form Form 6a, Optional Operator Features

Factory Setting Not applicable

Valid Entries QCC extension numbers

Inspect Yes
Copy Option No

Console Procedure $Operator \rightarrow Queued Call \rightarrow Msg Center \rightarrow Dial ext. no. \rightarrow$

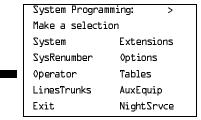
Enter→Exit→Exit→Exit

PC Procedure $F3 \rightarrow F2 \rightarrow F8 \rightarrow Type \text{ ext. no.} \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Message Center Operation

Console Display/Instructions Additional Information PC

▶ 1. Select the Operator menu.



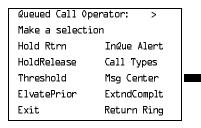
F3

2. Select Queued Call.

System Operator:
Make a selection
Positions
Queued Call
Hold Timer
DLC Hold
Exit

F2

▶ 3. Select Message Center.



Common Administrative Procedures

QCC Optional Features

Page 3-56

Console Display/Instructions

Additional Information

PC

▶ 4. Specify the QCC operator extension.



If no DSS is attached:

SP: "Entering an Extension"

C

If DSS is attached:

Toggle the red LED on or off as required.

On = extension is message center position. Flashing = extension is not message center position. Off = extension is not an operator position.

5. Assign or remove the extension as a message center.

Select Enter or Delete.

F8

F10

You may continue to assign or remove extensions as a message center by repeating Steps 4 and 5.

▶ 6. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Extended (Directed) Call Completion

Use this procedure to specify one of the two basic options shown below for QCC operator positions with a DSS only:

- Automatic Completion. Allows one-touch call transfer; that is, calls are transferred by touching only an extension button on the DSS. The operator does not have to press the Release button.
- Manual Completion. QCC operators must press the Release button to direct a call using a DSS.

This option cannot be programmed for individual QCC operator positions. The setting applies to all QCC operator positions.

Summary: Extended (Directed) Call Completion

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

3 Common Administrative Procedures QCC Optional Features

Page 3-57

Planning Form Form 6a, Optional Operator Features

Factory Setting Automatic Extended Completion

Valid Entries Automatic, Manual

Inspect No Copy Option No

Console Procedure $Operator \rightarrow Queued Call \rightarrow ExtndComplt \rightarrow Automatic$

Complete or Manual Complete→Enter→Exit→Exit

PC Procedure $\overline{(F3)} \rightarrow \overline{(F2)} \rightarrow \overline{(F1)}$ or $\overline{(F2)} \rightarrow \overline{(F1)} \rightarrow \overline{(F5)} \rightarrow \overline{(F5)}$

Procedure: Extended (Directed) Call Completion

Console Display/Instructions Additional Information PC

1. Select the Operator menu.



F3

2. Select Queued Call.

System Operator:

Make a selection

Positions

Queued Call

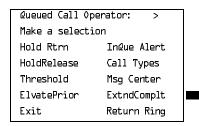
Hold Timer

DLC Hold

Exit

F2

■ 3. Select Extended Completion.



Common Administrative Procedures

QCC Optional Features

Page 3-58

Console Display/Instructions Additional Information

PC

 ▶ 4. Specify automatic call extension or require the operator to extend calls manually.



Select Automatic Complete or Manual Complete.

F1 F2

▶ 5. Save your entry.

Select Enter. F10

6. Return to the System Programming menu.

Select Exit two times.

F5 F5

Return Ring

Use this procedure to specify the number of rings before an unanswered directed call is returned to the QCC queue or QCC Message Center position.

This option cannot be programmed for individual QCC operator positions. The setting applies to all QCC operator positions.



If you want unanswered calls to proceed to voice mail, lengthen the return ring setting.

Summary: Return Ring

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 4 rings

Valid Entries 1 to 15 rings

Inspect No Copy Option No

3 Common Administrative Procedures QCC Optional Features

Page 3-59

 $\textbf{Console Procedure Operator} {\longrightarrow} \textbf{Queued Call} {\longrightarrow} \textbf{Return Ring} {\longrightarrow} \textbf{Drop} {\rightarrow}$

Dial no. of rings→Enter→Exit→Exit

PC Procedure $F3 \rightarrow F2 \rightarrow F10 \rightarrow Alt + P \rightarrow Type no. of rings \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Return Ring

Console Display/Instructions Additional Information

PC

1. Select the Operator menu.



F3

▶ 2. Select Queued Call.

System Operator:
Make a selection
Positions
Queued Call
Hold Timer
DLC Hold
Exit

F2

3. Select Return Ring.

Queued Call Operator:

Make a selection

Hold Rtrn InQue Alert

HoldRelease Call Types

Threshold Msg Center

ElvatePrior ExtndComplt

Exit Return Ring

F10

▶ 4. Erase the current number of rings (xx).

Queued Call Return Ring:
Enter number rings
before return (1-15)
xx

Backspace
Exit Enter

Press Drop.

Alt + P

3 Common Administrative Procedures QCC Optional Features

Page 3-60

Console Display/Instructions Additional Information

PC

▶ 5. Enter the number of rings before the directed call returns to the QCC queue (nn = 1 to 15).

Dial or type [nn].

6. Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit two times.

F5 F5

Position Busy Backup

Use this procedure to designate or remove the calling group to provide the backup position for the QCC queue. The specified calling group receives incoming calls when all QCC operator positions are in position-busy mode.

Position Busy Backup is programmed for the QCC queue rather than for individual QCC operator positions. The calling group designated as the QCC queue backup serves as the backup for the Remote Access feature and as backup when the QCC is being used as the system programming console.

Only one Position Busy Backup can be programmed per system.

Summary: Position Busy Backup

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting No backup

Valid Entries Calling group number

Inspect No

Copy Option No

Console Procedure $Operator \rightarrow Queued Call \rightarrow More \rightarrow QCC Backup \rightarrow QCC B$

Drop→Dial ext. number→Enter or Delete→Exit→Exit

PC Procedure $F3 \rightarrow F2 \rightarrow PgUp \rightarrow F1 \rightarrow Alt + P \rightarrow Type ext. number \rightarrow$

F10 or F8 \rightarrow F5 \rightarrow F5

MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111 Februar			
3	Common Administrative Procedures QCC Optional Features	Page 3-62	
	Console Display/Instructions Additional Information	PC	
>	5. Erase the current QCC operator backup number (xxxx).		
	QCC Operator Backup:		
	Enter QCC operator		
	of Calling Group		
	xxxx		
	Delete		
	Backspace		
	Exit Enter Press Drop .	Alt + P	
	<pre>@CC Operator Backup: Enter @CC operator of Calling Group</pre>		
	Delete		
	Backspace	•	
	Exit Enter SP: "Entering an Extension"		
>	7. Assign or remove the group as QCC operator backup.		
	Select Enter or Delete.	F10 F8	
	You may continue to assign or regroups as QCC operator backup Steps 2 and 3.	_	
>	8. Return to the System Programming menu.		

Select Exit two times. F5 F5

Voice Announce

Use this procedure to enable or disable Voice Announce for the QCC. Voice Announce is available only on a QCC in Release 4.0 and later.

When Voice Announce is enabled, every QCC in the system has one Voice Announce **Call** button, the **Call 5** (Ring/Voice) button. All Intercom calls that originate from a QCC **Call 5** (Ring/Voice) button are delivered as Voice Announce calls.

When Voice Announce is disabled, all Intercom calls originating at the QCC **Call** buttons are Intercom Ringing calls.

3 Common Administrative Procedures QCC Optional Features

Page 3-63

Summary: Voice Announce

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Disabled

Valid Entries Disabled, Enabled

Inspect No Copy Option No

Console Procedure Operator→Queued Call→More→Voice Annc→

Enabled or Disabled \rightarrow Enter \rightarrow Exit \rightarrow Exit

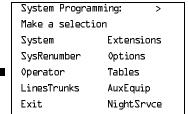
PC Procedure $F3 \rightarrow F2 \rightarrow PgUp \rightarrow F2 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Position Busy Backup

Console Display/Instructions Additional Information

PC

Select the Operator menu.



F3

2. Select Queued Call.

System Operator:

Make a selection

Positions

Queued Call

Hold Timer

DLC Hold

Exit

3 Common Administrative Procedures

Page 3-65

February 1998

Issue 1

Extensions

Extensions

This section contains the following procedures:

- Assigning outside lines or trunks to the buttons on a telephone (including lines and trunks used for loudspeaker paging)
- Copying line button assignments from one extension to an individual extension or block of extensions
- Assigning the following buttons on telephones (for Hybrid/PBX systems only):
 - System Access or Intercom Voice
 - System Access or Intercom Ring
 - System Access or Intercom Originate Only
 - Shared System or Intercom Access
- Identifying analog multiline telephones that do not have built-in speakerphones (BIS) or Hands Free Answer on Intercom (HFAI) capability
- Identifying analog multiline extensions that require pairing of extension jacks to provide either the Voice Announce to Busy or voice and data features

Assign Trunks or Pools to Extensions

Use this procedure to assign outside lines/trunks (connected to the control unit) to specific buttons on each telephone. The lines/trunks assigned to a button on a telephone are called personal lines.

This procedure is used only to change or add personal lines, Loudspeaker Paging, or **Pool** buttons (Hybrid/PBX only) to telephones. See "Assign Intercom or System Access Buttons" on page 3-75 for procedures to add or change Intercom (ICOM) or System Access (SA) buttons.



A SECURITY ALERT:

In Release 6.0 and later systems (Hybrid/PBX mode only), do not assign private networked lines as personal lines on telephone buttons. Do not assign pools of private network trunks (tandem PRI or tandem tie) to telephones. Do not provide dial access to these pools. Use ARS to provide access to a remote networked system's trunks for making outside calls. System users can reach extensions on the remote system by using normal inside calling procedures.

Individual lines/trunks can be assigned to a maximum of 64 extensions. Individual pools can be assigned as a **Pool** button on a maximum of 64 extensions.

Common Administrative Procedures Extensions

Page 3-66

The following lines/trunks cannot be assigned to a button on a telephone:

- Lines/trunks used for Music On Hold
- Lines/trunks used for maintenance alarms

NOTE:

If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a copyright license from and pay license fees to a third party (such as the American Society of Composers, Artists, and Producers or Broadcast Music Incorporated). Magic on Hold® requires no such license and can be purchased from Lucent Technologies.

Pool buttons cannot be assigned to or removed from extensions unless the pool has trunks assigned. If all trunks are to be removed from a pool, all **Pool** button assignments must first be removed from extensions. Another way of handling this situation is to program another trunk into the pool and then remove the **Pool** button assignments from the extensions.

- **Hybrid/PBX only.** Individual lines/trunks assigned to a pool can be assigned to a button only on a DLC operator position. If one of the lines/trunks in a pool is assigned to a button on a non-DLC telephone, the result is a **Pool** button assignment.
- **Key only.** The system assigns the first eight line numbers to buttons on multiline telephones whether or not an outside line is physically connected. If a line is not connected, the button assignment must be removed so the user can assign a feature to the button.
- For the MDC 9000 and MLC 5 cordless multiline telephones and the MDW 9000 wireless multiline telephone, the system assigns the first eight lines connected to the control unit even though the telephone has fewer than eight buttons available. Remove the extra lines in system programming so that the appropriate number of lines are assigned to buttons on these telephones.

Lines and trunks are assigned to buttons in the order in which you press each line button on the system programming console or keyboard. Existing line assignments can be rearranged by removing all current assignments and then pressing the line buttons on the console or keyboard in the order in which they should appear on the buttons. For information on the order of the programmed buttons, refer to the button numbers on the applicable planning form for each telephone.

If you want to reserve some blank buttons for features between line buttons, you must assign a line as a placeholder for each blank button. After all lines are assigned, remove the lines used as placeholders for the buttons reserved for features.

3 Common Administrative Procedures Extensions

Page 3-67

Summary: Assign Trunks or Pools to Extensions

Programmable by System Manager

Mode All, but note differences in factory settings.

Idle Condition Extension idle

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting

Key Mode. An Intercom Ring (**ICOM Ring**) button, an Intercom Voice (**ICOM Voice**) button, and the first eight lines connected to the control unit are assigned to all analog multiline telephones, MLX telephones (excluding operator positions), and MFMs connected to MLX telephones. Two Intercom Ring buttons are assigned to single-line telephones; no outside lines are assigned.

Behind Switch Mode. Intercom Ring, Intercom Voice, and prime line buttons are assigned to all analog multiline telephones, MLX telephones (excluding operator positions), and MFMs connected to MLX telephones. Two Intercom Ring buttons are assigned to single-line telephones; no outside lines are assigned. When prime lines are assigned to MLX extensions, lines are not assigned to MFMs used to connect adjuncts. Lines for MFMs must be assigned separately.

Hybrid/PBX Mode. System Access Ring (SA Ring), System Access Voice (SA Voice), and System Access Originate Only (SA Orig Only) buttons are assigned to all analog multiline telephones and MLX telephones (excluding operator positions). Five Call buttons are assigned to QCC operator positions. Two System Access Ring buttons and one System Access Originate Only button are assigned to single-line telephones. No personal line or Pool buttons are assigned.

Valid Entries Extension numbers

Inspect Yes
Copy Option Yes

Common Administrative Procedures Extensions

Page 3-68

Console Procedure To program a single line/trunk:

Extensions \rightarrow Lines/Trunks \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Entry

 $Mode \rightarrow Dial line/trunk no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

To program a block of lines/trunks:

Extensions \rightarrow Lines/Trunks \rightarrow Dial ext. no. \rightarrow

Enter→ Select trunk range→Toggle LED On/Off→

Enter→Exit→Exit

PC Procedure To program a single line/trunk:

> $F6 \rightarrow F1 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F6 \rightarrow$ Type line/trunk no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

To program a block of lines/trunks:

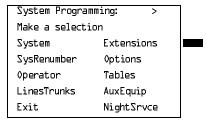
 $F6 \rightarrow F1 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Select trunk range \rightarrow$

Toggle letter G On/Off \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Assign Trunks or Pools to Extensions

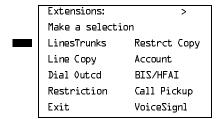
Console Display/Instructions **Additional Information** PC

Select the Extensions Menu.



F6

Select Lines and Trunks.



Common Administrative Procedures Extensions

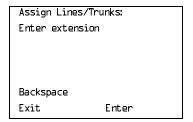
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Console Display/Instructions

Additional Information

PC

■ 3. Specify the extension.



If no DSS is attached:

SP: "Entering an Extension"

C

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 5. On = extension is assigned to trunk or pool.

Off = extension is not assigned to trunk or pool.

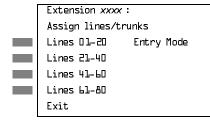
▶ 4. Save your entry.

Select Enter.

F10

If you get the Station Busy message, wait for an idle condition or exit system programming and try again later.

▶ 5. Assign the extension.



xxxx = extension number entered in Step 3

For a single line/trunk, go to

Single Line/Trunk Procedure.

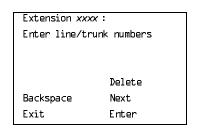
For a block of lines, go to
Block Procedure.

Single Line/Trunk Procedure1. Specify entry mode.

Select Entry Mode.

F6

2. Enter the line or trunk number.



xxxx = extension number entered in Step 3

Dial or type [nnn].

[F10]

Select Enter.

Common Administrative Procedures Extensions

Page 3-71

Console Display/Instructions Additional Information

PC

▶ 4. Return to the System Programming menu.

Select Exit two times.

F5 F5

Copy Line/Trunk Assignments

Use this procedure to copy outside line/trunk button assignments, pool dial-out code restrictions (Hybrid/PBX only), and (for operator positions only) Night Service information from one extension to another extension or block of extensions with identical requirements.

If you are copying assignments to a block of extensions and one of the extensions in the block is in use, the display shows the Station Busy - Pls Wait message. Copying for the rest of the extensions in the block is delayed until the busy extension becomes idle. The number of the busy extension is not shown. If a DSS is attached, the LED associated with the busy extension is on. If you exit instead of waiting for the busy extension to become idle, copying for the rest of the extensions is canceled; however, the assignments that have already been copied are not canceled.

If you are copying assignments from an operator position to a block of extensions that includes both operator and nonoperator extensions, the information is copied only to the operator positions; the nonoperator positions are not affected. Similarly, if you are copying assignments from a nonoperator position to a block of extensions that includes both operator and nonoperator extensions, the information is copied only to the nonoperator positions; the operator positions are not affected. The system does not provide an error tone to signal that the copy did not work for all of the extensions in the block.

Summary: Copy Line/Trunk Assignments

Programmable by System Manager

Mode All

Idle Condition Extension idle

Planning Form 4a, Extension Copy: Analog Multiline Telephone Template

4c, Extension Copy: MLX Telephone Template

Factory Setting Not applicable

Valid Entries Not applicable

Inspect Yes: lines/pools assigned to an extension.

Copy Option Not applicable

Common Administrative Procedures Extensions

Page 3-72

Console Procedure To copy to a single extension:

Extensions \rightarrow Line Copy \rightarrow Single \rightarrow Dial copy from ext. no. \rightarrow Enter \rightarrow Dial copy to ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

To copy to a block of extensions:

Extensions \rightarrow Line Copy \rightarrow Block \rightarrow Dial copy from ext. no. \rightarrow Enter \rightarrow Dial ext. no of first extension in block \rightarrow Enter \rightarrow Dial ext. no of last extension in block \rightarrow

Enter→Exit→Exit

PC Procedure

To copy to a single extension:

Type copy to ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

To copy to a block of extensions:

 $F6 \longrightarrow F2 \longrightarrow F2 \longrightarrow Type$ copy from ext. no. $\longrightarrow F10 \longrightarrow Type$ ext. no. of first extension in block $\longrightarrow F10 \longrightarrow Type$ ext. no. of last extension in block $\longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

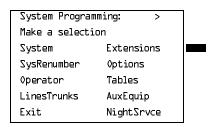
Procedure: Copy Line and Trunk Assignments

Console Display/Instructions

Additional Information

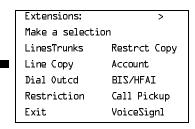
PC

1. Select the Extensions menu.



F6

▶ 2. Select Line Copy.



Common Administrative Procedures Extensions

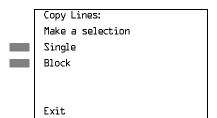
Page 3-73

F2

F1

Console Display/Instructions Additional Information PC

3. Copy the line assignments to individual extensions or to a block of extensions.



To copy to a block of extensions, they must be connected to sequentially numbered extension jacks (for example, logical IDs 11, 12, 13 and so on).

To copy line assignments to a single extension, select Single and go to

◆ Single Extension Procedure.
 To copy line assignments to a block of extensions, select Block and go to
 ◆ Block Procedure.

Single Extension Procedure

Console Display/Instructions Additional Information

PC

▶ 1. Specify the extension you want to copy from.

Copy Lines:
Enter extension to copy
from

Backspace
Exit Enter

SP: "Entering an Extension"

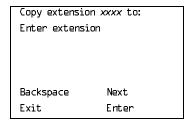
C

C

▶ 2. Save your entry.

Select Enter. F10

■ 3. Specify the extension to copy assignments to.



xxxx =extension entered in Step 1.

SP: "Entering an Extension"

SP: "Entering an Extension"

C

[F10]

Backspace

Save your entry.

Select Enter.

Enter

Exit

Common Administrative Procedures Extensions

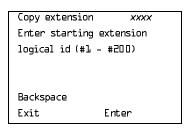
Page 3-75

Console Display/Instructions

Additional Information

PC

▶ 3. Enter the logical ID of the first extension number in the block to be copied to.



xxxx = extension entered in Step 4 of the main procedure

Dial or type #[nnn].

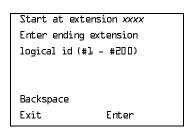
C

4. Save your entry.

Select Enter.

F10

5. Enter the logical ID of the last extension number in the block to be copied to.



xxxx = extension number of logical id entered in Step 1

Dial or type #[nnn].

C

6. Save your entry.

Select Enter.

F10

▶ 7. Return to the System Programming menu.

Select Exit twice.

F5 F5

Assign Intercom or System Access Buttons

Use this procedure to assign or change the assignments for Intercom (**ICOM**) buttons used to make and receive inside calls. This includes the following types of Intercom buttons:

- Ring
- Voice
- Originate Only (Ring or Voice)

Common Administrative Procedures Extensions

Page 3-76

In Hybrid/PBX mode only, use this procedure to assign or change assignments for System Access (SA) buttons used to make or receive inside and outside calls. This procedure includes the following types of System Access buttons:

- Ring
- Voice
- Originate Only (Ring or Voice)
- Shared (Ring or Voice)

NOTE:

You cannot change the factory setting for Call buttons assigned to QCC operator positions, and you cannot assign Ring, Voice, Originate Only, or Shared buttons to QCC operator positions. However, in Release 4.0 and later, the Call 5 (Ring/Voice) button on a QCC can be programmed for Voice Announce. See "Voice Announce" on page 62.

System Access or Intercom buttons can be assigned only to the first 10 buttons on a telephone.

You can assign a combination of up to 10 System Access or Intercom buttons to each telephone (excluding QCC operator positions).

You can remove System Access or Intercom buttons, but at least one must remain on the telephone.



When single-line sets are programmed with only one System Access or Intercom button, the Transfer, Conference and Drop features are disabled. Other features that require a second dial tone, such as Account Code/Number Entry, After Call Work States, Call Pickup, Call Waiting, and Privacy, are also affected. For more information, see the Feature Reference.

Each System Access Ring or Voice on an individual telephone can be assigned as a Shared System Access (SSA) button on up to 16 other telephones.

Shared SA buttons cannot be assigned to single-line telephones or other tip/ring equipment connected to an 016, 012, or 008 OPT module. Shared SA buttons can be assigned to a tip/ring or external alert device connected to an MFM in an MLX telephone or a GPA connect to an analog multiline telephone. Shared SA buttons cannot be assigned when the corresponding **SA** button is on a single-line set.

3 Common Administrative Procedures Extensions

Page 3-77

Release 3.0 and later

Each System Access Ring or Voice on an individual telephone can be assigned as a Shared System Access (**SSA**) button on up to 27 other telephones.

System Access and Intercom buttons are centrally programmed and cannot be programmed by individual telephone users.

Summary: Assign Intercom or System Access Buttons

Programmable by System Manager

Mode All, but note differences in factory settings.

Idle Condition Telephone idle

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjuncts: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct (DLC)

Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting

Key Mode. An Intercom Ring (**ICOM Ring**), an Intercom Voice (**ICOM Voice**), and the first eight lines connected to the system are assigned to all analog multiline and MLX telephones, excluding operator positions. Two Intercom Ring buttons are assigned to tip/ring equipment connected on an 012 or 016 module. An Intercom Ring and an Intercom Originate Only (**ICOM Orig Only**) button are assigned to tip/ring equipment connected by an MFM. No outside lines are assigned.

Behind Switch Mode. An Intercom Ring, an Intercom Voice, and a prime line button are assigned to all analog multiline and MLX telephones, excluding operator positions. Two Intercom Ring buttons and a prime line button are assigned to tip/ring equipment connected to an 012 module. An Intercom Ring and an Intercom Originate Only Ring button are assigned to tip/ring equipment connected by an MFM. No outside lines are assigned.

Hybrid/PBX Mode. System Access Ring (**SA Ring**), System Access Voice (**SA Voice**), and System Access Originate Only Ring (**SA Orig Only**) buttons are assigned to all analog multiline and MLX telephones, excluding operator positions.

Common Administrative Procedures Extensions

Page 3-78

Two System Access Ring buttons and a System Access Originate Only Ring button are assigned to tip/ring equipment (for example, single-line telephones or fax machines connected to an 012 module). No personal line or pool buttons are assigned.

All Modes. System Access Ring (Hybrid/PBX mode) or Intercom Ring (Key and Behind Switch modes), System Access Voice (Hybrid/PBX mode) or Intercom Voice (Key and Behind Switch modes), and the first 18 through 29 lines connected to the control unit are assigned to all DLC operator positions. The number of lines assigned depends on the type of telephone used as a DLC operator position. Refer to the appropriate telephone planning form for details.

Valid Entries Not applicable

Inspect Yes: specific button options.

Copy Option Yes (You can copy additional **SA** buttons to another

extension, but you cannot overwrite **SA** buttons that are

already assigned.)

Console Procedure To program extension:

More \rightarrow Cntr-Prg \rightarrow Program Ext. \rightarrow Dial ext. no. \rightarrow Enter \rightarrow

Start→Program extension→Enter→ Exit→Exit

To copy extension programming:

 $\textbf{More} {\rightarrow} \textbf{Cntr-Prg} {\rightarrow} \textbf{Copy ext.} {\rightarrow} \textbf{Dial copy from ext. no.} {\rightarrow}$

Enter \rightarrow Dial copy to ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure To program extension:

 $\begin{array}{c} \text{PgUp} \longrightarrow \text{F4} \longrightarrow \text{F1} \longrightarrow \text{Type ext. no.} \longrightarrow \text{F10} \longrightarrow \\ \text{Program extension} \longrightarrow \text{F20} \longrightarrow \text{F20}$

Program extension \rightarrow F10 \rightarrow F5 \rightarrow F5

To copy extension programming:

 $PgUp \rightarrow F4 \rightarrow F2 \rightarrow Type copy from ext. no. \rightarrow F10 \rightarrow$

Type copy to ext no. \rightarrow F10 \rightarrow F5 \rightarrow F5

Common Administrative Procedures Extensions

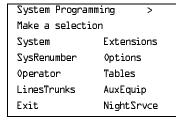
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Procedure: Assign Intercom or System Access Buttons

Console Display/Instructions Additional Information

PC

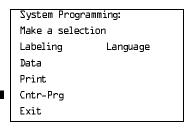
▶ 1. Go to the second screen of the System Programming menu.



Press More.

PgUp

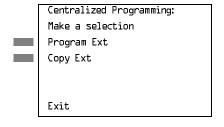
▶ 2. Select Centralized Telephone Programming.



F4

F1

3. Select an extension option.



Select Program Ext and go to

Program Extensions Procedure.

Select Copy Ext and go to
• Copy Extension Procedure.

[F2]

Program Extensions Procedure

Although you can make selections from the screen (with the ListFeature option) to assign **Ring** and **Voice** buttons, the following procedure provides the programming codes to perform these functions. Using the codes speeds the button assignment process.

When you enter the programming code for assigning a Ring button, the screen in Step 6 of the following procedure changes to the first List Feature screen, then returns to the screen shown in Step 6.

Common Administrative Procedures Extensions

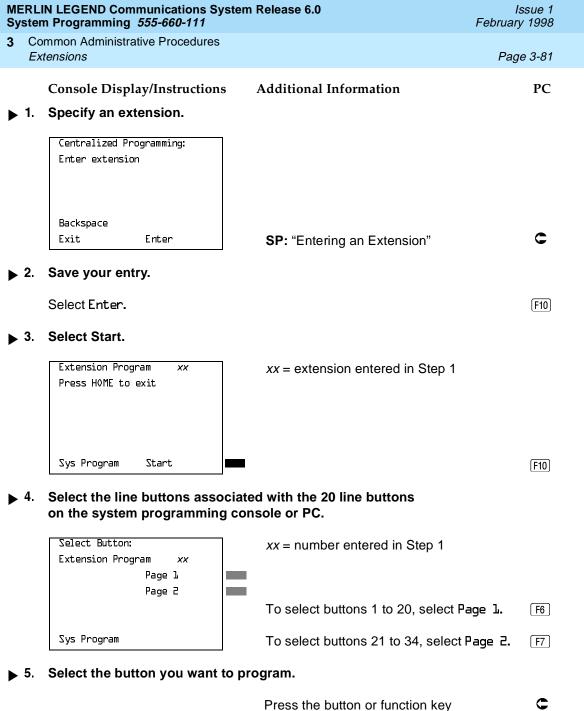
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<u>Table 3–2</u> provides the programming codes for assigning Ring and Voice buttons. You can handle errors in data entry as follows:

- If you enter a feature code incorrectly while programming, the display shows the Programming Error message and the red LED next to the button flashes. If this happens, press the button again and repeat the procedure.
- If you make a mistake and program the wrong feature on a button, press the button, select Delete (F1) on the PC), and press the button again

Table 3–2. Programming Codes for Assigning Buttons

Use	On the Console	On the PC
To assign SA or ICOM Ring button	Dial *1L	Туре <i>*1</i> Ь
To assign SA or ICOM Voice button	Dial *14, press button being programmed again, and dial *17	Type *1L, press Shift + function key for button being programmed again, and type *17
To assign SA or ICOM Originate Only Ring button	Dial *18	Type *18
To assign SA or ICOM Originate Only Voice button	Dial *18, press button being programmed again, and dial *19	Type *18, press Shift + function key for button being programmed again, and type *19
To assign SA button	Dial *17, press the extension number of principal telephone [nnnn] then press the button number being shared [nn]	Type *17, press the extension number of principal telephone [nnnn] then press the button number of specific button being shared [nn]
To change current assignment for SA or ICOM Voice, Originate Only or Shared SA buttons from Voice to Ring	Dial **19	Type **17



next to your selection.

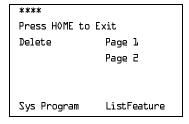
Common Administrative Procedures Extensions

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Console Display/Instructions Additional Information

PC

▶ 6. Enter the programming code for voice or ring button.



**** =contents of button selected in Step 5 (Voice, Ring, or blank)

See Table 3-2.

C

➤ 7. Assign a voice or ring attribute.

To assign the voice attribute to the Ring button, select the same button and enter the programming code for voice (see Table 3–2).

To assign Voice buttons, first assign the button as a Ring button, then program the button with the voice attribute (see Table 3–2).

- ▶ 8. Repeat Step 6 to program another button for the extension entered in Step 1 or go to Step 9.
- 9. Save your entry.

Select Enter.

(F10)

▶ 10. Return to the System Programming menu.

Select Exit two times.

F5 F5

♦ Copy Extension Procedure

Console Display/Instructions Additional Information

PC

1 Enter the extension to copy from.

Extension Program Copy
Enter extension to copy
from

Backspace
Exit Enter

SP: "Entering an Extension"

C

assignments from the next sequential extension.

Return to Step 3 to continue programming. The extension to be copied from is displayed on Line 1.

Return to the System Programming menu.

Select Exit twice.

F5 F5

3 Common Administrative Procedures

Extensions Page 3-84

Analog Multiline Telephone without Built-in Speakerphone (BIS) or Hands Free Answer Intercom (HFAI) Capability

Use this procedure to identify analog multiline telephones with flat membrane buttons that do not have BIS or HFAI capability. The models that must be identified are 5-button, 10-button, 34-button, and 34-button deluxe analog multiline models with flat membrane buttons.

Keep the factory setting for analog multiline models with raised plastic buttons, including the following models: 10-button HFAI, 34-button with speakerphone (SP-34), 34-button with speakerphone and display (SP-34D), BIS-10, BIS-22, BIS-34, BIS-22D, and BIS-34D.

This procedure is not necessary for MLX or single-line telephones.

Summary: Analog Multiline Telephones without BIS or HFAI Capability

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 5a, Direct-Line Console (DLC): Analog Data Form 1a, Modem Data Workstations

Factory Setting All models of analog multiline telephones (except the

analog multiline display console) have BIS/HFAI capability.

Valid Entries Extension numbers

Inspect Yes

Copy Option No

Console Procedure Extensions→BIS/HFAI→Dial ext. no.→

Enter→Exit→Exit

PC Procedure $F6 \rightarrow F8 \rightarrow Type \text{ ext. no.} \rightarrow F5 \rightarrow F5 \rightarrow F5$

Common Administrative Procedures Extensions

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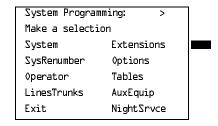
Procedure: Analog Multiline Telephones without BIS or HFAI Capability

Console Display/Instructions A

Additional Information

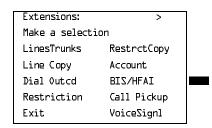
PC

Select the Extensions menu.



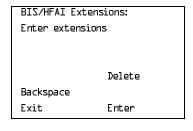
F6

▶ 2. Select BIS/HFAI.



F8

3. Specify the extension.



If no DSS is attached:

SP: "Entering an Extension"

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 5.
On = telephone has BIS/HFAI capability.
Off = telephone does not have BIS/HFAI capability.

4. Assign or remove BIS/HFAI capability.

Select Enter or Delete.

(F10)

F8

You may continue to assign or remove BIS/HFAI capability to additions extensions by repeating Steps 3 and 4.

▶ 5. Return to the System Programming menu.

Select Exit twice.

F5 F5

3 Common Administrative Procedures Extensions

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Analog Multiline Telephones with Voice Announce to Busy

Use this procedure to dedicate a voice or voice pair to be used to provide the Voice Announce to Busy feature on an analog multiline telephone.

The extension number associated with the first (odd-numbered) extension jack in the pair is the telephone's extension number. The extension number for the second (even-numbered) extension jack is dedicated to the Voice Announce to Busy feature. Calls cannot be placed to the extension jack reserved for the Voice Announce to Busy feature.

Voice Announce to Busy must be disabled at data Workstations.



This procedure does not apply to MLX telephones (Voice Announce to Busy is automatically provided) and cannot be programmed for single-line telephones.

Summary: Analog Multiline Telephones with **Voice Announce to Busy**

Programmable System Manager

ΑII Mode

Idle Condition System idle

Planning Form Form 4b, Analog Multiline Telephone

> Form 5a, Direct-Line Console (DLC) Data Form 1a, Modem Data Workstation

Factory Setting Not applicable

Valid Entries Extension numbers

Inspect Yes Copy Option Yes

Console Procedure Extensions→VoiceSignl→Dial ext. no.→

Enter→Exit→Exit

PC Procedure $F6 \rightarrow F10 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

Common Administrative Procedures Extensions

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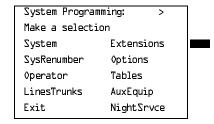
Procedure: Analog Multiline Telephones with Voice Announce to Busy

Console Display/Instructions

Additional Information

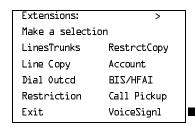
PC

▶ 1. Select the Extensions menu.



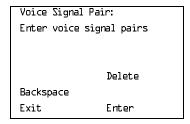
F6

▶ 2. Select Voice Signal.



F10

■ 3. Specify the first extension (odd numbered) of the pair.



If no DSS is attached:

SP: "Entering an Extension"

The other extension in the pair is automatically assigned: Press the **Inspct** button to view the pair.

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 5.

On = assigns pairing for Voice Announce to busy. Off = removes pairing for Voice Announce to busy. The red LED goes on automatically for the other extension in the pair.

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3 Common Administrative Procedures Extensions

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Console Display/Instructions

Additional Information

PC

▶ 4. Specify whether or not the extension is paired for Voice Announce to Busy.

Select Enter or Delete. F10 F8

You may continue to assign or remove the Voice Announce to Busy feature to additional extensions by repeating Steps 3 and 4.

▶ 5. Return to the System Programming menu.

Select Exit twice.

F5 F5

Analog Multiline Telephones in Data Workstations

See "Data Features" on page 431.

Fax Machines

Use this procedure to add a fax machine by assigning the extension jack used to connect the fax machine. To remove a fax machine and free the extension jack for another use, you must remove the extension jack assignment.

In addition, you can specify the extensions to receive a message-waiting indication (MWI) when a fax transmission is received, and specify the length of time before the system registers that a fax has arrived and sends the message-waiting indication.



NOTE:

Do not use this procedure for fax machines connected to analog multiline telephones with a General Purpose Adapter (GPA). In a GPA configuration features cannot be assigned to the fax independently of the telephone.

A maximum of 16 fax machines can have the Fax Message Waiting feature. Additional fax machines (more than 16) can be installed, but these machines cannot have this feature.

You can specify up to four telephones to receive the message-waiting indication when a fax transmission is received. Note that fax machines can only send and not receive message-waiting indications.

3 Common Administrative Procedures Extensions

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Summary: Fax

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Factory Setting 10 seconds

Valid Entries 0 to 30 seconds

Inspect Yes
Copy Option No

Console Procedure AuxEquip→Fax→Extension→Dial ext. no.→Enter→

Exit→Msg Waiting→Dial fax machine ext. no.→Enter→

Dial MWI ext. no. \rightarrow Enter \rightarrow Threshold \rightarrow **Drop** \rightarrow

Dial no. of seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $[F9] \rightarrow [F3] \rightarrow [F1] \rightarrow Type ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F2] \rightarrow$

Type fax machine ext. no. \rightarrow F10 \rightarrow Type MWI ext. no. \rightarrow

 $(F10) \rightarrow (F3) \rightarrow (Alt) + (P) \rightarrow Type no. of seconds (F10) \rightarrow (F5) \rightarrow (F5)$

Procedure: Fax

Console Display/Instructions Additional Information

PC

1. Select the Auxiliary Equipment menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

F9

Common Administrative Procedures Extensions

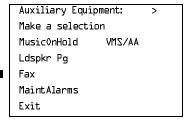
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Console Display/Instructions

Additional Information

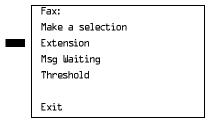
PC

▶ 2. Select Fax.



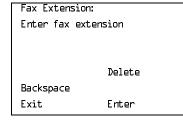
F3

▶ 3. Select Extension.



[F1]

▶ 4. Specify the extension to be used for the fax machine.



If no DSS is attached: SP: "Entering an Extension"

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 6.
On = jack connects to fax machine
Off = jack provides another purpose

5. Assign or remove the extension.

Select Enter or Delete.

(F10)

[F8]

You may continue to assign or remove fax machines to additional extensions by repeating Steps 4 and 5.

6. Return to the Fax menu.

Select Exit.

[F5]

Enter message waiting extension

Delete

Backspace Next

Exit Enter

SP: "Entering an Extension"

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 13. On = assign message-waiting indication to extension Off = remove message-waiting indication from extension

is notified that a fax message has arrived (nn = 0 to 30).

Dial or type [nn].

C

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3	Common Administrative Procedures Optional Extension Features	Page 3-93
•	Console Display/Instructions Additional Information 17. Save your entry.	PC
	Select Enter.	F10
•	18. Return to the System Programming menu.	
	Select Exit twice.	F5 F5

Optional Extension Features

The procedures in this section detail the steps in programming the following optional features:

- **Extension Language**
- Pool Dial-Out Code
- **Calling Restrictions**
- Copy Calling Restrictions
- ARS Restriction Level for Extensions
- Forced Account Code Entry
- Microphone Operation
- Remote Call Forwarding
- **Delayed Call Forwarding**
- **Authorization Codes**
- Primary Cover Ring Delay
- Secondary Cover Ring Delay
- Group Coverage Ring Delay
- HotLine (single-line telephone only)
- Display Preference

3 Common Administrative Procedures
Optional Extension Features

Page 3-94

Extension Language

Use this procedure to change the language for an MLX telephone. It applies to Releases 1.1 and later only.

Summary: Extension Language

Programmable by Users and system manager

Mode All

Idle Condition Not required

Planning Form Form 4d, MLX Telephone

Form 5b, Direct-Line Console (DLC): Digital Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting English

Valid Entries English, French, Spanish

Inspect No Copy Option No

Console Procedure To program a single extension:

 $More \rightarrow Language \rightarrow Extensions \rightarrow Single \rightarrow Dial ext. no. \rightarrow$

Enter \rightarrow Select a language \rightarrow Enter \rightarrow Exit \rightarrow Exit

To program a block of extensions:

 $More \rightarrow Language \rightarrow Extensions \rightarrow Block \rightarrow$

Dial starting ext. no. \rightarrow Enter \rightarrow Dial ending ext. no. \rightarrow Enter \rightarrow Select a language \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure To program a single extension:

 $PgUp \rightarrow F6 \rightarrow F2 \rightarrow F1 \rightarrow Type ext. no. \rightarrow F10 \rightarrow$

Select a language \rightarrow F10 \rightarrow F5 \rightarrow F5

To program a block of extensions:

 $\begin{array}{c}
\text{PgUp} \longrightarrow \text{F6} \longrightarrow \text{F2} \longrightarrow \text{F2} \longrightarrow \text{Type starting ext. no.} \longrightarrow \cancel{\text{F10}} \longrightarrow \cancel{\text{F10}}$

Type ending ext. no. \rightarrow Select a language \rightarrow F10 \rightarrow F5 \rightarrow F5

For a single extension, select

Single Extension Procedure.

For a block of extensions, select

Single and go to

Block and go to

◆ Block Procedure.

[F1]

F2

Extension Language:

Make a selection

Sinale

Block

Exit

Common Administrative Procedures
Optional Extension Features

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Single Extension Procedure

Console Display/Instructions

Additional Information

PC

1. Enter the extension number.

Extension Language:
Enter extension number

Backspace
Exit Enter

If no DSS is attached:

SP: "Entering an Extension"

C

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 6.
On = extension language is French
Off = extension language is English

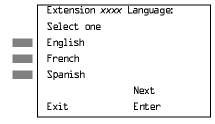
Flashing = extension language is Spanish

2. Save your entry.

Select Enter.

F10

3. Specify the language for the extension.



xxxx = extension entered in Step 1

Select English, French, or Spanish. F1

F2

▶ 4. Continue to assign the language to additional extensions or go to Step 5.

Select Next.

F9

Return to Step 3 to continue programming. The next extension is displayed on Line 1.

5. Save your entry.

Select Enter.

F10

▶ 6. Return to the System Programming menu.

Select Exit two times.

F5 F5

Common Administrative Procedures
Optional Extension Features

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Console Display/Instructions Additional Information

PC

▶ 1. Enter the starting extension number.

Extension Language:
Enter starting extension

Backspace
Exit Enter

SP: "Entering an Extension"

C

2. Save your entry.

Select Enter.

F10

3. Enter the ending extension number.

Lang for ext xxxx to:
Enter ending extension

Backspace Next
Exit Enter

xxxx = extension entered in Step 1

SP: "Entering an Extension"

C

4. Save your entry.

Select Enter.

F10

▶ 5. Specify the language for the extensions.



xxxx to xxxx = range of extensions entered in Steps 1 and 3

Select English, French, or

F1 F2

French, or Spanish.

[F3]

6. Save your entry.

Select Enter.

F10

▶ 7. Return to the System Programming menu.

Select Exit twice.

F5 F5

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Pool Dial-Out Code

Use this procedure to allow or restrict dialing pool dial-out codes and the placing of calls on specific line/trunk pools. Beginning with Release 3.1, the default settings restrict all extensions from dialing any line/trunk pool dial-out code.



≡> NOTE:

Common Administrative Procedures Optional Extension Features

> Prior to Release 3.1, the default settings allow all extensions to dial any line/trunk pool dial-out code. Entering a pool dial-out code and then deleting that code restricts the user from using the pool associated with the entered code.



A SECURITY ALERT:

In Release 6.0 and later systems (Hybrid/PBX mode only), do not allow dial access to pools of non-local tie or PRI tandem trunks. When callers in your system need to use these pools for outside calls, use ARS to direct the calls to these pools. Callers in your system use normal inside calling procedures to reach extensions on networked systems.

Summary: Pool Dial-Out Code

Programmable by System Manager

Mode Hvbrid/PBX Idle Condition Extension idle

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital Form 5c, MFM Adjunct (DLC): Digital Form 5d, Queued Call Console (QCC)

Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Main pool: 70; All other pools: 890 to 899. All telephones are

restricted from dialing any pool dial-out code.

Valid Entries Pool numbers

Inspect Yes Copy Option No

Console Procedure Extensions→Dial OutCd→Dial ext. no.→Enter→ Dial pool

dial-out code \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow F3 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Type pool dial-out code \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

3 Common Administrative Procedures Optional Extension Features

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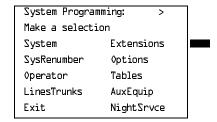
Procedure: Pool Dial-Out Code

Console Display/Instructions

Additional Information

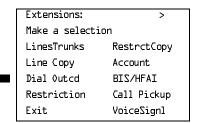
PC

Select the Extensions menu.



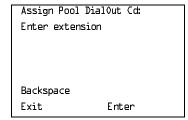
F6

2. Select Dial-Out Code.



F3

3. Specify the extension.



If no DSS is attached:

SP: "Entering an Extension"

C

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 5.
On = pool dial-code is assigned
Off = pool dial-code is not assigned

4. Save your entry.

Select Enter.

F10

If you get the Station Busy message, wait for an idle condition or exit system programming and try again later.

F5 F5

Select Exit two times.

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Calling Restrictions

Use this procedure to change individual extension calling restrictions to one of the following:

Unrestricted

3 Common Administrative Procedures Optional Extension Features

- Restricted from making all outgoing calls
- Restricted from making toll calls



A SECURITY ALERT:

Toll fraud can occur if extensions are not properly restricted. See "Security of Your System: Preventing Toll Fraud" on page A-9 in Appendix A for more information and security procedures.



NOTE:

In Release 6.0 and later systems, outward and toll calling restrictions are automatically removed when a caller dials an extension in the non-local dial plan. FRL restrictions still apply. For details, see "UDP (Uniform Dial Plan) Routing" on page -401.

Summary: Calling Restrictions

Programmable by System Manager

ΑII Mode

Idle Condition Extension idle

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC) Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Unrestricted

Valid Entries Unrestricted, Outward restricted, Toll restricted

Inspect No Copy Option Yes

Console Procedure Extensions→Restriction→Dial ext. no.→Enter→ Select

restriction→Enter→Exit

PC Procedure $F6 \rightarrow F4 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Select restriction \rightarrow$

 $F10 \rightarrow F5$

Common Administrative Procedures
Optional Extension Features

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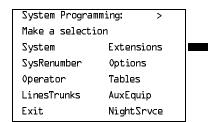
Procedure: Calling Restrictions

Console Display/Instructions

Additional Information

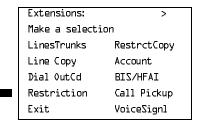
PC

Select the Extensions menu.



F6

2. Select Restrictions.



F4

■ 3. Specify the extension.



SP: "Entering an Extension"

C

4. Save your entry.

Select Enter.

F10

If you get the Station Busy message, wait for an idle condition or exit system programming and try again later.

Common Administrative Procedures
Optional Extension Features

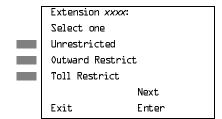
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Console Display/Instructions

Additional Information

PC

5. Select the appropriate restriction.



xxxx = number entered in Step 3

Unrestricted = remove all restrictions.

Outward Restrict = restrict extension from making outside calls (local and toll).

Toll Restrict = restrict extension from making toll calls.

Press the button or function key next to your selection.

▶ 6. Continue to assign or remove restrictions from another extension or go to Step 7.

Select Next.

Return to Step 5 to continue programming. The next extension is displayed on Line 1.

→ 7. Save your entry.

Select Enter. F10

8. Return to the System Programming menu.

Select Exit. F10

Copy Calling Restrictions

Use this procedure to copy calling restrictions, allowed lists, and disallowed lists. Feature assignment must be completed for the "copy from" extension. These features can then be copied to an individual extension or block of extensions with identical calling restriction requirements.

If you are copying restrictions to a block of extensions and one of the extensions in the block is in use, the display shows the Station Busy - Pls Wait message. Copying for the rest of the extensions in the block is delayed until the busy extension becomes idle. The number of the busy extension is not shown. If a DSS is attached, the LED associated with the busy extension is on. If you exit instead of waiting for the busy extension to become idle, copying for the rest of the extensions in the block is canceled; however, the restrictions that have already been copied are not canceled.

3 Common Administrative Procedures
Optional Extension Features

Page 3-104

If you are copying restrictions to a block of extensions, they must be sequentially numbered.

The extensions you are copying to and from can be both operator and nonoperator positions.



Dial-out code restrictions are not copied.

Summary: Copy Calling Restrictions

Programmable by System Manager

Mode All

Idle Condition "Copy to" extension(s) idle

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC)
Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Not applicable

Valid Entries Not applicable

Inspect No

Copy Option Not applicable

Console Procedure To copy to a single extension:

Extensions \rightarrow RestrctCopy \rightarrow Single \rightarrow Dial copy from ext.

no. \rightarrow Enter \rightarrow Dial copy to ext. no. \rightarrow Enter \rightarrow

 $Exit \rightarrow Exit \rightarrow Exit$

To copy to a block of extensions:

Extensions \rightarrow RestrctCopy \rightarrow Block \rightarrow Dial copy from ext. no. \rightarrow Enter \rightarrow Dial first no. in copy to block \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

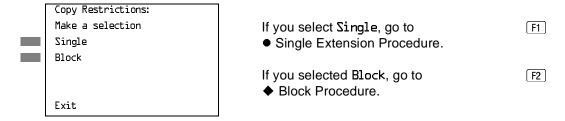
PC Procedure To copy to a single extension:

 $F6 \rightarrow F6 \rightarrow F1 \rightarrow Type copy from ext. no. \rightarrow F10 \rightarrow Type copy to ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

To copy to a block of extensions:

F6 \rightarrow F6 \rightarrow F2 \rightarrow Type copy from ext. no. \rightarrow F10 \rightarrow

Type first copy no. in copy to block \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5



F5 F5 F5

Return to the System Programming menu.

Select Exit three times.

Common Administrative Procedures
Optional Extension Features

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♦ Block Procedure

Console Display/Instructions Additional Information

PC

▶ 1. Specify the extension from which you want to copy calling restrictions.

Restriction Copy:
Enter extension to copy
from

Backspace
Exit Enter

SP: "Entering an Extension"

2. Save your entry.

Select Enter.

F10

■ 3. Enter the logical ID of the first extension in the block to which you want to copy calling restrictions (nnn = 1 to 144).

Copy extension xxxx To:
Enter starting extension
Logical id (1 - 144)

Backspace
Exit Enter

xxxx = extension entered in Step 4

Dial or type # [nnn].

C

4. Save your entry.

Select Enter.

(F10)

▶ 5. Enter the logical ID of the last extension in the block (nnn = 1 to 144).

Start at extension xxxx:

Enter ending extension

Logical id (1 - 144)

Backspace

Exit Enter

xxxx = extension entered in Step 1

Dial or type # [nnn].

C

6. Save your entry.

Select Enter.

F10

▶ 7. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

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ARS Restriction Level For Extensions

3 Common Administrative Procedures Optional Extension Features

> Use this procedure to assign an ARS restriction level to an extension. Outgoing calls can be made only to routes that have a Facility Restriction Level (FRL) lower than or equal to that of the extension for which the call is being made. Only outgoing calls are affected; users can receive inside, local, and toll calls on restricted telephones and can join any type of call in progress.

The restriction level assigned to extensions is opposite to the FRL assigned to routes, where 0 is the most and 6 is the least restrictive.

In Release 6.0 and later systems, FRLs assigned to extensions apply not only to ARS calls but also to calls for non-local dial plan extensions connected by private trunks to your local system. For this reason, use care in assigning FRLs both to extensions and to UDP routes. For example, if a user must be restricted from toll calls on your local system, you may need to plan UDP routes' FRLs to allow the user to reach necessary non-local dial plan extensions. For details, see "UDP (Uniform Dial Plan) Routing" on page -401.

Summary: Assigning ARS Restriction Level For an Extension

Programmable by System Manager

Mode Hybrid/PBX only

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 6g, Call Restriction Assignments and Lists

3 Factory Setting

Valid Entries 0–6, (0 is most restrictive and 6 is least restrictive)

Inspect No Copy Option No

Console Procedure Extensions→More→ARS Restrict→Dial ext. no.→

Enter→Drop→Dial restriction level→Enter→Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F6 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Alt + P \rightarrow Type$

restriction level→F10→F5

5. Save your entry.

Backspace Exit

Enter

Select Enter. F10

SP: "Entering an Extension"

Common Administrative Procedures
Optional Extension Features

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Forced Account Code Entry

Use this procedure to assign or remove Forced Account Code Entry. When this feature is programmed on individual extensions, the user must enter a 1- to 16-digit account code before making an outside call.

Summary: Forced Account Code Entry

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC)
Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Not assigned

Valid Entries Assigned, not assigned

Inspect Yes
Copy Option No

Console Procedure Extensions→Account→Toggle LED On/Off or Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $(F6) \rightarrow (F7) \rightarrow Toggle letter R On/Off or Type ext. no. \rightarrow$

 $[F10] \rightarrow [F5] \rightarrow [F5]$

Procedure: Forced Account Code Entry

Console Display/Instructions Additional Information

PC

1. Select the Extensions menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

[F6]

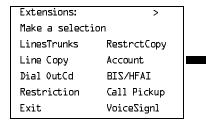
Common Administrative Procedures Optional Extension Features

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PC

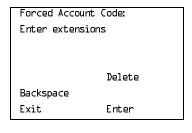
Console Display/Instructions

Additional Information Select Forced Account Code Entry.



[F7]

Specify the extension.



If no DSS is attached:

SP: "Entering an Extension"

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 5. On = forced account code entry is assigned to extension. Off = forced account code entry is not assigned to extension.

Assign or remove the forced account code entry from the extension entered in Step 3.

Select Enter or Delete.

F10

F8

You may continue to assign or remove forced account code entry from additional extensions by repeating Steps 3 and 4.

Return to the System Programming menu.

Select Exit twice.

F5 F5

3 Common Administrative Procedures
Optional Extension Features

Page 3-113

Microphone Operation

Use this procedure to enable or disable microphones on MLX telephones (except QCC operator positions). When the microphone is disabled, users cannot use the speakerphone to conduct conversations.



The microphone cannot be disabled on analog multiline telephones or on MLX telephones used as QCC operator positions.

Summary: Microphone Operation

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4d, MLX Telephone

Form 5b, Direct-Line Console (DLC): Digital

Factory Setting Enabled

Valid Entries Enabled, Disabled

Inspect Yes
Copy Option No

Console Procedure Extensions→More→Mic Disable→Toggle LED On/Off or

Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F7 \rightarrow Toggle letter R On/Off or Type ext. no. \rightarrow$

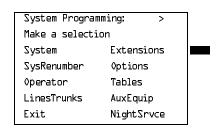
 $F10 \rightarrow F5 \rightarrow F5$

Procedure: Microphone Operation

Console Display/Instructions Additional Information

PC

▶ 1. Select the Extensions menu



F6

Common Administrative Procedures
Optional Extension Features

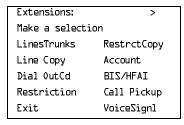
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Console Display/Instructions

Additional Information

PC

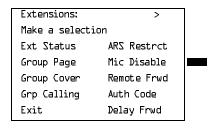
▶ 2. Go to the second screen of the Extensions menu.



Press More.

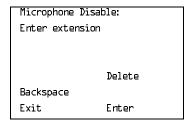
PgUp

3. Select Microphone Disable.



[F7]

▶ 4. Specify the extension.



If no DSS is attached:

SP: "Entering an Extension"

C

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 6. On = microphone operation is assigned to extension.

Off = microphone operation is not assigned to extension.

▶ 5. Assign or remove microphone operation from the extension entered in Step 4.

Select Enter or Delete.

F10

F8

You may continue to assign or remove microphone operation from additional extensions by repeating Steps 4 and 5.

▶ 6. Return to the System Programming menu.

Select Exit twice.

F5 F5

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3 Common Administrative Procedures
Optional Extension Features

Authorization Codes

The Authorization Code feature allows you to pick up someone else's telephone, enter your authorization code, and complete a call with the restrictions that apply to your own telephone (*home extension*). This includes toll restrictions, outward restriction, FRL, Allowed Lists, Disallowed Lists, Forced Account Code Entry (FACE), Night Service Exclusion List, and Dial Access to Pools.



NOTE:

In Release 6.0 and later systems, a user can activate Call Forwarding and Remote Call Forwarding by entering his or her home extension authorization code while at any telephone in the system; this is useful when activating Call Forwarding or Remote Call Forwarding at phantom stations. It is also useful when a single-line telephone extension needs a PAUSE character in the Remote Call Forwarding digit string.

Use this procedure to assign or remove an authorization code to an extension. The authorization code can range from 2 to 11 characters (0 - 9, *) and must be unique for each extension. An authorization code cannot begin with an "*."

If you are assigning authorization codes for a group of sequential extensions, begin programming the lowest extension number to take advantage of the Next screen key (see "Standard Procedures").

Summary: Authorization Codes

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6h, Authorization Codes

Factory Setting Not assigned

Valid Entries 2–11 characters (0–9, *)

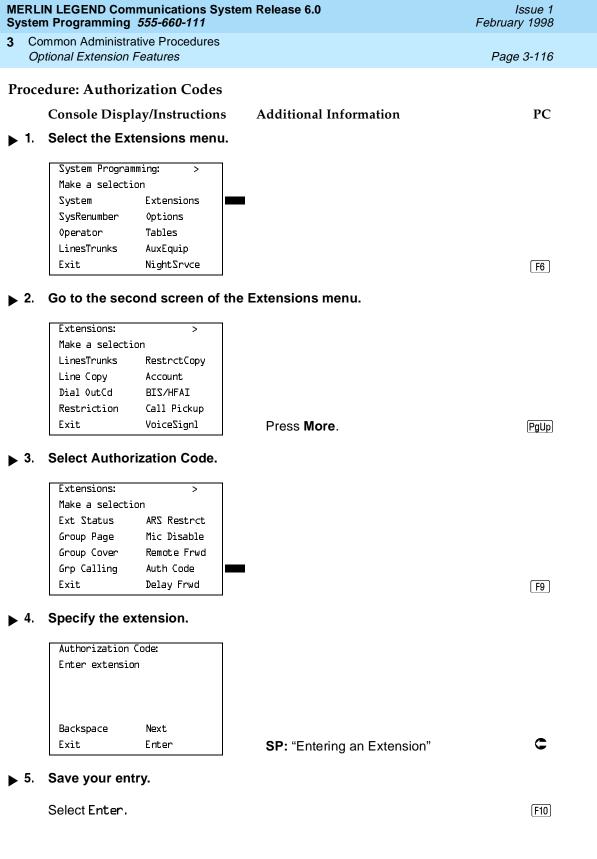
Inspect Yes

Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Auth Code \rightarrow Dial ext. no. \rightarrow Enter \rightarrow

Dial authorization code→Enter→Exit→Exit

Type authorization code \rightarrow F10 \rightarrow F5 \rightarrow F5



Common Administrative Procedures
Optional Extension Features

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Console Display/Instructions

Additional Information

PC

Extension xxxx:

Enter Authorization Code

(2-11 digits, 0-9, *)

xxxxxxxxxxx

Backspace Next

Exit Enter

xxxx = extension entered in Step 4

Press Drop.

Alt + P

7. Enter the Authorization Code.

Extension xxxx:

Enter Authorization Code
(2-11 digits, D-9, *)

xxxxxxxxxxx

Backspace Next

Exit Enter

Dial or type the authorization code:

Use backspace to delete the last digit entered.

▶ 8. Save your entry.

Select Enter or

F10

Next to save your entry and assign an authorization code to the next extension in a sequence. Return to Step 6.

F9

▶ 9. Return to the System Programming menu.

Select Exit twice.

F5 F5

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Remote Call Forwarding

3 Common Administrative Procedures Optional Extension Features

> Use this procedure to allow or disallow the Remote Call Forwarding capability, which permits users to forward calls to an outside number. In Release 6.0 and later systems, Remote Call Forwarding must be enabled in order for an extension user to activate Centrex Transfer via Remote Call Forwarding. In a Release 6.0 or later private network, Remote Call Forwarding may be used to forward calls across the network.

> If an extension with Remote Call Forwarding has one or more personal lines assigned, that extension can be assigned as the principal user, and calls received on that line are forwarded to outside numbers. See "Principal User for Personal Line" on page 51.



NOTE:

This feature is not recommended unless you have ground-start trunks. See "Disconnect Signaling Reliability" on page 4-42 and "Hold Disconnect Interval" on page 4-47.



A SECURITY ALERT:

See "Security of Your System: Preventing Toll Fraud" on page A-9 in Appendix A for more information and security procedures on preventing toll fraud with Remote Call Forwarding.

Summary: Remote Call Forwarding

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC) Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Disallowed

Valid Entries Disallowed, allowed

Inspect Yes Copy Option No

3 Common Administrative Procedures
Optional Extension Features

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Console Procedure Extensions \rightarrow More \rightarrow Remote Frwd \rightarrow Toggle LED On/Off or

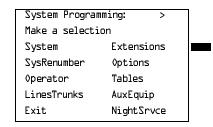
Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F8 \rightarrow Toggle letter R On/Off or type ext. no. <math>\rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Remote Call Forwarding

Console Display/Instructions Additional Information PC

1. Select the Extensions menu.



F6

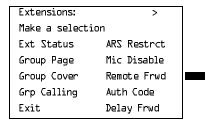
▶ 2. Go to the second screen of the Extensions menu.

Extensions:	>	
Make a selection		
LinesTrunks	RestrctCopy	
Line Copy	Account	
Dial OutCd	BIS/HFAI	
Restriction	Call Pickup	
Exit	VoiceSignl	

Press More.

PgUp

3. Select Remote Call Forward.



F8

MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111

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Common Administrative Procedures Optional Extension Features

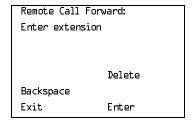
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Console/Display Instructions

Additional Information

PC

Specify the extension.



If no DSS is attached:

SP: "Entering an Extension"

C

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 6. On = remote call forwarding is assigned to extension Off = remote call forwarding is not assigned to extension

Assign or remove remote call forwarding from the extension entered in Step 4.

Select Enter or Delete.

F10

[F8]

You may assign or remove remote call forwarding from additional extensions by repeating Steps 4 and 5.

Return to the System Programming menu.

Select Exit twice.

F5 F5

Delayed Call Forwarding

Delayed Call Forwarding allows a user to answer or screen a call arriving at an extension before the call is forwarded through Call Forwarding, Remote Call Forwarding, or Follow Me. The forwarding delay is the number of rings before the call is forwarded. This delay can range from 0 to 9 rings. If the forwarding delay is set to 0, the call is forwarded immediately. Delayed Call Forwarding is available only in Release 4.0 and later.



When Do Not Disturb is activated at an extension, it overrides Delayed Call Forwarding and the call is forwarded immediately.

Use this procedure to assign or remove Delayed Call Forwarding from an extension. If you are assigning Delayed Call Forwarding to a group of sequential extensions, begin by programming the lowest extension number to take advantage of the Next screen key (see "Standard Procedures").

3 Common Administrative Procedures
Optional Extension Features

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Summary: Delayed Call Forwarding

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC)
Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting 0 rings

Valid Entries 0 - 9 rings

Inspect Yes
Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Delay Frwd \rightarrow Dial ext. no. \rightarrow

Enter \rightarrow Drop \rightarrow Dial no. of delay rings \rightarrow Enter \rightarrow

Exit→Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F10 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Alt + P \rightarrow$

Type no. of delay rings \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

F10

Select Enter.

3 Common Administrative Procedures
Optional Extension Features

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Console/Display Instructions

Additional Information

PC

▶ 6. Erase the current number of delay rings (x).

Extension xxxx:
Enter Delay Rings (D-9)

x

Backspace Next
Exit Enter

xxxx = extension entered in Step 4

Press **Drop** or

Backspace.

Alt + P

➤ 7. Enter the number of delay rings.

Extension xxxx:
Enter Delay Rings (0-9)

x

Backspace Next
Exit Enter

Dial or type the number of delay rings:

C

You may use backspace to delete the last digit entered.

▶ 8. Save your entry.

Select Enter or Next. F10

F9

If you select Next to assign a forwarding delay to the next extension in a sequence, repeat Steps 6 and 7.

▶ 9. Return to the System Programming menu.

Select Exit twice.

F5 F5

Trunk-to-Trunk Transfer

Use this procedure to enable or disable trunk-to-trunk transfer at an extension. When trunk-to-trunk transfer is disabled, users cannot transfer an outside call to an outside line.



In Release 6.0 and later systems (Hybrid/PBX mode only), calls can be transferred to members in the non-local dial plan tables, even if trunk-to-trunk transfer is not allowed. This allows users of single-line telephones to transfer incoming calls from the PSTN to non-local dial plan extensions.

3 Common Administrative Procedures
Optional Extension Features

Page 3-124

Summary: Trunk-to-Trunk Transfer

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC)
Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Disabled

Valid Entries Enabled, Disabled

Inspect Yes
Copy Option No

 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{TrkTransfer} {\longrightarrow}$

Toggle LED On/Off or Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F1 \rightarrow Toggle letter R On/Off or$

Type ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Trunk-to-Trunk Transfer

Console Display/Instructions Additional Information

PC

1 Select the Extensions menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

F6

Common Administrative Procedures
Optional Extension Features

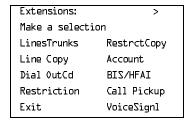
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Console Display/Instructions

Additional Information

PC

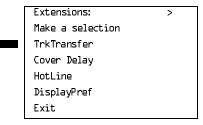
▶ 2. Go to the third screen of the Extensions menu.



Press More twice.

PgUp PgUp

3. Select Trunk to Trunk Transfer.



[F1]

4. Specify the extension.

Trunk to Trunk Transfer:
Enter extension

Delete
Backspace
Exit Enter

If no DSS is attached:

SP: "Entering an Extension"

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 6.

On = trunk-to-trunk transfer is enabled.

Off = trunk-to-trunk transfer is disabled.

▶ 5. Assign or remove trunk-to-trunk transfer from the extension entered in Step 4.

Select Enter to allow trunk-to-trunk transfer or Delete to disallow trunk-to-trunk transfer.

(F10)

[F8]

You may continue to assign or remove trunk-to-trunk transfer from additional extensions by repeating Steps 4 and 5.

▶ 6. Return to the System Programming menu.

Select Exit twice.

F5 F5

Page 3-126

Issue 1

Primary Cover Ring Delay

The Primary Cover Ring Delay option replaces the Delay Ring Interval programmed on a systemwide basis in releases prior to Release 4.1.

Use this procedure to specify the following:

- The delay before a Primary Cover button programmed for Delay Ring begins to ring audibly
- The delay in addition to the Group Coverage Ring Delay before sending calls to Group Coverage when the sender has Primary or Secondary Coverage and any receiver is available

The Primary Cover Ring Delay is programmed for each sender's extension.

Summary: Primary Cover Ring Delay

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Factory Setting 2 rings

Valid Entries 1-6 rings

Inspect No Copy Option Nο

Console Procedure Extensions \rightarrow More \rightarrow Cover Delay \rightarrow Primary \rightarrow

Dial sender's extension \rightarrow Enter \rightarrow Dial no. of rings (1–6) \rightarrow

Enter→Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow PgUp \rightarrow F2 \rightarrow F1 \rightarrow Type sender's$

extension \rightarrow F10 \rightarrow Type no. of rings (1–6) \rightarrow F10 \rightarrow F5

[F1]

Group Cover

Enter

Exit

3 Common Administrative Procedures
Optional Extension Features

Page 3-129

Secondary Cover Ring Delay

The Secondary Cover Ring Delay option replaces the Delay Ring Interval programmed on a systemwide basis in releases prior to Release 4.1.

Use this procedure to specify the delay in addition to the fixed Secondary Coverage Delay Interval (two rings) before a **Secondary Cover** button programmed for Delay Ring begins to ring audibly.

The Secondary Cover Ring Delay is programmed for each sender's extension.

Summary: Secondary Cover Ring Delay

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Factory Setting 2 rings

Valid Entries 1–6 rings

Inspect No

Copy Option No

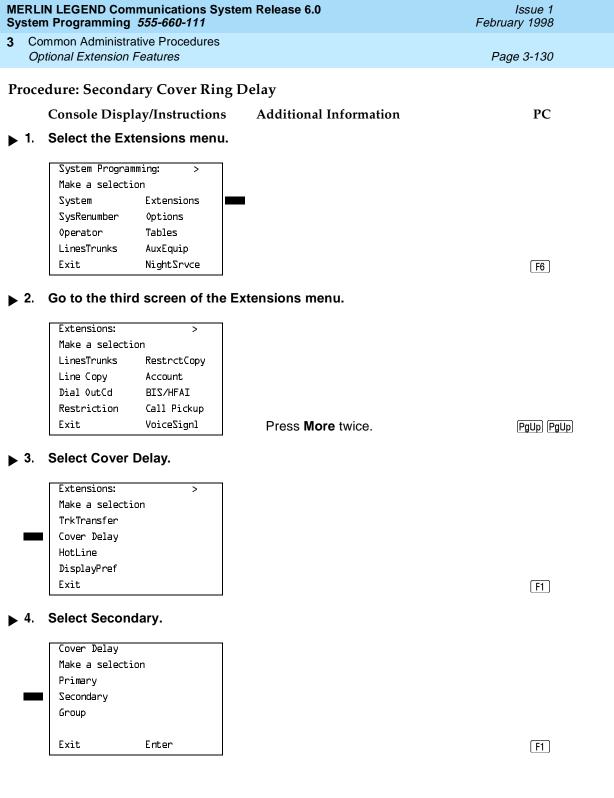
Console Procedure Extensions→More→More→Cover Delay→Secondary→

Dial sender's extension \rightarrow Enter \rightarrow Dial no. of rings (1–6) \rightarrow

Enter→Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow PgUp \rightarrow F2 \rightarrow F2 \rightarrow Type sender's$

extension \rightarrow F10 \rightarrow Type no. of rings (1–6) \rightarrow F10 \rightarrow F5



3 Common Administrative Procedures Optional Extension Features

Page 3-132

Group Coverage Ring Delay

The Group Cover Ring Delay option replaces the Delay Ring Interval programmed on a systemwide basis in releases prior to Release 4.1.

Use this procedure to specify the following:

- The number of rings before sending calls to Group Coverage when the sender does not have Primary or Secondary Coverage *or* the receivers are not available, *and* the Group Coverage receiver is either a Calling Group only or the QCC queue only (no Group Cover buttons on multiline telephones).
- The number of rings in addition to the Primary Cover Ring delay before sending calls to Group Coverage when the sender has Primary or Secondary Coverage and the receivers are available.

The Group Coverage Ring Delay is programmed for each sender's extension.

Summary: Group Coverage Ring Delay

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Factory Setting 3 rings
Valid Entries 1–6 rings

Inspect No Copy Option No

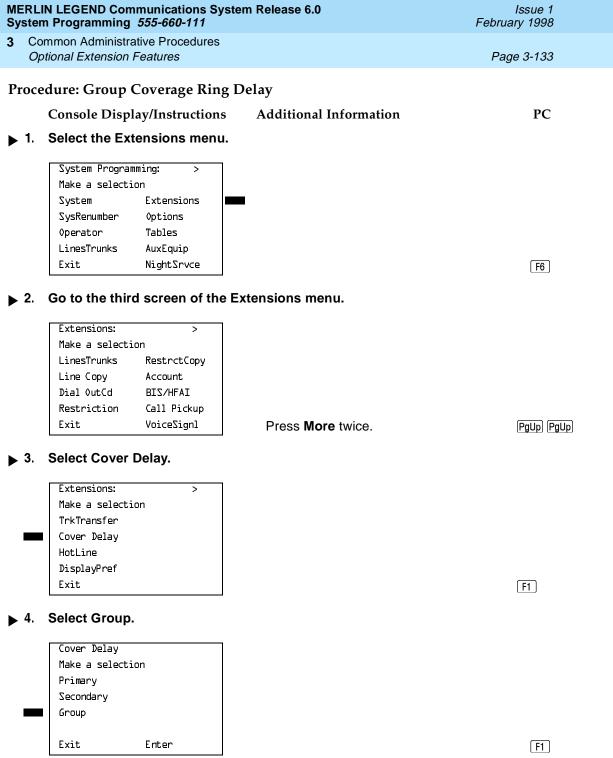
Console Procedure Extensions→More→More→Cover Delay→Group→

Dial sender's extension \rightarrow Enter \rightarrow Dial no. of rings (1–6) \rightarrow

Enter→Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow PgUp \rightarrow F2 \rightarrow F3 \rightarrow Type sender's$

extension \rightarrow F10 \rightarrow Type no. of rings (1–6) \rightarrow F10 \rightarrow F5



3 Common Administrative Procedures Optional Extension Features

Page 3-135

HotLine

Use this procedure to enable or disable the HotLine feature on a single-line telephone set or device.

Summary: HotLine

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4f, Tip/Ring Equipment

Factory Setting Disabled Valid Entries Yes, No

Inspect No Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow More \rightarrow HotLine \rightarrow

Enter HotLine extension→Enter→Exit→Exit

 $[F10] \rightarrow [F5] \rightarrow [F5]$

Procedure: HotLine

Console Display/Instructions Additional Information

PC

1 Select the Extensions menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

F6

■ 2. Go to the third screen of the Extensions menu.

Extensions: >

Make a selection

LinesTrunks RestrctCopy

Line Copy Account

Dial OutCd BIS/HFAI

Restriction Call Pickup

Exit VoiceSignl

Press **More** twice.

PgUp PgUp

F5 F5

Return to the System Programming menu.

Select Exit twice.

3 Common Administrative Procedures
Optional Extension Features

Page 3-137

Display Preference

In Release 6.0 and later systems, use this procedure to specify display preferences for incoming inside calls or non-local dial plan calls that arrive on PRI tandem trunks. Non-local dial plan calls that arrive on networked tie trunks are not affected; such calls display on the recipient's telephone like outside calls do; that is they do not have Calling Party information. For details about the display content, see the *Feature Reference*.

Summary: Display Preference

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Non-Local Dial Plan Administration Form in the Installation

Specification

Factory Setting Calling Number

Valid Entries Calling Name, Calling Number, Both

Inspect No
Copy Option Yes

Console Procedure Extensions \rightarrow More \rightarrow More \rightarrow DisplayPref \rightarrow

Dial extension no. \rightarrow Enter \rightarrow Select display option \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $[F6] \rightarrow [PgUp] \rightarrow [F4] \rightarrow Type extension no. \rightarrow [F10] \rightarrow$

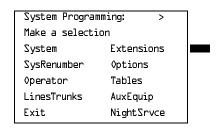
Select display option \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Display Preference

Console Display/Instructions Additional Information

PC

▶ 1. Select the Extensions menu.



F6

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•	ommon Administrative Procedures ptional Extension Features		Page 3-139
▶ 7.	Console/Display Instructions Save your entry.	Additional Information	PC
	Select Enter or Next.		F10 F9
		If you select Next to assign a display preference to the next extension in a sequence, repeat Step 5.	
▶ 8.	Return to the System Programn	ning menu.	

F5 F5

Select Exit twice.

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Issue 1

Optional Group Features

Optional Group Features

Common Administrative Procedures

The procedures in this section describe how to program the following optional features:

- Pickup Groups
- Group Paging
- **Group Coverage Member Assignments**
- Group Coverage Delay Interval (Release 4.0 and earlier)
- **Group Calling Member Assignments**
- Group Calling Line/Trunk or Pool Assignments

Pickup Groups

Use this procedure to assign or remove an extension from a pickup group. A pickup group consists of telephone users who can answer each others' calls by pressing a button or by dialing a code.



- 1. A maximum of 30 pickup groups, with a maximum of 15 extensions per group, is allowed.
- 2. An extension can belong to only one group.
- 3. Before reassigning an extension to a new group, you must remove it from its current group.

Summary: Pickup Groups

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 7a, Pickup Groups

Factory Setting Not applicable

Valid Entries Pickup group number, extension number

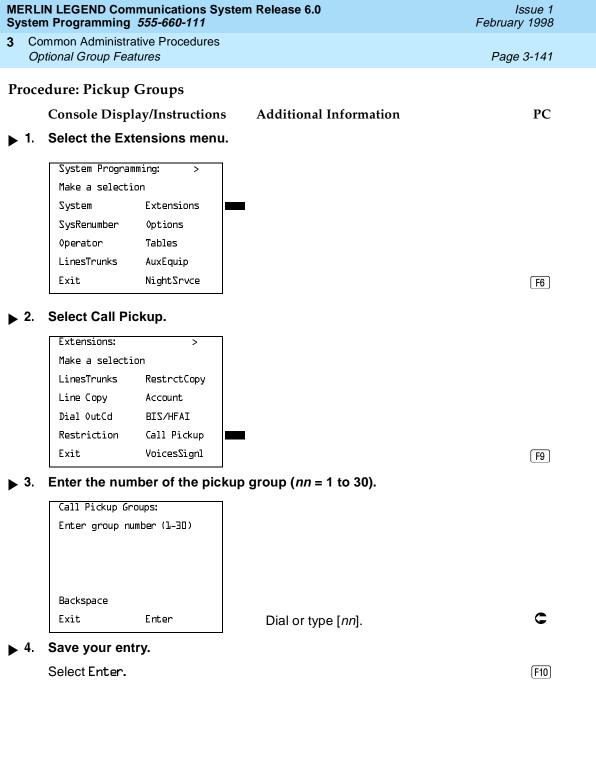
Inspect Yes Copy Option No

Console Procedure Extensions \rightarrow Call Pickup \rightarrow Dial pickup group no. \rightarrow

Enter \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow F9 \rightarrow Type$ pickup group no. $\rightarrow F10 \rightarrow Type$ ext. no. \rightarrow

 $F10 \rightarrow F5 \rightarrow F5$



3 Common Administrative Procedures
Optional Group Features

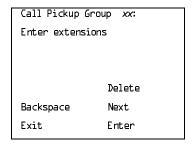
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Console/Display Instructions

Additional Information

PC

▶ 5. Specify the extension.



xx = number entered in Step 3

If no DSS is attached:

SP: "Entering an Extension"

C

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 7.
On = extension is included in pickup group
Off = extension is not included in pickup group

▶ 6. Assign or remove the extension from the pickup group.

Select Enter or Delete.

F10

F8

You may continue to assign or remove extensions from the pickup group by repeating Steps 5 and 6.

7. Assign or remove extensions for another pickup group or go to Step 8.

Select Next

F9

Return to Step 5 to continue programming. The next extension is displayed on Line 1.

▶ 8. Return to the System Programming menu.

Select Exit twice.

F5 F5

Group Paging

Use this procedure to assign or remove an extension from a paging group. A paging group consists of telephone users who hear common announcements over the telephone speakerphone. Only MLX telephones and analog multiline telephones with speakerphones can be members of a paging group.

A maximum of six paging groups with a maximum of 10 extensions per group is allowed. A seventh paging group, called the Page All group, is not limited and includes all telephones connected to the system. Extensions cannot be added to or removed from the Page All group.

To reassign an extension to a new paging group, just assign it; the extension is automatically removed from its old paging group.

3 Common Administrative Procedures
Optional Group Features

Page 3-143

Summary: Group Paging

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7b, Group Paging

Factory Setting Not applicable

Valid Entries Extension number

Inspect Yes
Copy Option No

Console Procedure Extensions→More→Group Page→Dial paging group

 $no. \rightarrow Enter \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $[F6] \rightarrow [PgUp] \rightarrow [F2] \rightarrow Type paging group no. \rightarrow [F10] \rightarrow$

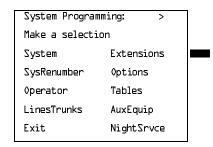
Type ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Group Paging

Console Display/Instructions Additional Information

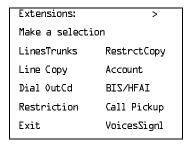
PC

1. Select the Extensions menu.



F6

2. Go to the second screen of the Extensions menu.



Press More.

PgUp

Common Administrative Procedures
Optional Group Features

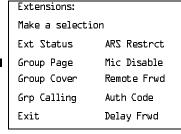
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Console/Display Instructions

Additional Information

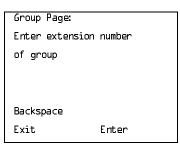
PC

■ 3. Select Group Page.



F2

▶ 4. Enter the extension number of the paging group.



See <u>"System Renumbering" on page 4–14</u> for the factory-set extension numbers assigned to paging groups.

Dial or type [n].

C

5. Save your entry.

Select Enter.

F10

6. Specify the extension.

Group Page xxxx:
Enter extensions

Delete
Backspace Next
Exit Enter

xxxx = number entered in Step 4

If no DSS is attached:

SP: "Entering an Extension"

C

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 9.

On = extension is included in paging group

Off = extension is not included in paging group

▶ 7. Assign or remove the extension from the paging group.

Select Enter or Delete.

[F10]

F8

You may continue to assign or remove extensions from the paging group by repeating Steps 5 and 6.

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Common Administrative Procedures Optional Group Features

Page 3-145

Console/Display Instructions

Additional Information

PC

Continue to assign the extension to another paging group or go to Step 9.

Select Next. F9

> Return to Step 6 to continue programming. The next paging group is displayed on Line 1.

Return to the System Programming menu.

Select Exit twice. F5 F5

Group Coverage Member Assignments

Use this procedure to assign or remove an extension from a coverage group. A coverage group is a group of senders. Coverage is an arrangement by which calls from a group of senders are redirected to one or more receivers.



This procedure assigns senders. Before you begin, make certain that the receivers for the coverage group are also programmed. Receivers can be assigned through individual or centralized telephone programming. You can also use the Integrated Solution II/III feature, Integrated Administration, to assign coverage receivers. See Chapter 5, "Centralized Telephone Programming," for information about the appropriate centralized programming procedure.

A maximum of 30 coverage groups are allowed, each with an unlimited number of members. Up to eight receivers can be assigned per coverage group.

An extension can be a sender in only one group; it can be a receiver for more than one coverage group. A calling group can be assigned as a receiver for a coverage group (see "Group Coverage Receiver" on page -167). In Hybrid/PBX mode only, the QCC queue can be a receiver for up to 30 coverage groups. See "QCC Operator to Receive Call Types" on page 46.

If the sender's extension has one or more personal lines assigned, the sender can be assigned as the principal user so that calls received on the personal line are sent to receivers programmed for Individual or Group Coverage. See "Principal User for Personal Line" on page 51.

To reassign an extension to a new coverage group, just make the assignment; the extension is automatically removed from its old group.

3 Common Administrative Procedures
Optional Group Features

Page 3-146

Summary: Group Coverage Member Assignments

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7c, Group Coverage

Factory Setting Not applicable

Valid Entries Extension numbers

Inspect Yes
Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Group Cover \rightarrow Dial group no. \rightarrow

 $Enter \rightarrow Dial\ ext.\ no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F3 \rightarrow Type group no. \rightarrow F10 \rightarrow Type ext. no. \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

Procedure: Group Coverage Member

Assignments

Console Display/Instructions Additional Information

PC

1 Select the Extensions menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F6

▶ 2. Go to the second screen of the Extensions menu.

Extensions: >

Make a selection

LinesTrunks RestrctCopy

Line Copy Account

Dial OutCd BIS/HFAI

Restriction Call Pickup

Exit VoicesSignl

Press More.

PgUp

Common Administrative Procedures
Optional Group Features

Page 3-147

PC

Select Group Coverage.

Console/Display Instructions

Extensions:

Make a selection

Ext Status ARS Restrct

Group Page Mic Disable

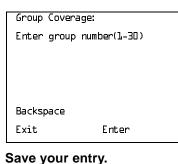
Group Cover Remote Frwd

Grp Calling Auth Code

Exit Delay Frwd

F3

▶ 4. Enter the number of the coverage group (nn = 1 to 30).



Dial or type [nn].

Additional Information

F10

outo your onling.

Select Enter.

6. Specify the extension.

Group Cover xx Senders

Enter extensions

Delete

Backspace Next

Exit Enter

xx = number entered in Step 4

If no DSS is attached:

SP: "Entering an Extension"

C

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 8.

On = extension is sender in coverage group

Off = extension is not sender in coverage group

➤ 7. Assign or remove the extension from the coverage group.

Select Enter or Delete.

(F10)

F8

You may continue to assign or remove extensions from the coverage group by repeating Steps 5 and 6.

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Console/Display Instructions

Additional Information

PC

. Continue to assign the extension to another coverage group or go to Step 9.

Select Next.

F9

Return to Step 6 to continue programming. The next coverage group is displayed on Line 1.

▶ 9. Return to the System Programming menu.

Select Exit twice.

F5 F5

Group Coverage Delay Interval

Use this procedure to specify the number of rings before a call is sent to group coverage receivers.

NOTE:

This setting is for Release 4.0 and earlier systems. Use Group Coverage Ring Delay for Release 4.1 and later systems.

Summary: Group Coverage Delay Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7c, Group Coverage

Factory Setting Not applicable

Valid Entries Extension numbers

Inspect Yes

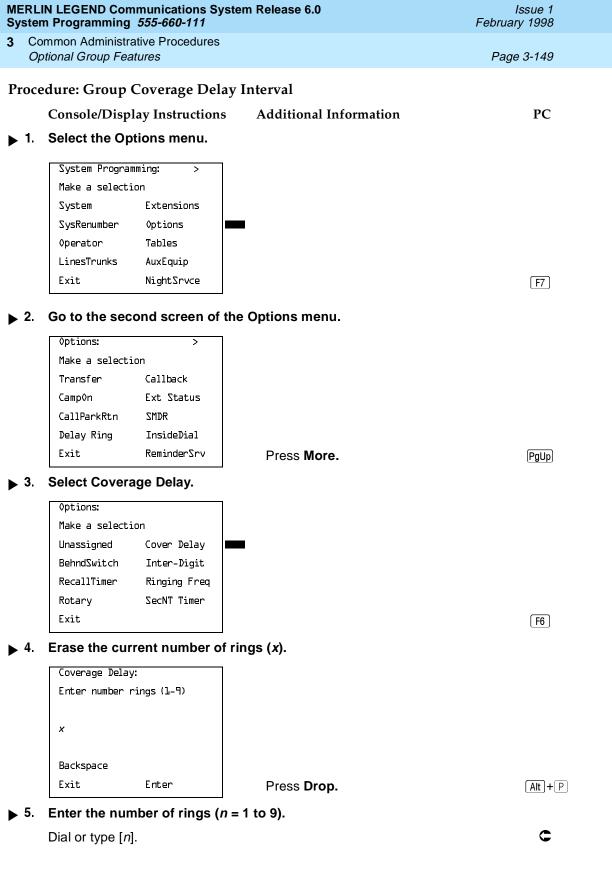
Copy Option No

Console Procedure Options→More→Cover Delay→Drop→Enter→

Dial the number of rings→Enter→Exit

PC Procedure $F7 \rightarrow PgUp \rightarrow F6 \rightarrow Alt + P \rightarrow Type the number of rings \rightarrow$

(F10) → (F5)



3 Common Administrative Procedures Optional Group Features

Page 3-150

Console/Display Instructions

Additional Information

PC

▶ 6. Save your entry.

Select Enter.

F10

▶ 7. Return to the System Programming menu.

Select Exit.

F5

Group Calling Member Assignments

Use this procedure to assign or remove an extension to or from a calling group. A calling group is used to direct calls to a group of people who all handle the same type of call. A single extension number is assigned to the group and is used by both inside and outside callers to reach the group.

To reassign an extension to a new calling group, you must remove it from its old group before programming the new assignment.

NOTES:

- If a linear hunting pattern is indicated on the back of the system planning form (6d), be sure to assign extensions to the group in the exact order that they are shown on the form. The system searches for an available member in the order in which you assign the extensions to the group.
- 2. A maximum of 32 calling groups with a maximum of 20 extensions per group is allowed.
- 3. An extension can belong to only one calling group. A QCC cannot be a member of a calling group. A delay announcement device should not be programmed as a calling group member.
- The extension status feature must be set to the Calling Group or CMS mode before you assign members to the group. See <u>"Extension Status"</u> on page 208.

Summary: Group Calling Member Assignments

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7c, Group Coverage

Factory Setting Not applicable

Valid Entries Extension numbers

3 Common Administrative Procedures Optional Group Features

Page 3-151

Inspect Yes
Copy Option No

 ${\tt Console\ Procedure\ Extensions} {\longrightarrow} {\color{red}{\sf More}} {\longrightarrow} {\color{red}{\sf Grp}\ Calling} {\color{red}{\longrightarrow}} {\color{red}{\sf Members}} {\color{red}{\longrightarrow}} {\color{red}{\sf Dial\ calling}}$

group ext. no. \rightarrow Enter \rightarrow Dial ext. no. \rightarrow Enter \rightarrow

 $Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{\text{F6}} \rightarrow \boxed{\text{PgUp}} \rightarrow \boxed{\text{F4}} \rightarrow \boxed{\text{F9}} \rightarrow \text{Type calling group ext. no.} \rightarrow$

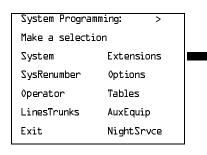
 $F10 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Group Calling Member Assignments

Console Display/Instructions Additional Information

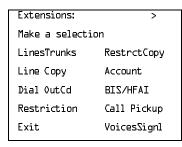
PC

▶ 1. Select the Extensions menu.



F6

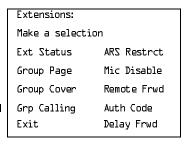
▶ 2. Go to the second screen of the Extensions menu.



Press More.

PgUp

■ 3. Select Group Calling.



[F4]

Common Administrative Procedures Optional Group Features

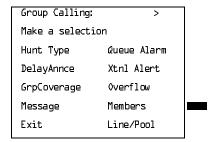
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Console/Display Instructions

Additional Information

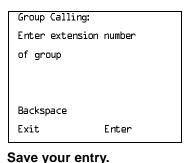
PC

Select Members.



F9

Enter the extension number of the calling group.

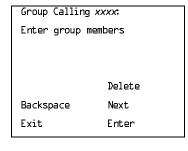


See "System Renumbering" on page 4-14 for the factory setting for extension numbers assigned to calling groups.

Select Enter.

F10

Specify the extension.



xxxx = number entered in Step 5

SP: "Entering an Extension"

If no DSS is attached:

If DSS is attached:

Dial or type [nnnn].

Toggle the red LED on or off as required. Go to Step 9. On = extension is a member of the calling group. Off = extension is not a member of the calling group.

Assign or remove the extension from the calling group.

Select Enter or Delete.

F10

F8

You may continue to assign or remove extensions from the calling group by repeating Steps 7 and 8.

3 Common Administrative Procedures Optional Group Features

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Console/Display Instructions

Additional Information

PC

Continue to assign the extension to another calling group or go to Step 10.

Select Next

Return to Step 7 to continue programming. The next calling group is displayed on Line 1.

▶ 10. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Group Calling Line/Trunk or Pool Assignments

Use this procedure to assign or remove lines, trunks, or pools (Hybrid/PBX only) that ring directly into a calling group.

Incoming calls on each line/trunk or pool can be directed to only one calling group.

To reassign a line/trunk or pool to a new calling group, you must remove it from its old group before making the new assignment.

Summary: Group Calling Line/Trunk or Pool Assignments

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting Not applicable

Valid Entries Line, trunk, or pool number

Inspect Yes
Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow Line/Pool \rightarrow

Dial calling group ext. no. \rightarrow Enter \rightarrow Dial line/trunk no. \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $[F6] \rightarrow [PgUp] \rightarrow [F4] \rightarrow [F10] \rightarrow Type calling group ext. no. \rightarrow$

 $F10 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

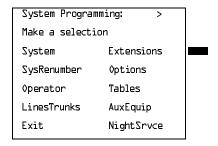
3 Common Administrative Procedures Optional Group Features

Page 3-154

Procedure: Group Calling Line/Trunk or Pool Assignments

Console Display/Instructions Additional Information PC

1. Select the Extensions menu.



F6

▶ 2. Go to the second screen of the Extensions menu.

Extensions:	>	
Make a selection		
LinesTrunks	RestrctCopy	
Line Copy	Account	
Dial OutCd	BIS/HFAI	
Restriction	Call Pickup	
Exit	VoiceSignl	

Press More.

PgUp

3. Select Group Calling.

Extensions:		
Make a selection		
Ext Status	ARS Restrct	
Group Page	Mic Disable	
Group Cover	Remote Frwd	
Grp Calling	Auth Code	
Exit	Delay Frwd	

[F4]

4. Select Line/Pool.

Group Calling:	>
Make a selection	
Hunt Type	Queue Alarm
DelayAnnce	Xtnl Alert
GrpCoverage	0verflow
Message	Members
Exit	Line/Pool

[F5][F5][F5]

Select Exit three times.

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Optional Group Calling Features

This section includes programming procedures for the following optional group calling features:

- Hunt Type
- Group Calling Delay Announcements
- Group Calling Announcement Interval
- Group Calling Repeat Announcement
- Group Coverage Receiver
- Group Calling Overflow and Thresholds
- Group Calling Message-Waiting Indicator
- Group Calling Calls-in-Queue Alarm Thresholds
- Group Calling External Alert for Calls-in-Queue Alarm
- Group Type
- Queue Control (Release 6.0 and later systems only)

Hunt Type

Use this procedure to assign one of the following hunt-type patterns to calling groups:

- **Circular Hunting Pattern.** The system distributes calls to group members by hunting in a circular pattern for the first available extension after the one that received the last call to the group.
- **Linear Hunting Pattern.** The system searches for an available group member in the order in which the extensions were assigned to the calling group.
- Most Idle Hunting Pattern. The system searches for the available member that is "most idle." This distribution scheme can be more equitable than the circular hunting pattern.

Summary: Hunt Type

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling Factory Setting Circular hunting pattern

3 Common Administrative Procedures
Optional Group Calling Features

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Valid Entries Circular, Linear, Most Idle

Inspect No Copy Option No

Console Procedure Extensions→More→Grp Calling→Hunt Type→

Dial calling group ext. no.→Enter→Circular, Linear, or

Most Idle \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F1 \rightarrow Type$ calling group ext. no. \rightarrow

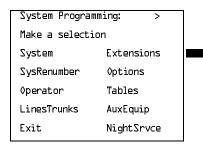
 $F10 \rightarrow F1$ or F2 or $F3 \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Hunt Type

Console Display/Instructions Additional Information

PC

1. Select the Extensions menu.



F6

▶ 2. Go to the second screen of the Extensions menu.

Extensions: >

Make a selection

LinesTrunks RestrctCopy

Line Copy Account

Dial OutCd BIS/HFAI

Restriction Call Pickup

Exit VoiceSignl

Press More.

PgUp

3. Select Group Calling.

Extensions:

Make a selection

Ext Status ARS Restrct

Group Page Mic Disable

Group Cover Remote Frwd

Grp Calling Auth Code

Exit Delay Frwd

Most Idle Select Circular or F1 Next Linear or. F2 Exit Enter Most Idle F3

Continue to assign a hunt pattern to another calling group or go to Step 9.

F9

Return to Step 7 to continue programming. The next calling group is displayed on Line 1.

Save your entry.

Select Next.

Select Enter. F10

10. Return to the System Programming menu.

Select Exit three times. F5 F5 F5 3 Common Administrative Procedures Optional Group Calling Features

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Group Calling Delay Announcements

Use this procedure to designate the announcement devices used to play messages to callers while they are waiting in the queue.

As of Release 5.0, 10 primary and one secondary announcement devices can be designated for each calling group; however, more than one calling group can use the same announcement device. The extensions to which the delay announcement devices are connected should not be programmed as calling group members.

If the extension jack or MFM was previously programmed as a regular extension, you must remove all line/trunk button assignments before you designate the extension jack as a delay announcement device.



NOTE:

In Release 6.0 and later systems (Hybrid/PBX mode only), a delay announcement device must be in the local system, not in a remote networked system.

Summary: Group Calling Delay Announcements

System Manager Programmable by

Mode ΑII

Idle Condition Not required

Form 7d, Group Calling Planning Form

Factory Setting No delay announcement devices are assigned

Valid Entries Primary Announcements, Secondary Announcement

Inspect Yes (for primary announcements)

Copy Option No

Console Procedure Extensions→More→Grp Calling→DelayAnnce→Dial

calling group ext. no.→Enter→Primary Announcements or Secondary Announcement→Enter Extension number of

Announcement device \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F2 \rightarrow Type$ calling group ext. no. \rightarrow

 $F10 \rightarrow F1$ or $F2 \rightarrow Type$ ext. no. of announcement device \rightarrow

 $F10 \rightarrow F5 \rightarrow F5$

3 Common Administrative Procedures Optional Group Calling Features

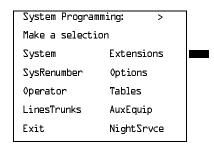
Page 3-160

PC

Procedure: Group Calling Delay Announcements

Console Display/Instructions Additional Information

▶ 1. Select the Extensions menu.



F6

2. Go to the second screen of the Extensions menu.

Extensions:	>
Make a selection	on
LinesTrunks	RestrctCopy
Line Copy	Account
Dial OutCd	BIS/HFAI
Restriction	Call Pickup
Exit	VoiceSignl

Press More.

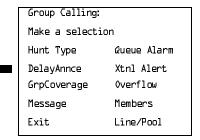
PgUp

3. Select Group Calling.

Extensions:		
Make a selection		
Ext Status	ARS Restrct	
Group Page	Mic Disable	
Group Cover	Remote Frwd	
Grp Calling	Auth Code	
Exit	Delay Frwd	

[F4]

▶ 4. Select Delay Announcement.



delay announcement device extensions from the calling group by repeating

Steps 5 through 8.

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3 Common Administrative Procedures Optional Group Calling Features

Page 3-162

Console/Display Instructions Add

Additional Information

PC

▶ 10. Continue to assign the delay announcement device extension to another calling group or go to Step 11.

Select Next.

Return to Step 7 to continue programming. The next calling group is displayed on Line 1.

▶ 11. Return to the System Programming menu.

Select Exit twice. F5 F5

Group Calling Announcement Interval

Use this procedure to set the delay before the secondary announcement is played and/or repeated.

Summary: Group Calling Announcement Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting 0 (disabled)

Valid Entries 0-900 seconds

Inspect No Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow DelayAnnce \rightarrow

Dial calling group ext. no.→Announcement Interval→ Enter

the Announcement Interval \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $\boxed{\text{F6}} \rightarrow \boxed{\text{PgUp}} \rightarrow \boxed{\text{F4}} \rightarrow \boxed{\text{F2}} \rightarrow \text{Type calling group ext. no.} \rightarrow$

 $F3 \rightarrow Type \text{ the Announcement Interval} \rightarrow F10 \rightarrow F5 \rightarrow F5$

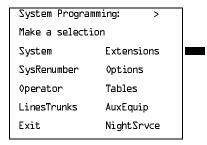
3 Common Administrative Procedures Optional Group Calling Features

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Procedure: Group Calling Announcement Interval

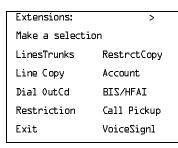
Console Display/Instructions Additional Information PC

▶ 1. Select the Extensions menu.



F6

▶ 2. Go to the second screen of the Extensions menu.



Press More.

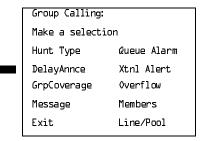
PgUp

3. Select Group Calling.

Extensions:		
Make a selection		
Ext Status	ARS Restrct	
Group Page	Mic Disable	
Group Cover	Remote Frwd	
Grp Calling	Auth Code	
Exit	Delay Frwd	

F4

▶ 4. Select Delay Announcement.



[F2]

F5 F5

▶ 10. Return to the System Programming menu.

Select Exit twice.

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Optional Group Calling Features

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Group Calling Repeat Announcement

Use this procedure to set the secondary announcement to repeat after the Announcement Interval.

Summary: Group Calling Repeat Announcement

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting No repeat

Valid Entries Yes, No

Inspect No

Copy Option No

Console Procedure Extensions→More→Grp Calling→DelayAnnce→Dial

calling group ext. no. \rightarrow Enter \rightarrow Repeat Announcement \rightarrow Yes

or $No \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F2 \rightarrow F4 \rightarrow Type$ calling group ext.

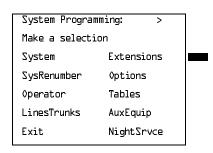
no. \rightarrow F2 or F3 \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Group Calling Repeat Announcement

Console Display/Instructions Additional Information

PC

1 Select the Extensions menu.



Common Administrative Procedures
Optional Group Calling Features

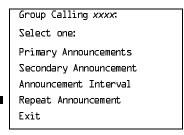
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Console/Display Instructions

Additional Information

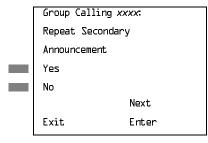
PC

▶ 7. Select Repeat announcement.



F4

8 Enter the Yes or No.



xxxx =calling group ext. no. from Step 5

F2

F3

▶ 9. Assign repeat announcement option for the calling group.

Select Enter.

(F10)

10. Return to the System Programming menu.

Select Exit twice.

F5 F5

Group Coverage Receiver

Use this procedure to assign or remove a calling group as a receiver for a coverage group.

Calling group member assignments must be made before you assign the group as a receiver for a coverage group.



Integrated Administration uses calling group 30 as the default group to cover AUDIX Voice Power.

3 Common Administrative Procedures
Optional Group Calling Features

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Summary: Group Coverage Receiver

Programmable by System Manager, Integrated Administration

Mode All

Idle Condition Not required

Planning Form Form 7c, Group Coverage

Factory Setting Not applicable

Valid Entries Group numbers

Inspect Yes
Copy Option No

Console Procedure Extensions→More→Grp Calling→Grp Coverage→Dial

calling group ext. no. \rightarrow Enter \rightarrow Dial coverage group no. \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

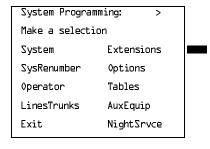
coverage group no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

Procedure: Group Coverage Receiver

Console Display/Instructions Additional Information

PC

▶ 1. Select the Extensions menu.



F6

▶ 2. Go to the second screen of the Extensions menu.

Extensions:	>
Make a selecti	on
LinesTrunks	RestrctCopy
Line Copy	Account
Dial OutCd	BIS/HFAI
Restriction	Call Pickup
Exit	VoiceSignl

Press More.

PgUp

Common Administrative Procedures
Optional Group Calling Features

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Console/Display Instructions

Additional Information

PC

▶ 8. Assign or remove the coverage group as the receiver for the calling group.

Select Enter or Delete.

F10 F8

You may continue to assign or remove additional coverage groups as the receiver for the calling group by repeating Steps 7 and 8.

▶ 9. Continue to assign the coverage group as the receiver for another calling group or go to Step 10.

Select Next.

F9

Return to Step 7 to continue programming. The next calling group is displayed on Line 1.

▶ 10. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Group Calling Overflow and Thresholds

Use this procedure to designate either another calling group or the QCC queue (Hybrid/PBX only) to receive overflow calls. This procedure also specifies overflow threshold and methods.

Call overflow occurs in one of the three following ways:

- The number of calls waiting in the queue for a calling group is equal to or greater than the programmed threshold (overflow threshold).
- The time that a call has spent in the queue exceeds the programmed timeout value (overflow threshold time).
- In Release 6.0 and later systems, a caller responds to a voice prompt by pressing the # key to indicate that his or her call should be handled as an overflow call. For example, a delay announcement may specify that a caller can press # to leave a message with voice mail or an operator.

If the overflow threshold time is set to 0 seconds (factory setting), then overflow by time is turned off. Prompt-based overflow distribution can co-exist with either or both of the other methods. Overflow distribution based on the number of calls in the queue or the time spent in the queue takes precedence over calls that go to overflow because of the caller's prompt.

3 Common Administrative Procedures
Optional Group Calling Features

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Overflow coverage can be provided only by calling groups or the QCC queue (Hybrid/PBX only), not by individual extensions.

A calling group or the QCC queue (Hybrid/PBX only) can provide overflow coverage for more than one calling group; however, which group's calls go to an available member in the overflow calling group is unpredictable.

The factory-set extension number for the QCC Listed Directory Number is 800.

Summary: Group Calling Overflow and Thresholds

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting Overflow coverage: none

Threshold: 1 call Timeout: 0 sec

Prompt-based overflow: Disabled

Valid Entries Overflow coverage: Backup extension number

Threshold: 1 to 99 calls Timeout: 0 to 900 seconds

Prompt-based overflow: Enabled, Disabled

Inspect No Copy Option No

Console Procedure Extensions→More→Grp Calling→Overflow→

Dial calling group ext. no.→Enter→Dial overflow ext. no.→Enter→Number Based Overflow→Drop→Dial no. of

calls→Enter→Time Based Overflow→**Drop**→

Dial no. of seconds→Enter→Prompt Based Overflow→

Yes or No→Enter→Exit→Exit→Exit

PC Procedure $[F6] \rightarrow [PgUp] \rightarrow [F4] \rightarrow [F8] \rightarrow Type calling group ext. no. \rightarrow$

F10 \rightarrow Type overflow ext. no. \rightarrow F10 \rightarrow F1 \rightarrow Alt + P \rightarrow Type no. of calls \rightarrow F10 \rightarrow F2 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow

 $(F10) \rightarrow (F3) \rightarrow (F2) \text{ or } (F3) \rightarrow (F5) \rightarrow (F5) \rightarrow (F5)$

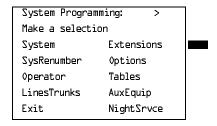
3 Common Administrative Procedures Optional Group Calling Features

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Procedure: Group Calling Overflow and Thresholds

Console Display/Instructions Additional Information PC

1. Select the Extensions menu.



[F6]

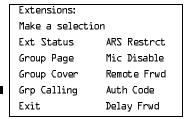
2. Go to the second screen of the Extensions menu.

Extensions:	>	
Make a selection		
LinesTrunks	RestrctCopy	
Line Copy	Account	
Dial OutCd	BIS/HFAI	
Restriction	Call Pickup	
Exit	VoiceSignl	

Press More.

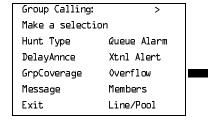
PgUp

3. Select Group Calling.



[F4]

4. Select Overflow.



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Console/Display Instructions

Additional Information

PC

Assign or remove the group or directory as overflow backup coverage.

Select Enter or Delete.

F10 F8

You may continue to assign or remove additional groups or directories as overflow backup coverage by repeating Steps 7 and 8.

If you do not want to change the current number of calls, timeout value, or prompt-based overflow setting, you have finished this procedure. Go to Step 21.

If you do not want to change the current number of calls, but want to change the timeout value, go to Step 14.

▶ 10. Select Number Based Overflow.

Group Calling xxxx Select one Number Based Overflow Time Based Overflow Prompt Based Overflow Exit

xxxx = number entered in Step 5

▶ 11. Erase the current number of calls (nn).

Group Calling xxxx:

Assign number of calls before overflow (1-99)

nn

Backspace

Exit Enter xxxx = number entered in Step 5

Press **Drop**.

▶ 12. Enter the number of calls in the queue before coverage (nn = 1 to 99).

Dial or type [nn].

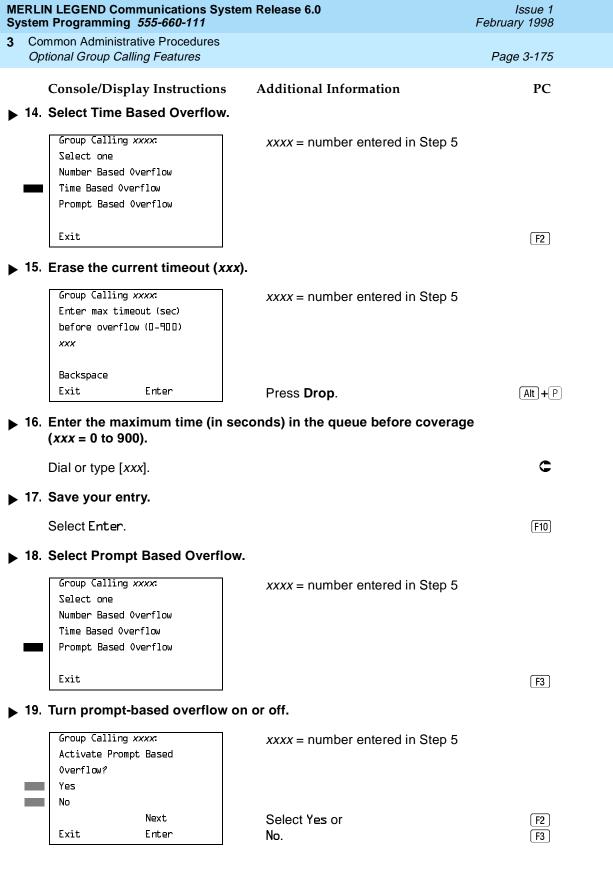
C

Alt + P

F1

13. Save your entry.

Select Enter.



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Additional Information

PC

▶ 20. Save your entry.

Select Enter to return to Step 10 or Next to return to Step 8.

F10

F9

You may change the overflow receiver by repeating Steps 7 and 8.

▶ 21. Return to the System Programming menu.

Select Exit three times.

[F5][F5][F5]

Group Calling Message-Waiting Indicator

Use this procedure to designate the extension to receive message-waiting indications (MWIs) for the calling group.

Only one extension can be designated as a message-waiting receiver for each calling group; however, more than one calling group can use the same message-waiting receiver. The extension assigned as a message-waiting receiver does not have to be a member of the calling group.

Message-waiting indications cannot be sent to the extension assigned to the group unless this option is programmed. The message-waiting receiver cannot distinguish between messages left for the calling group and personal messages.

Summary: Group Calling Message-Waiting Indicator

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting No message-waiting receiver assigned

Valid Entries Extension number

Inspect No Copy Option No

Console Procedure Extensions→More→Grp Calling→Message→

Dial calling group ext. no.→Enter→Dial ext. no. for MWI

 $receiver \rightarrow Enter \rightarrow Exit \rightarrow Exit$

F10 \rightarrow Type ext. no. for MWI receiver \rightarrow F10 \rightarrow F5 \rightarrow F5

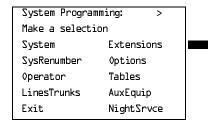
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Procedure: Group Calling Message-Waiting Indicator

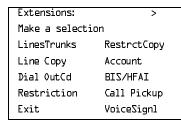
Console Display/Instructions Additional Information PC

1. Select the Extensions menu.



F6

▶ 2. Go to the second screen of the Extensions menu.



Press More.

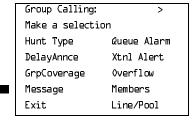
PgUp

3. Select Group Calling.

Extensions:	
Make a selection	on
Ext Status	ARS Restrct
Group Page	Mic Disable
Group Cover	Remote Frwd
Grp Calling	Auth Code
Exit	Delay Frwd

F4

4. Select Message-Waiting Receiver.



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3		mmon Administrative Procedures tional Group Calling Features		Page 3-178	
	_	Console/Display Instructions	Additional Information	PC	
	5.	Enter the extension of the calling	ng group.		
		Group Calling: Enter extension number of group			
		Backspace Exit Enter	Dial or type [<i>nnnn</i>].	C	
>	6.	Save your entry.			
		Select Enter.		F10	
>	7.	Erase the current extension (nr	rase the current extension (<i>nnnn</i>).		
		Group Calling xxxx: Enter message waiting extension nnnn	xxxx = number entered in Step 5		
		Backspace Next Exit Enter	Press Drop .	(Alt)+(P)	
>	8.	Specify the extension.	·		
		SP: "Entering an Extension"		C	
>	9.	Assign the extension as the receiver for the calling group.			
		Select Enter or Next		F10 F9	
			Use Next to assign an extension as the next calling group. Return to St		
>	10.	Return to the System Programm	ning menu.		
		Select Exit twice.		F5 F5	

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Group Calling Calls-In-Queue Alarm Thresholds

Use this procedure to specify the number of calls that wait in the calling group queue before group members are notified with either an external alert (an external alert is turned on when the third threshold is met) or a light on the telephone. Group members are notified when the number of calls waiting in the queue is equal to or greater than the programmed thresholds as follows:

- First Threshold, flashing light
- Second Threshold, winking light
- Third Threshold, solid light

NOTE:

To configure only one threshold, set *all* thresholds to the same number. The LED states are off and on. To configure only two thresholds, set two of the thresholds to be the same number, which has LED states off, flash, and on.

Summary: Group Calling Calls-In-Queue Alarm Thresholds

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Settings 1 call, for all Thresholds

Valid Entries 1 to 99

Inspect No Copy Option No

Console Procedure Extensions—More—Grp Calling—Queue Alarm—

Dial calling group ext. no.→Enter→Alarm Threshold lor Alarm Threshold 2 or Alarm Threshold 3→Drop→

Dial no. of calls \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F6 \rightarrow Type calling group ext. no. \rightarrow$

 $F10 \rightarrow Alt + P \rightarrow F1$ or F2 or $F3 \rightarrow Type$ no. of calls \rightarrow

 $[F10] \rightarrow [F5] \rightarrow [F5]$

3 Common Administrative Procedures Optional Group Calling Features

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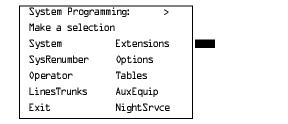
F6

PgUp

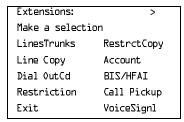
Procedure: Group Calling Calls-In-Queue Alarm Thresholds

Console Display/Instructions Additional Information PC

1. Select the Extensions menu.

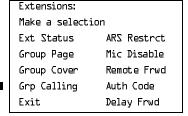


▶ 2. Go to the second screen of the Extensions menu.

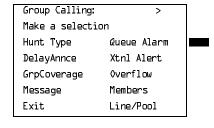


Press More.

▶ 3. Select Group Calling.



4. Select Queue Alarm.



[F4]

to Step 7.

Use Next program the next calling group. Return

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Console/Display Instructions Additional Information

PC

▶ 11. Return to the System Programming menu.

Select Exit twice.

F5 F5

Group Calling External Alert for Calls-In-Queue Alarm

Use this procedure to designate the external alert device used to notify calling group members when the number of calls in the queue reaches the programmed Threshold 3.

Only one external alert device can be designated for each calling group. Since the external alert signal is continuous, it is recommended that only light-type external alert devices be designated for the Calls-in-Queue alarm.

Summary: Group Calling External Alert for Calls-In-Queue Alarm

Programmable by System Manager

Mode. All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting Not applicable

Valid Entries Extension number

Inspect No Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow Xtnl Alert \rightarrow

Dial calling group ext. no. \rightarrow Enter \rightarrow Drop \rightarrow Dial ext. no. for alert \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F7 \rightarrow Type$ calling group ext. no. \rightarrow

 $F10 \rightarrow Alt + P \rightarrow Type ext. no. for alert \rightarrow F10 \rightarrow F5 \rightarrow F5$

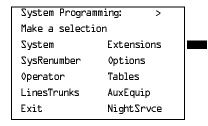
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Procedure: Group Calling External Alert for Calls-In-Queue Alarm

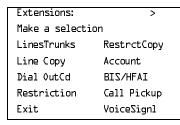
Console Display/Instructions Additional Information PC

1. Select the Extensions menu.



F6

▶ 2. Go to the second screen of the Extensions menu.



Press More.

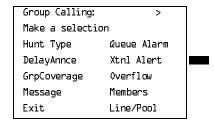
PgUp

3. Select Group Calling.

Extensions:	
Make a selection	
Ext Status	ARS Restrct
Group Page	Mic Disable
Group Cover	Remote Frwd
Grp Calling	Auth Code
Exit	Delay Frwd

F4

4. Select External Alert.



[F7]

F5 F5

▶ 10. Return to the System Programming menu.

Select Exit twice.

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Group Type

Use this procedure to determine whether or not the system automatically logs in members of a calling group after a power failure. This setting also determines the type of voice messaging interface when the calling group is used to connect voice messaging or automated attendant applications. The settings are listed below.

- Automatic Log Out. Used for calling groups to specify that the system does not automatically log in calling group members after a power failure.
 Calling group members must manually log themselves into the group.
- Automatic Log In. Used for calling groups that consist of fax machines or data workstations (also called data hunt groups) to specify that the system automatically logs in calling group members after a power failure. This setting can also be used for calling groups consisting of telephones.
- Integrated VMI. Used when a voice messaging system that requires special signaling for integrated operation (for example, AUDIX Voice Power, IS II/III, or MERLIN MAIL® Voice Messaging System) is connected to one or more extension jacks assigned to a calling group. The system automatically logs in the group members after a power failure.
- **Generic VMI.** Used when a voice messaging system that does not need special signaling is connected to one or more extension jacks assigned to a calling group. The system automatically logs in the group members after a power failure.

NOTE:

In Release 3.1 and later, any port programmed as a VMI port is programmed with:

- Outward restriction on
- A default FRL of 0 (the most restrictive)
- A default Disallowed List (List 7) that includes the numbers frequently associated with fraud

If the system manager changes a VMI port to non-VMI port, the restrictions are not turned off. To remove restrictions, the system manager must change them thorough system programming.

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Summary: Group Type

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting Automatic Log Out

Valid Entries Automatic login, Automatic logout, Integrated VMI, Generic

VMI

Inspect No

Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow More \rightarrow

Group Type \rightarrow Dial calling group ext. no. \rightarrow Enter \rightarrow Specify login type \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow PgUp \rightarrow F1 \rightarrow Type$ calling group ext.

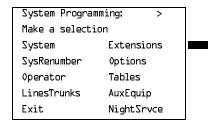
no. \rightarrow [F10] \rightarrow Specify login type \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

Procedure: Group Type

Console Display/Instructions Additional Information

PC

Select the Extensions menu.



F6

■ 2. Go to the second screen of the Extensions menu.

Extensions: >

Make a selection

LinesTrunks RestrctCopy

Line Copy Account

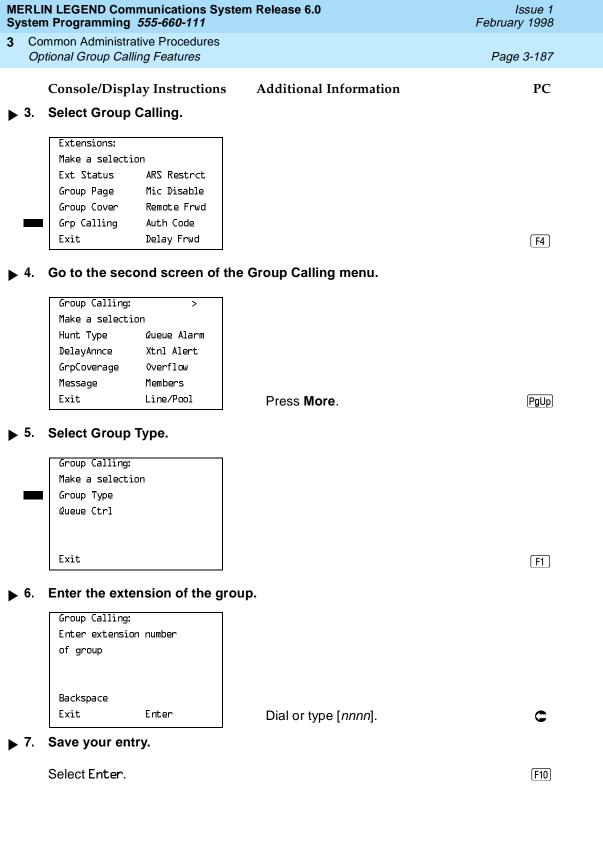
Dial OutCd BIS/HFAI

Restriction Call Pickup

Exit VoiceSignl

Press More.

PgUp



Common Administrative Procedures
Optional Group Calling Features

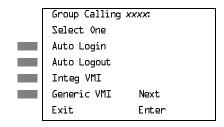
Page 3-188

Console/Display Instructions

Additional Information

PC

▶ 8. Specify the type of login for the group that occurs after a power failure.



xxxx = number entered in Step 6

Press the button or function key next to your selection.

C

9. Save your entry.

Select Enter or Next.

F10

Use Next to program the next calling group. Return to Step 8.

▶ 10. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Queue Control

In Release 6.0 and later systems, the system manager can control the maximum number of calls allowed in the primary calling group queue for calls that arrive on the following types of facilities:

- DID (Direct Inward Dialing) and dial-in TIE
- PRI facilities programmed for dial-plan routing
- All calls transferred from a VMI (voice messaging interface) port
- Internal calls to the DGC group
- Internal calls to the calling group through the QCC Position-Busy backup (PBB)
- Intrasystem calls to the DGC group
- All private network dialed calls, including remote DID

When the number of the calls in queue reaches the programmed maximum, subsequent callers receive a busy signal.

NOTE:

Dial-in tie trunks, including private tandem tie trunks (Release 6.0 and later systems, Hybrid/PBX only) cannot be assigned directly to calling groups.

Common Administrative Procedures
Optional Group Calling Features

Page 3-189

Remote-access calls to a calling group, coverage calls directed to a calling group, and all outside/CO calls are not eligible for queue control.

Queue control does not apply to calls received directly on any of the following facilities:

- Loop-start lines
- Ground-start lines/trunks
- Auto-in tie trunks
- BRI (Basic Rate Interface) channels
- T1 facilities emulating ground-start or loop-start lines/trunks
- PRI facilities programmed for line-appearance routing

When a call arrives on one of the above facilities, it is added to the calling group queue, even if that queue has reached or exceeded the programmed maximum number of calls. For example, if the maximum number of calling group calls is set to 40 and 40 calls have come in, subsequent callers on eligible facilities hear the busy tone. However, calls that come in on a LS line are added to the queue.

Summary: Queue Control

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting 99 calls

Valid Entries 0–99 (0 indicates no calls are gueued)

Inspect No Copy Option No

Console Procedure Extensions→More→Grp Calling→More→

Queue $Ctrl \rightarrow Dial$ calling group ext. no. $\rightarrow Enter \rightarrow Dial$ no. of

calls allowed in queue \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow PgUp \rightarrow F2 \rightarrow Type calling group ext.$

no \rightarrow F10 \rightarrow Type no. of calls allowed in queue \rightarrow F10 \rightarrow

 $F5 \rightarrow F5 \rightarrow F5$

Press More.

PgUp

GrpCoverage 0verflow Message Members Exit Line/Pool

F5 F5 F5

▶ 10. Return to the System Programming menu.

Select Exit three times.

Common Administrative Procedures System Features

Page 3-192

System Features

This section contains programming instructions for the optional system features that affect all or most system users and includes the following:

- Transfer Return Time
- One-Touch Transfer/Hold
- Transfer Audible
- Type of Transfer
- Camp-On Return Time
- Call Park Return Time
- Delay Ring Interval
- Automatic Callback Interval
- Extension Status
- SMDR Language
- SMDR Call Report Format
- SMDR Call Length
- SMDR Calls Recorded on Call Report
- SMDR Account Code Format
- Inside Dial Tone
- Reminder Service Cancel
- Redirect Outside Calls to Unassigned Extension Numbers
- Host System Dial Codes for Behind Switch Mode
- Recall Timer
- Allowed Lists
- Assign Allowed Lists to Extensions
- Disallowed Lists
- Assign Disallowed Lists to Extensions

3 Common Administrative Procedures
System Features
Page 3-193

Transfer Return Time

Use this procedure to specify the number of times the telephone rings before a call transferred to another inside telephone is returned to the originator. A setting of 0 means that transferred calls are never returned to the originator.



The transfer return time should not be set to 0 in a system with single-line telephones.

The transfer return time should not be set to 0 in a system with single-line telephones.

Summary: Transfer Return Time

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 4 rings (Integrated Administration: 6 rings)

Valid Entries 0 to 9 rings

Inspect No Copy Option No

Console Procedure 0ptions \rightarrow Transfer \rightarrow Return Time \rightarrow Drop \rightarrow

Dial no. of rings \rightarrow Enter \rightarrow Exit \rightarrow Exit

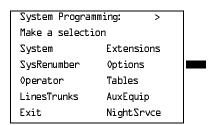
PC Procedure $\underbrace{F7} \rightarrow \underbrace{F1} \rightarrow \underbrace{F1} \rightarrow \underbrace{Alt} + \underbrace{P} \rightarrow Type \text{ no. of rings} \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

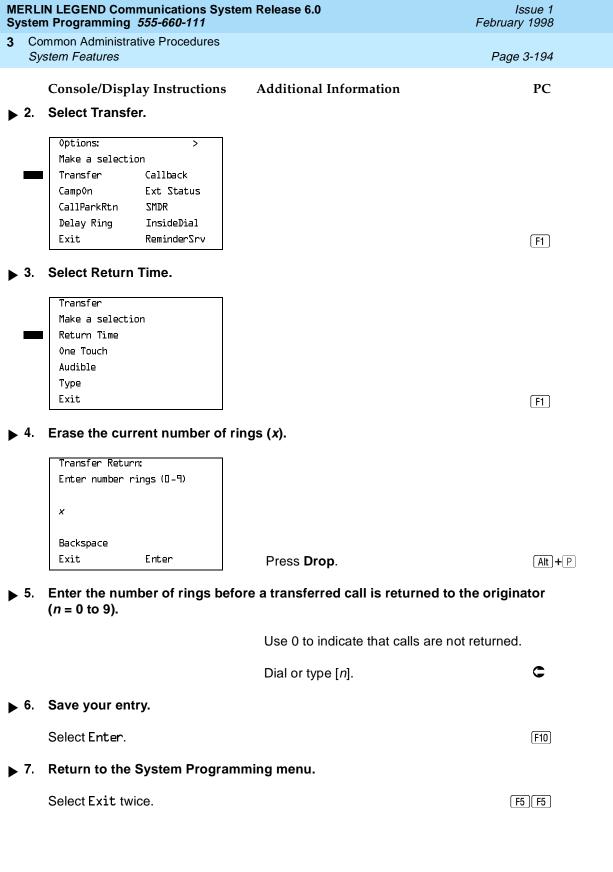
Procedure: Transfer Return Time

Console Display/Instructions Additional Information PC

1. Select the Options menu.



[F7]



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Issue 1

One-Touch Transfer/One-Touch Hold

3 Common Administrative Procedures

System Features

Use this procedure to assign the One-Touch Transfer or One-Touch Hold feature.

One-Touch Transfer allows users to initiate transfers to another extension by pressing an Auto Dial or DSS button for that extension. If the One-Touch Transfer feature is assigned, you must also specify whether the transfer completion is manual (the user has to press another button to complete the transfer) or automatic (the transfer is completed automatically).

The One-Touch Transfer feature is not available on single-line telephones.

One-Touch Hold applies to incoming central office calls only. When the user presses an Auto Dial or DSS button to initiate a transfer, the outside caller is put on hold. The system automatically selects an intercom facility and dials the transfer destination. There is no transfer return function with this method. Consequently, if the transfer destination does not answer or is busy, the user who initiates the transfer must notify the outside caller, or the outside caller remains on hold.

One-Touch Hold is the factory setting in Behind Switch mode only.

Summary: One-Touch Transfer/Hold

Programmable by System Manager

ΑII Mode

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting One-Touch Transfer, automatic completion (One-Touch Hold

is the factory setting in Behind Switch mode.)

Transfer, Hold Valid Entries

Inspect No Copy Option No

Console Procedure To program One-Touch Transfer:

Options→Transfer→One Touch→Transfer→ Enter→

Manual or Automatic→Enter→Exit→Exit

To program One-Touch Hold:

 $0ptions \rightarrow Transfer \rightarrow 0ne Touch \rightarrow Hold \rightarrow Enter \rightarrow$

Exit→Exit

PC Procedure To program One-Touch Transfer:

 $F7 \longrightarrow F1 \longrightarrow F2 \longrightarrow F1 \longrightarrow F10 \longrightarrow F1 \text{ or } F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

To program One-Touch Hold:

 $F7 \longrightarrow F1 \longrightarrow F2 \longrightarrow F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

Select Transfer or

Hold.

Exit

Enter

[F1]

[F2]

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Common Administrative Procedures
System Features

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Console/Display Instructions

Additional Information

PC

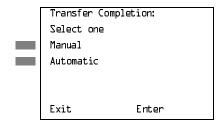
▶ 5. Save your entry.

Select Enter.

F10

If you selected Transfer, continue with Step 6. If you selected Hold, you have finished this procedure. Go to Step 8.

▶ 6. Specify manual or automatic transfer completion.



Select Manual or Automatic.

F1 F2

▶ 7 Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit twice.

[F5][F5]

Transfer Audible

Use this procedure to specify whether an outside caller hears ringing (also called ringback) or Music on Hold while being transferred. Inside callers always hear ringback during a transfer.

NOTES:

- If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a copyright license from and pay license fees to a third party (such as the American Society of Composers, Artists, and Producers or Broadcast Music Incorporated). Magic on Hold requires no such license and can be purchased from Lucent Technologies.
- 2. In Release 6.0 and later systems, when extensions are programmed to use the Centrex Transfer via Remote Call Forwarding feature, do not program Music On Hold as the transfer audible. If Music On Hold is programmed in this case, a caller being transferred hears a click, three seconds of Music On Hold, a second click, silence for about 10 seconds, then ringback or a busy tone from the central office. This can confuse callers, who may then hang up.

3 Common Administrative Procedures System Features

Page 3-198

Summary: Transfer Audible

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Music on Hold

Valid Entries Music on Hold, Ringback

Inspect No Copy Option No

Console Procedure Options—Transfer—Audible—Music on Hold or

 $Ringback \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F7 \rightarrow F1 \rightarrow F3 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

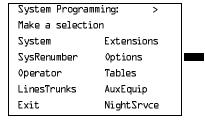
Procedure: Transfer Audible

Console Display/Instructions Ad

Additional Information

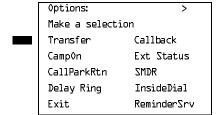
PC

▶ 1. Select the Options menu.



F7

2. Select Transfer.



[F1]

ΑII

Not required

selected

Form 8a, System Features

Ring button (Intercom or System Access) is automatically

Mode

Idle Condition

Planning Form

Factory Setting

3 Common Administrative Procedures
System Features

Page 3-200

Valid Entries Voice Announce, Ring

Inspect No Copy Option No

Console Procedure Options \rightarrow Transfer \rightarrow Type \rightarrow Voice Announce or Ring \rightarrow

Enter \rightarrow Exit \rightarrow Exit

PC Procedure $[F7] \rightarrow [F1] \rightarrow [F4] \rightarrow [F1]$ or $[F2] \rightarrow [F5] \rightarrow [F5]$

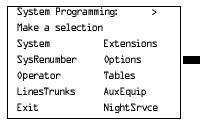
Procedure: Type of Transfer

Console Display/Instructions

Additional Information

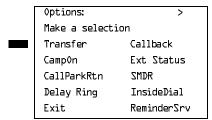
PC

1. Select the Options menu.



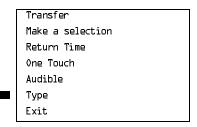
F7

2 Select Transfer.



F1

■ 3. Select Transfer Type.



F4

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Console/Display Instructions

Additional Information

PC

▶ 4. Specify whether a voice or ring button is automatically selected.



Select Voice Announce or Ring.

F1 F2

5. Save your entry.

Select Enter.

F10

. Return to the System Programming menu.

Select Exit twice.

F5 F5

Camp-On Return Time

Use this procedure to specify the number of seconds before a camped-on call (a call transferred to a busy telephone with the Camp-On feature) is returned to the originator.

Summary Camp-On Return Time:

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6f, System Features

Factory Setting 90 seconds

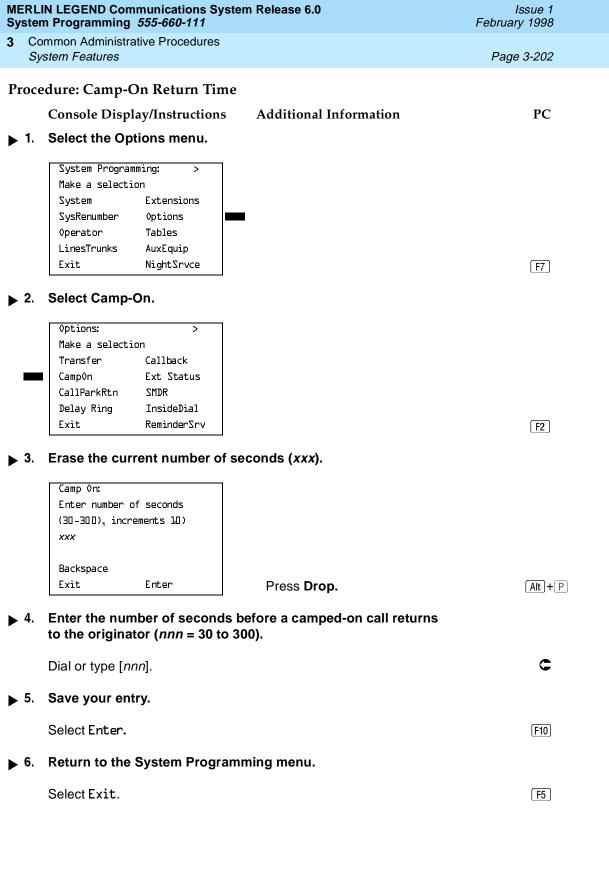
Valid Entries 30 to 300 seconds, in 10-second increments

Inspect No Copy Option No

Console Procedure $0ptions \rightarrow Camp0n \rightarrow Drop \rightarrow Dial no. of seconds \rightarrow$

 $Enter \rightarrow Exit$

PC Procedure $F7 \rightarrow F2 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow F10 \rightarrow F5$



3 Common Administrative Procedures
System Features Page 3-203

Call Park Return Time

Use this procedure to specify the number of seconds before a call put on hold with the Park feature is returned to the originator.

Summary: Call Park Return Time

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 180 seconds

Valid Entries 30 to 300 seconds, in 10-second increments

Inspect No Copy Option No

Console Procedure 0ptions \rightarrow CallParkRtn \rightarrow Drop \rightarrow Dial no. of seconds \rightarrow

 $Enter \rightarrow Exit$

PC Procedure $F7 \rightarrow F3 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow F5 \rightarrow F5$

Procedure: Call Park Return Time

Console Display/Instructions

Additional Information

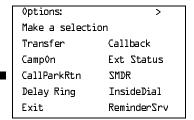
PC

1. Select the Options menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

[F7]

Select Call Park Return.



F3

MERLIN LEGEND Communications System Release 6.0 Issue 1 System Programming 555-660-111 February 1998 Common Administrative Procedures System Features Page 3-204 PC Console/Display Instructions Additional Information Erase the current number of seconds (xxx). Call Park Return Time: Enter time before return (30-300 sec increment 10)XXX Backspace Exit Enter Alt + P Press **Drop**. Enter the number of seconds before a parked call returns to the originator (nnn = 30 to 300).C Dial or type [nnn]. Save your entry. Select Enter. F10

6. Return to the System Programming menu.

Select Exit. F5

Delay Ring Interval

Use this procedure to specify the number of rings for the delay ring interval. The delay ring interval is applied when a primary, secondary, or group cover button is set to delayed ring.



This setting is for Release 4.0 and earlier systems. Use Primary Cover Ring Delay and Secondary Cover Ring Delay for Release 4.1 and later systems.

Summary: Delay Ring Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 2 rings

Valid Entries 1 to 6 rings

Inspect No
Copy Option No

Common Administrative Procedures
System Features

Page 3-205

Console Procedure ${\tt Options} {\to} {\tt Delay Ring} {\to} {\tt Drop} {\to} {\tt Dial no. of rings} {\to} {\tt Enter} {\to} {\tt Exit}$

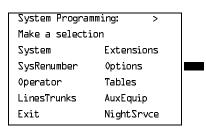
PC Procedure $F7 \rightarrow F4 \rightarrow Alt + P \rightarrow Type no. of rings \rightarrow F10 \rightarrow F5$

Procedure: Delay Ring Interval

Console Display/Instructions Additional Information

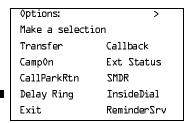
PC

Select the Options menu.



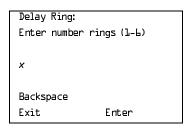
[F7]

▶ 2. Select Delay Ring.



F4

▶ 3. Erase the current number of rings (x).



Press Drop.

Alt + P

F5

▶ 4. Enter the number of rings for the delay ring interval (n = 1 to 6).

Dial or type [n].

5. Save your entry.

Select Enter. F10

▶ 6. Return to the System Programming menu.

Select Exit.

3 Common Administrative Procedures
System Features
Page 3-206

Automatic Callback Interval

Use this procedure to specify the number of times the telephone rings at the originator's telephone before the system cancels a Callback request.

Summary: Automatic Callback Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 3 rings

Valid Entries 1 to 6 rings

Inspect No Copy Option No

Console Procedure ϕ Drop \to Dial no. of rings \to

Enter→Exit

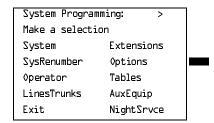
PC Procedure $F7 \rightarrow F6 \rightarrow Alt + P \rightarrow Type no. of rings \rightarrow F10 \rightarrow F5$

Procedure: Automatic Callback Interval

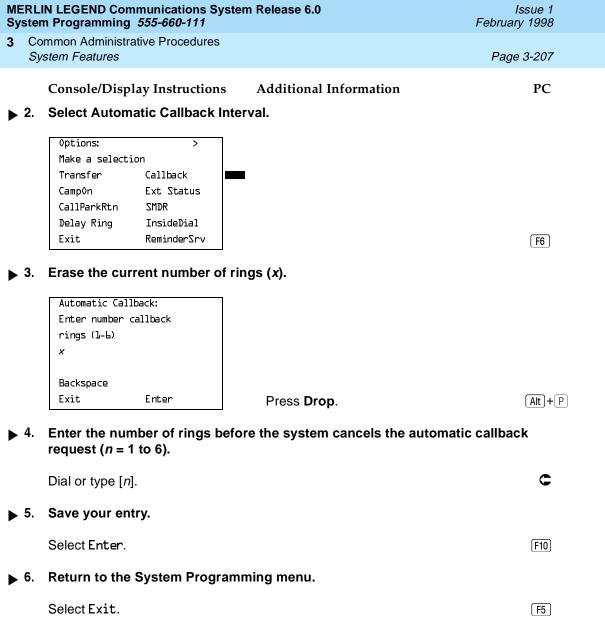
Console Display/Instructions Additional Information

PC

▶ 1. Select the Options menu.



[F7]



3 Common Administrative Procedures
System Features Page 3-208

Extension Status

Use this procedure to specify whether the Extension Status (ES) feature is used in Hotel mode or Group Calling/Call Management System (CMS) mode.

The calling mode affects the meaning of the LEDs and the use of Auto Dial or DSS buttons when the DLC operator position is in Extension Status mode.

In Hotel mode, telephones are restricted from making calls in Extension Status states 1 and 2 (ES1 and ES2). In Group Calling/CMS mode, ES states reflect member or agent status without restricting the telephones. In the Group Calling/CMS mode, the Extension Status feature is used by the agents to log in and out, and by the supervisor to see agent status.

Summary: Extension Status

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features
Factory Setting Group Calling/CMS mode

Valid Entries Group Calling/CMS mode, Hotel mode

Inspect No Copy Option No

Console Procedure Options→Ext Status→Hotel or GrpCall/CMS→

Enter→Exit

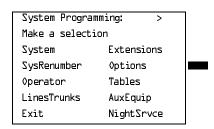
PC Procedure $F7 \rightarrow F7 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5$

Procedure: Extension Status

Console Display/Instructions Additional Information

PC

▶ 1. Select the Options menu.



[F7]

3 Common Administrative Procedures System Features

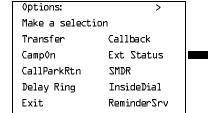
Page 3-209

Select Extension Status.

Console/Display Instructions

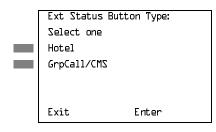
Additional Information

PC



[F7]

■ 3. Specify the extension status mode.



Select Hotel or GrpCall/CMS.

F1 F2

4. Save your entry.

Select Enter.

F10

▶ 5. Return to the System Programming menu.

Select Exit.

F5

SMDR Language

Use this procedure to change the language of the SMDR reports. It applies to Releases 1.1, 2.0, 2.1 and 3.0 only. The default report language is the same as that set for the system language. See <u>"System Language" on page 5.</u>

Summary: SMDR Language

Programmable by. System Manager

Mode All

Idle Condition Not required

Planning Form Form 1, System Planning

Factory Setting English (matches System Language setting)

Valid Entries English, French, Spanish

3 Common Administrative Procedures
System Features

Page 3-210

Inspect No Copy Option No

Console Procedure $More \rightarrow Language \rightarrow SMDR \rightarrow Select language \rightarrow Enter \rightarrow Exit$

PC Procedure $(PgUp) \rightarrow (F6) \rightarrow (F3) \rightarrow Select language \rightarrow (F10) \rightarrow (F5)$

Procedure: SMDR Language

Console Display/Instructions Additional Information

PC

1. Go to the second screen of the System Programming menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

Press More.

PgUp

2. Select Language.

System Programming:

Make a selection

Labeling Language

Data

Print

Cntr-Prg

Exit

F6

3. Select SMDR.

Language:
Make a selection
SystemLang
Extensions
SMDR
Printer
Exit

Program the system language first. See "System Language" on page 5.

[F3]

Common Administrative Procedures
System Features

Page 3-211

Console/Display Instructions

Additional Information

PC

▶ 4. Specify the SMDR language.



Select English, French, or

F1 F2

Spanish.

F3

5. Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit.

F5

SMDR Call Report Format

Use this procedure to specify whether the SMDR call reports are printed in Basic format or ISDN format. In ISDN format, automatic number identification (ANI) or Caller ID information appears in the Calling Number field in place of IN (which appears in the Basic report format). The call recording type for these calls is I in ISDN format and C in Basic format.

ISDN format should be used only in conjunction with automatic number identification (ANI) or Caller ID service subscription.

Summary: SMDR Call Report Format

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Basic format Valid Entries Basic, ISDN

Inspect No Copy Option No

Common Administrative Procedures
System Features

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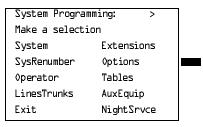
PC Procedure $F7 \rightarrow F8 \rightarrow F1 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: SMDR Call Report Format

Console Display/Instructions Additional Information

PC

1. Select the Options menu.



F7

2. Select SMDR.

Options: >

Make a selection

Transfer Callback

CampOn Ext Status

CallParkRtn SMDR

Delay Ring InsideDial

Exit ReminderSrv

F8

→ 3. Select Call Report Format.

Station Message Record:

Make a selection

Format Auth Code

Call Length Talk Time

Call Report

New Page

Exit

F1

◆ 4. Specify a format for the SMDR reports.

SMDR Format:
Select one
Basic SMDR
ISDN SMDR

Exit Enter

Select Basic SMDR or ISDN SMDR.

F1 F2

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Console/Display Instructions

Additional Information

PC

▶ 5. Save your entry.

Select Enter.

F10

6. Return to the System Programming menu.

Select Exit twice.

F5 F5

SMDR Call Length

Use this procedure to set the minimum time length of a call before it is recorded on SMDR call reports.



- 1. If the majority of lines/trunks are PRI, the recommended call length is 1. See the *Feature Reference* for more information.
- The outbound call of a Centrex Transfer via Remote Call Forwarding call will not be recorded unless the minimum time length is set to zero (0). The inbound Centrex call to the Principle User who has Centrex Transfer via Remote Call Forwarding will also not be recorded unless the minimum time length is 0.

Summary: SMDR Call Length

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 40 seconds

Valid Entries 0 to 255 seconds

Inspect No Copy Option No

 ${\tt Console\ Procedure\ Options} {\to} {\tt SMDR} {\to} {\tt Call\ Length} {\to} {\tt Drop} {\to}$

Dial no. of seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F7 \rightarrow F8 \rightarrow F2 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

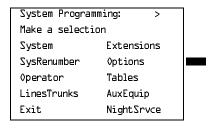
Common Administrative Procedures
System Features

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Procedure: SMDR Call Length

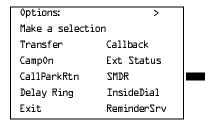
Console Display/Instructions Additional Information PC

■ 1. Select the Options menu.



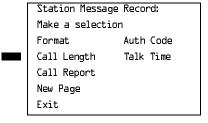
[F7]

2 Select SMDR.



F8

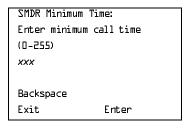
3. Select Call Length.



New Page inserts a page break in the report.

F2

▶ 4. Erase the current number of seconds (xxx).



Press **Drop**.

Alt + P

Enter the minimum number of seconds to elapse before calls are recorded on the SMDR reports (nnn = 0 to 255).

Dial or type [nnn].



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Console/Display Instructions

Additional Information

PC

▶ 5. Save your entry.

Select Enter.

F10

6. Return to the System Programming menu.

Select Exit twice.

F5 F5

SMDR Calls Recorded on Call Report

Use this procedure to specify whether SMDR information should be recorded for both incoming and outgoing calls or for outgoing calls only.



NOTE:

This procedure affects call recording for calls on networked private trunks. If you set SMDR to report outgoing calls only, only outgoing calls are recorded for these trunks.

Summary: SMDR Calls Recorded on Call Report

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Incoming and outgoing

Valid Entries In/Out, Out Only

Inspect No

Copy Option No

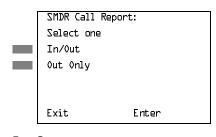
Console Procedure Options→SMDR→Call Report→In/Out or Out Only→

 $Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $(F7) \rightarrow (F8) \rightarrow (F3) \rightarrow (F1) \text{ or } (F2) \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

Call Length Talk Time Call Report New Page Exit

Specify whether SMDR information is recorded for both incoming and outgoing calls or for outgoing calls only.



Select In/Out or Out Only.

F1 F2

F3

Save your entry.

Select Enter. F10

Return to the System Programming menu.

Select Exit twice. F5 F5

3 Common Administrative Procedures
System Features

Page 3-217

SMDR Account Code Format

For calls made using an authorization code, SMDR can be programmed to have either the "home extension" or the actual authorization codes recorded in the Account Code field if no Account Code is entered. Account Code overrides the Authorization Code entry in the SMDR record when both features are used.

Summary: SMDR Account Code Format

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6h, Authorization Codes

Factory Setting Home Extension Number

Valid Entries Home Extension Number, Authorization Code

Inspect No

Copy Option No

Console Procedure Options \rightarrow SMDR \rightarrow Auth Code \rightarrow Home Extension Number or

Authorization Code \rightarrow Enter \rightarrow Exit \rightarrow Exit

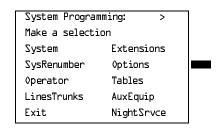
PC Procedure $F7 \rightarrow F8 \rightarrow F6 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: SMDR Account Code Format

Console Display/Instructions Additional Information

PC

▶ 1. Select the Options menu.



[F7]

F10

Save your entry.

Press Enter.

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SMDR Talk Time

In Release 4.2 and later systems, the Talk field was added to the SMDR call record. The talk field is designed for the MERLIN LEGEND Reporter application that is used to capture detailed information on incoming and outgoing voice and data calls with a special emphasis on calling groups. The talk field contains the talk-time duration—the amount of time (59:59 maximum) that a calling group agent spends on an incoming call including any actions that the agent takes while handling the call.

If your system includes a MERLIN LEGEND Reporter, the Talk Time option must be enabled. All other configurations must have the Talk Time option disabled.

Summary: SMDR Talk Time

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form 8a, System Features

Factory Setting Disabled

Valid Entries Enable, Disable

Inspect No Copy Option No

Console Procedure $Options \rightarrow SMDR \rightarrow Talk Time \rightarrow Enable or Disable \rightarrow$

Enter→Exit→Exit

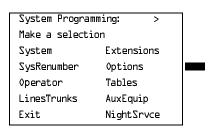
PC Procedure $(F7) \rightarrow (F8) \rightarrow (F7) \rightarrow (F1)$ or $(F2) \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

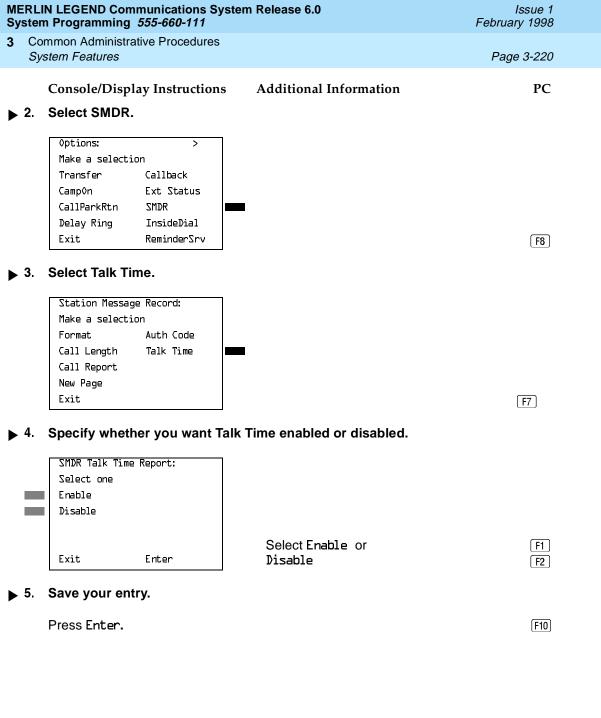
Procedure: SMDR Talk Time

Console Display/Instructions Additional Information

PC

1. Select the Options menu.





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3 Common Administrative Procedures
System Features

Inside Dial Tone

Use this procedure to set the inside (system) dial tone to be either different from, or the same as, the outside line/trunk dial tone.



The inside dial tone must be the same as the outside dial tone when the internal dial tone is not recognized by software applications or modems.

Summary: Inside Dial Tone

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Inside dial tone is different from outside dial tone

Valid Entries Inside, Outside

Inspect No Copy Option No

Console Procedure Options→InsideDial→Inside or Outside→ Enter→Exit

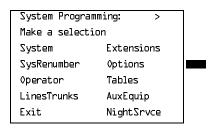
PC Procedure $[F7] \rightarrow [F9] \rightarrow [F1]$ or $[F2] \rightarrow [F10] \rightarrow [F5]$

Procedure: Inside Dial Tone

Console/Display Instructions Additional Information

PC

1. Select the Options menu.



[F7]

3 Common Administrative Procedures System Features

Page 3-222

Console/Display Instructions Select Inside Dial Tone.

Additional Information

PC

Options: >

Make a selection

Transfer Callback

CampOn Ext Status

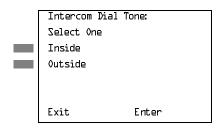
CallParkRtn SMDR

Delay Ring InsideDial

Exit ReminderSrv

F9

▶ 3. Specify which dial tone you want for inside.



Select Inside or Outside.

[F1]

F2

4. Save your entry.

Select Enter.

F10

▶ 5. Return to the System Programming menu.

Select Exit.

F5

Reminder Service Cancel

Use this procedure to set the time of day when all programmed Reminder Service calls are automatically canceled.

To deactivate Reminder Service Cancel, erase the currently programmed time and do not enter a new time.

Summary: Reminder Service Cancel

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Not applicable

3 Common Administrative Procedures
System Features

Page 3-223

Valid Entries 0000 to 2359

Inspect No Copy Option No

Console Procedure To deactivate Reminder Service Cancel:

 $0ptions \rightarrow Reminder Srv \rightarrow Drop \rightarrow Enter \rightarrow Exit$

To set Reminder Service Cancel time:

 $0ptions \rightarrow Reminder Srv \rightarrow Drop \rightarrow Dial time \rightarrow Enter \rightarrow Exit$

PC Procedure To deactivate Reminder Service Cancel:

 $F7 \longrightarrow F10 \longrightarrow Alt + P \longrightarrow F10 \longrightarrow F5$

To set Reminder Service Cancel time:

 $F7 \rightarrow F10 \rightarrow Alt + P \rightarrow Type time \rightarrow F10 \rightarrow F5$

Procedure: Reminder Service Cancel

Console Display/Instructions

Additional Information

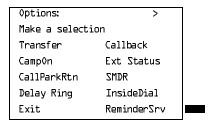
PC

▶ 1. Select the Options menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

F7

2. Select Reminder Service Cancel.



	LIN LEGEND Communications System Programming 555-660-111	em Release 6.0	lssue 1 February 1998
_	ommon Administrative Procedures system Features		Page 3-224
	Console/Display Instructions	Additional Information	PC
3 .	Erase the current reminder se	rvice time (xxxx) if assigned.	
	Reminder Service Cancel: Enter hour (OO-23) and minute (OO-59) xxxx		
	Backspace Exit Enter	Press Drop .	Alt + P
4 .	Enter the time of day when all $(hh = 00 \text{ to } 23 \text{ and } mm = 00 \text{ to}$		
		To deactivate Reminder Service enter a time. Go to Step 5.	ce Cancel, do not
	Dial or type [hhmm].		C
5 .	Save your entry.		
	Select Enter.		F10
6 .	Return to the System Program	nming menu.	
	Select Exit.		F5

Redirect Outside Calls to Unassigned Extension Numbers

Use this procedure to specify the extension number to receive redirected calls. Redirected calls include calls made to unassigned numbers by remote access users, by users on DID trunks (Hybrid/PBX only), or by users on dial-in tie trunks. Calls can be redirected to the following locations:

- The QCC queue (Hybrid/PBX only)
- Another extension number
- A calling group

This setting does not affect calls received on DID trunks if you have specified that calls to unassigned DID extensions are to receive a fast busy signal. See <u>"Invalid Destination"</u> on page 163.

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Summary: Redirect Outside Calls to Unassigned Extension Numbers

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Extension number of primary operator

Valid Entries QCC queue extension number, other extension number

Inspect No Copy Option No

Console Procedure To select QCC queue:

 $Options \rightarrow More \rightarrow Unassigned \rightarrow QCC Queue \rightarrow Enter \rightarrow Exit$

To select extension or calling group:

 $\label{eq:problem} \begin{array}{l} \texttt{Options} {\to} \textbf{More} {\to} \texttt{Unassigned} {\to} \texttt{Extension} \ \text{or} \\ \texttt{Grp Calling} {\to} \texttt{Enter} {\to} \texttt{Dial ext. no.} {\to} \texttt{Enter} {\to} \\ \end{array}$

Dial group no. \rightarrow Enter \rightarrow Exit

PC Procedure To select QCC queue:

 $F7 \longrightarrow PgUp \longrightarrow F1 \longrightarrow F1 \longrightarrow F10 \longrightarrow F5$

To select extension or calling group:

 $[F7] \rightarrow [PgUp] \rightarrow [F1] \rightarrow [F2] \text{ or } [F3] \rightarrow [F10] \rightarrow [F5]$

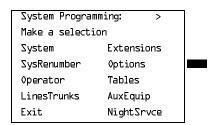
Procedure: Redirect Outside Calls to Unassigned Extension Numbers

Console Display/Instructions

Additional Information

PC

▶ 1. Select the Options menu.



[F7]

Common Administrative Procedures System Features

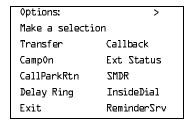
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Console/Display Instructions

Additional Information

PC

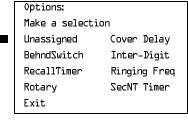
Go to the second screen of the Options menu.



Press More.

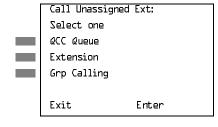
PgUp

Select Redirect Unassigned Extension Numbers.



[F1]

Specify where to redirect calls made to unassigned extension numbers.



Select QCC Queue, Extension, or

F1 [F2]

F3

F10

Grp Calling.

Save your entry.

Select Enter.

If you selected QCC Queue, you have

finished this procedure. Go to Step 7.

If you selected Extension, go to

Extension Procedure.

If you selected Grp Calling, go to

Group Calling Procedure.

Save your entry.

Select Enter.

		IN LEGEND Communications System R n Programming <i>555-660-111</i>	elease 6.0 Februar	ssue 1 y 1998
3		mmon Administrative Procedures stem Features	Page	3-227
•	7.	Console/Display Instructions A	additional Information g menu.	PC
		Select Exit.		F5
•	Ext	ension Procedure		
		Console Display/Instructions A	Additional Information	PC
>	1.	Specify the extension to which cal	lls are to be redirected.	
		Unassign Calls Ext: Enter extension		
		Backspace Exit Enter	SP: "Entering an Extension"	C
>	2.	Save your entry.		
		Select Enter.		F10
•	3.	Return to the System Programmin	g menu.	
		Select Exit.		F5
♦	Gro	oup Calling Procedure		
		Console/Display Instructions A	Additional Information	PC
>	1.	Enter the extension of the calling	group to which calls are to be redirected	
		Unassign Calls Grp Call: Enter extension number of group		
		Backspace Exit Enter	Dial or type [nnnn].	C
>	2.	Save your entry.		
		Select Enter.		F10
>	3.	Return to the System Programmin	g menu.	
		Select Exit.		F5

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System Features

Host System Dial Codes for Behind Switch Mode

Use this procedure to assign the host system dial codes for the Transfer, Conference, and Drop features.

When multiline telephone users press the **Transfer**, **Conference**, or **Drop** button, a signal is sent to the host service and the communications system features are not accessed. Assigning dial codes to these features ensures that users can take advantage of them through the host system.

NOTE:

This procedure applies to Behind Switch mode only.

Summary: Host System Dial Codes for Behind Switch Mode

Programmable by System Manager

Mode Behind Switch

Idle Condition Not required

Planning Form Form 1, System Planning

Factory Setting No host dial codes are assigned

Valid Entries Host system dial code of up to six digits

Inspect No Copy Option No

Console Procedure Options→More→BehndSwitch→Select feature→Drop→

Dial host system dial code→Enter→Exit→Exit

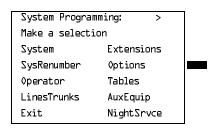
PC Procedure $F7 \rightarrow PgUp \rightarrow F2 \rightarrow Select feature \rightarrow Alt + P \rightarrow$

Type host system dial code \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Host System Dial Codes for Behind Switch Mode

Console Display/Instructions Additional Information PC

▶ 1. Select the Options menu.



C

Enter the host system dial code (up to 6 digits).

Dial or type [n].

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3 Common Administrative Procedures System Features

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Console/Display Instructions

Additional Information

PC

▶ 7. Save your entry.

Select Enter.

F10

8. Return to the System Programming menu.

Select Exit twice.

F5 F5

Recall Timer

Use this procedure to designate the length of the timed flash that is sent when Recall is used to disconnect a call and get a new dial tone without hanging up. Both the interval of the timed flash and how Recall works depend on the type of telephone and system operating mode.

The recall timer should be reset if multiline telephone users experience either of the following problems:

- Nothing happens when the user presses the Recall button on an outside call. This indicates that the interval is too short and should be increased to 650 milliseconds or one second.
- In a system operating in Behind Switch mode, the call is disconnected when the user presses the Recall button on an outside call. This indicates that the interval is too long and should be decreased to 350 milliseconds.

Summary: Recall Timer

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 450 ms

Valid Entries 350 ms, 450 ms, 650 ms, 1 second

Inspect No Copy Option No

Console Procedure Options→More→RecallTimer→Select time→

Enter→Exit

PC Procedure $F7 \rightarrow PgUp \rightarrow F3 \rightarrow Select time \rightarrow F10 \rightarrow F5$

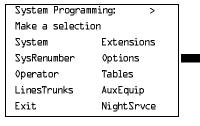
Common Administrative Procedures
System Features

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Procedure: Recall Timer

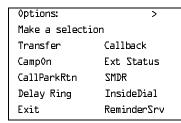
Console Display/Instructions Additional Information PC

Select the Options menu.



[F7]

▶ 2. Go to the second screen of the Options menu.



Press More.

PgUp

3. Select Recall Timer.

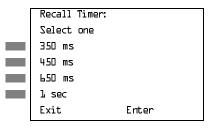
Options:

Make a selection

Unassigned Cover Delay
BehndSwitch Inter-Digit
RecallTimer Ringing Freq
Rotary SecNT Timer
Exit

F3

▶ 4. Specify a timer setting.



Press the button or function key next to your selection.

C

5. Save your entry.

Select Enter.

F10

▶ 6. Return to the System Programming menu.

Select Exit.

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Interdigit Timers

This procedure to program interdigit timers has not yet been implemented. If situations occur where a caller is attempting to make an outside call and becomes connected to an incoming call, the caller may not be able to put the incoming call on hold or transfer the call. Setting interdigit timers to shorter times permits the call to be put on hold or transferred. If you are experiencing these types of problems, call the Lucent Technologies Helpline at 1 800 628-2888.

Allowed Lists

Use this procedure to establish Allowed Lists. These lists are telephone numbers that can be dialed from specified telephones, regardless of any calling restrictions assigned to the telephones.

A maximum of eight lists (numbered 0 through 7), with a maximum of 10 numbers each (numbered 0 through 9) allowed. Each allowed number can be no more than six digits (an area code plus an exchange) or six digits with a leading 1, where required.

If you program 0 as the first digit of a list entry, any toll restriction assigned to the extension is removed for calls that can be placed by a toll operator.

Special characters (such as Pause) are not permitted in Allowed List entries.

Summary: Allowed Lists

	Programma	ble by	System	Manager
--	-----------	--------	--------	---------

Mode ΑII

Idle Condition Not required

Planning Form Form 6g, Call Restriction Assignments and Lists

Factory Setting Not applicable

Valid Entries Area code/exchange (1- to 6-digits with leading 1, if

necessary)

Inspect No Copy Option No

Console Procedure Tables→AllowList→Dial list no. and entry no.→

Enter \rightarrow **Drop** \rightarrow Dial no. \rightarrow Enter \rightarrow Exit

PC Procedure $F8 \rightarrow F1 \rightarrow Type$ list no. and entry no. $\rightarrow F10 \rightarrow F10 \rightarrow$

Alt + $P \rightarrow Type no. \rightarrow F10 \rightarrow F5$

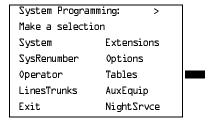
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System Features

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Procedure: Allowed Lists

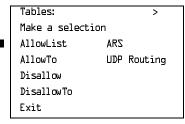
Console Display/Instructions Additional Information PC

1. Select the Tables menu.



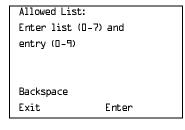
[F8]

▶ 2. Select Allowed List.



F1

▶ 3. Enter the list (I = 0 to 7) and entry (e = 0 to 9) numbers.



If you do not enter a list number, List 0 is assigned.

Dial or type [le].

C

▶ 4. Save your entry.

Select Enter.

(F10)

MERLIN LEGEND Communications System Release 6.0 Issue 1 System Programming 555-660-111 February 1998 Common Administrative Procedures System Features Page 3-234 **Additional Information** PC Console/Display Instructions Erase the current area code/exchange (nnnnnn). Allowed List *l* Entry *e* : I = list number entered in Step 3 Enter list item e = entry number entered in Step 3 nnnnnn Backspace Next Exit Enter Press Drop. Alt + P Enter the allowed area code/exchange (up to 6 digits). C Dial or type [n]. Save your entry. Select Enter or F10 Next. F9 Use Next to enter the next number on the list displayed on Line 1. Return to Step 7. Return to the System Programming menu. [F5] Select Exit. **Assign Allowed Lists to Extensions** Use this procedure to assign individual extensions access to established Allowed Lists. More than one Allowed List can be assigned to an extension. **Summary: Assign Allowed Lists to Extensions** Programmable by System Manager Mode ΑII Idle Condition Not required Planning Form Form 6g, Call Restriction Assignments and Lists

Factory Setting

Valid Entries

Copy Option

Inspect

Not applicable

0 to 7

Yes

Yes

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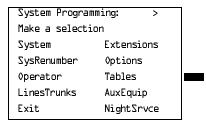
PC Procedure $F8 \rightarrow F2 \rightarrow Type \text{ list no.} \rightarrow F10 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Assign Allowed Lists to Extensions

Console Display/Instructions Additional Information

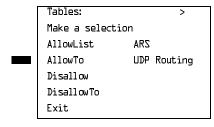
PC

. 1. Select the Tables menu.



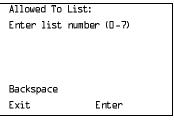
F8

▶ 2. Select Allowed To List.



F2

▶ 3. Enter the number of the list (n = 0 to 7).



If you do not enter a list number, List 0 is assigned.

Dial or type [n].

▶ 4. Save your entry.

Select Enter.

Continue to assign extensions to the next allowed list or go to Step 8.

Return to the System Programming menu.

Select Next.

Select Exit twice.

allowed list from additional extensions by

Return to Step 5. The next Allowed List is

F9

F5 F5

repeating Steps 5 and 6.

displayed on Line 1.

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Disallowed Lists

System Features

Use this procedure to establish Disallowed Lists. These lists are telephone numbers that cannot be dialed from specified extensions (including unrestricted extensions).

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A maximum of eight lists (numbered 0 through 7), with 10 entries each (numbered 0 through 9) is allowed. Each number can have a maximum of 11 digits, including wildcards. The Pause character (entered by pressing the **Hold** button) is used to designate a wildcard character, for example, to indicate that calls to a given exchange are restricted in every area code.



SECURITY ALERT:

Create a Disallowed List or use the pre-prepared Disallowed List number 7 (Release 3.1 and later systems only) to disallow dialing 0, 11, 10, 1700, 1809, 1900, and 976 or 1(wildcard)976. In Release 3.1 and later systems, Disallowed List number 7 does not include 800 and 1800 and 411 and 1411, but Lucent Technologies recommends that you add them. Assign all voice mail port extensions to this Disallowed List. Lucent Technologies recommends assigning Disallowed List number 7. This is an added layer of security, in case outward restriction is inadvertently removed. (In Release 3.1 and later systems, voice messaging ports are assigned by default to Disallowed List number 7.)

Summary: Disallowed Lists

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 6g, Call Restriction Assignments and Lists

Factory Setting List #7 containing the following:

0, 10, 11, 1809, 1700, 1900, 976, 1ppp976 (p = wildcard), *

Valid Entries 1- to 11-digits (including wildcards)

Inspect No Copy Option No

Console Procedure Tables→Disallow→Dial list no. and entry no.→Enter→

Drop \rightarrow Dial no. \rightarrow Enter \rightarrow Exit

PC Procedure $F8 \rightarrow F3 \rightarrow Type$ list no. and entry no. $\rightarrow F10 \rightarrow Alt + P \rightarrow F10 \rightarrow$

Type no. \rightarrow F10 \rightarrow F5

Common Administrative Procedures
System Features

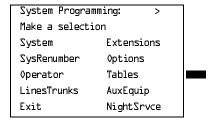
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Procedure: Disallowed Lists

Console Display/Instructions Additional Information

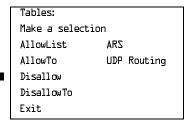
PC

▶ 1. Select the Tables menu.



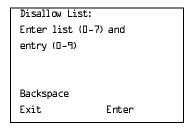
F8

2. Select Disallowed List.



F3

Specify the list (I = 0 to 7) and entry (e = 0 to 9) numbers.



If you do not enter a list number, List 0 is assigned.

Dial or type [le].

C

▶ 4. Save your entry.

Select Enter.

F10

▶ 5. Erase the current telephone (*n*).

Disallow List 1	Entry e
Enter list item	
(12 digits maxim	ium)
nnnnn	
Backspace	Next
Exit	Enter

I = list number entered in Step 3e = entry number entered in Step 3

Press **Drop**.

(Alt)+(P)

	IN LEGEND Communicati m Programming <i>555-660-</i>		Issue 1 February 1998		
_	ommon Administrative Proce stem Features	dures	Page 3-239		
	Console/Display Instru	ctions Additional Information	PC		
▶ 6.	Enter the disallowed t	elephone number (n = up to 12 digits).			
	Dial or type [n].		C		
▶ 7.	7. Continue to assign the next telephone number to the disallowed list or go to Step 8.				
	Select Next.		F9		
		Use Next to assign the next of disallowed list displayed on L Step 5.	-		
▶ 8.	Return to the System	Programming menu.			
	Select Exit.		F 5		
Assi	gn Disallowed Lists to	Extensions			
	Use this procedure to assign established Disallowed Lists to individual extensions. Each restricted extension can be assigned to more than one list.				
Sum	mary: Assign Disallov	ed Lists to Extensions			
	Programmable by.	System Manager			
	Mode	All			
	Idle Condition	Not required			
	Planning Form	Form 6g, Call Restriction Assignments an	nd Lists		
	Factory Setting	Not applicable			

Valid Entries

Copy Option

PC Procedure

Inspect

0 to 7

Yes

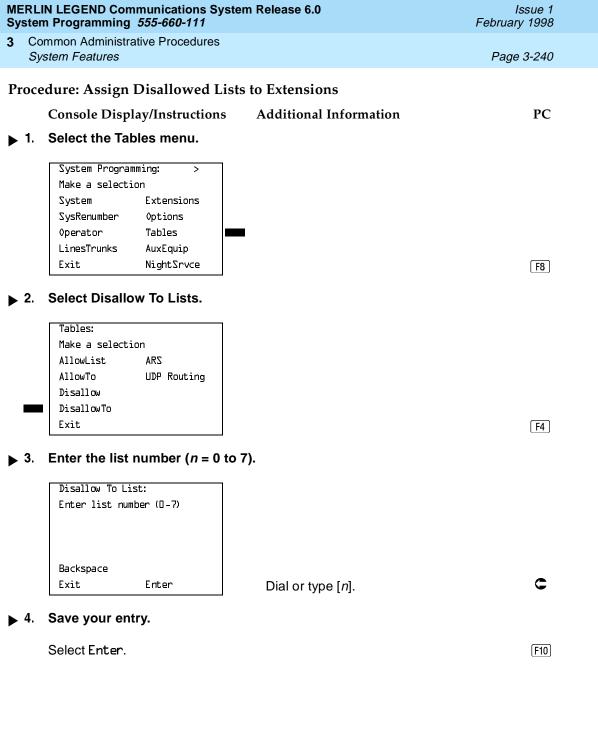
Yes

F5 → F5

 ${\tt Console\ Procedure\ Tables} {\to} {\tt DisallowTo} {\to} {\tt Dial\ list\ no.} {\to} {\tt Enter} {\to}$

Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

 $F8 \rightarrow F4 \rightarrow Type \text{ list no.} \rightarrow F10 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow$



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System Features

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Console/Display Instructions

Additional Information

PC

▶ 5. Specify the extension to which you want to assign the disallowed list.

Disallow To List x:

Enter extensions to list

Delete

Backspace Next

Exit Enter

x =list number entered in Step 3

If no DSS is attached:

SP: "Entering an Extension"

C

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 7.
On = disallowed list is assigned
Off = disallowed list is not assigned

▶ 6. Assign or remove the disallowed list from the extension.

Select Enter or Delete.

(F10)

[F8]

You may continue to assign or remove the disallowed list from additional extensions by repeating Steps 5 and 6.

▶ 7. Continue to assign extensions to the next disallowed list or go to Step 8.

Select Next.

F9

Return to Step 5. The next disallowed list is displayed on Line 1.

8. Return to the System Programming menu.

Select Exit twice.

F5 F5

Common Administrative Procedures

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February 1998

Issue 1

Night Service

Night Service

The procedures in this section cover how to program the following optional Night Service features:

- Night Service Group Assignment
- Night Service with Outward Restriction
- Night Service with Time Set
- Night Service with Coverage Control

Night Service Group Assignment

Use this procedure to assign extensions and calling groups to a Night Service group for coverage after hours.

A maximum of eight Night Service groups can be assigned (no more than one for each operator position assigned). Any number of extensions can be assigned to a Night Service group, and an extension can belong to more than one group.

A calling group can also be assigned to a Night Service group. This applies only to Release 2.0 or later.

Beginning with Release 4.1 this option allows the system manager to assign outside lines to Night Service groups in addition to extensions and calling groups for coverage after hours.

Any number of outside lines can be assigned to a Night Service group. Each outside line can belong to more than one group.

Summary: Night Service Group Assignment

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Form 9a, Night Service: Group Assignment Planning Form

Factory Setting Not applicable Valid Entries Not applicable

Yes (extensions only) Inspect

Copy Option No

Common Administrative Procedures Night Service

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Console Procedure To assign a calling group to a Night Service group:

NightSrvce→GroupAssign→Calling Group→Dial ext. no. of Night Service attendant→Enter→Dial calling group no.→ Enter→Exit→Exit

To assign an extension to a Night Service group:

NightSrvce→GroupAssign→Extensions→Dial ext. no. of Night Service attendant→Enter→Dial no. of extension→ Enter→Exit→Exit

To assign an outside line to a Night Service group: NightSrvce→GroupAssign→Lines→Dial ext. no. of Night Service attendant→Enter→Dial outside line number

 $(801-880) \rightarrow \text{Enter} \rightarrow \text{Exit} \rightarrow \text{Exit}$

PC Procedure

To assign a calling group to a Night Service group:

 $F10 \rightarrow F1 \rightarrow F2 \rightarrow Type ext. no. of Night Service attendant \rightarrow$

 $F10 \rightarrow Type calling group no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

To assign an extension to a Night Service group:

 $F10 \rightarrow F1 \rightarrow F1 \rightarrow Type ext. no. of Night Service attendant \rightarrow$

F10 \rightarrow Type no. of extension \rightarrow F10 \rightarrow F5 \rightarrow F5

To assign an outside line to a Night Service group:

 $F10 \rightarrow F1 \rightarrow F3 \rightarrow Type ext. no. of Night Service attendant \rightarrow$

 $F10 \rightarrow Type$ outside line number (801–880) $\rightarrow F10 \rightarrow$

 $F5 \rightarrow F5$

Procedure: Night Service Group Assignment

Console Display/Instructions Additional Information PC

Select the Night Service menu.

System Programming: Make a selection System Extensions SysRenumber 0ptions Tables Operator LinesTrunks AuxEquip NightSrvce Exit

Save your entry.

Select Enter. F10

> If you selected Extensions in Step 3, go to Extensions Procedure.

If you selected Calling Grp in Step 3, go to Calling Group Procedure.

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Night Service

Page 3-245

Extensions Procedure

Console/Display Instructions Ad

Additional Information

PC

▶ 1. Specify the extension you want to assign to the Night Service group.

Night Serv Group xxxx:
Enter extension

Delete
Backspace Next
Exit Enter

xxxx = number entered in Step 4

If no DSS is attached:

SP: "Entering an Extension"

C

[F10]

F8

If DSS is attached:

Toggle the red LED on or off as required. Then, go to Step 3. On = extension assigned to group Off = extension not assigned to group

▶ 2. Assign or remove the extension(s) from the Night Service group.

Night Serv Group xxxx:

Enter extension

xxx

Delete

Backspace Next

Exit Enter

xxxx = number entered in Step 4

Select Enter to assign or Delete to remove your entry and continue adding or removing extensions from the Night Service group by repeating Steps 1 and 2.

Select Next to save your entry and F9 begin assigning extensions to the *next* Night Service group (operator position).

▶ 3. Return to the System Programming menu.

Select Exit twice.

F5 F5

◆ Calling Group Procedure.

Console Display/Instructions Additional Information

PC

▶ 1. Enter the extension of the calling group to be added.

Night Serv Group xxxx:
Enter group call ext

Delete
Backspace Next
Exit Enter

xxxx =number entered in Step 4

Dial or type [nnnn].

Common Administrative Procedures

Night Service

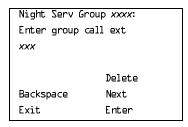
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Console/Display Instructions

Additional Information

PC

▶ 2. Assign or remove the calling group(s) from the Night Service group.



xxxx = number entered in Step 4

Select Enter to assign or Delete to remove your entry and continue adding or removing calling groups from the Night Service group by repeating Steps 1 and 2.

F10

Select Next to save your entry and begin assigning calling groups to the *next* Night Service group (operator position).

■ 3. Return to the System Programming menu.

Select Exit twice.

F5 F5

Night Service with Outward Restriction

Use this procedure to prevent unauthorized use of telephones after hours. This feature requires the user to enter a password to make a call when Night Service is activated, unless one of the lists below applies. It also requires an operator to enter a password in order to activate Night Service manually.

To remove the password requirement follow the procedure below and delete the current password (press the **Drop** button).

This procedure is also used to establish the following lists:

- Emergency Allowed List. A list of telephone numbers that can be dialed without a password.
- Exclusion List. A list of extensions that are exempt from password requirements.

A maximum of 10 telephone numbers can be included on the Emergency Allowed List, each number with a maximum of 12 digits.

Extensions included in the Exclusion List keep normal call restrictions (if any are assigned); however, they are not protected in any other way from unauthorized use after hours.

AUDIX Voice Power jacks are automatically included on the Exclusion List.

3 Common Administrative Procedures
Night Service Page 3-247

Summary: Night Service with Outward Restriction

Programmable by System Manager

Mode All

Idle Condition Not required

Factory Setting No password

Valid Entries Four digits (any combination of 0 to 9)

Inspect Yes (Exclusion List)

Copy Option No

Console Procedure NightSrvce→OutRestrict→Drop→Dial password→

Enter \rightarrow Emergency \rightarrow Dial item no. \rightarrow Enter \rightarrow **Drop** \rightarrow

Dial telephone no. \rightarrow Enter \rightarrow ExcludeList \rightarrow

Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F10 \rightarrow F2 \rightarrow Alt + P \rightarrow Type password \rightarrow F10 \rightarrow F3 \rightarrow F3 \rightarrow F3 \rightarrow F10 \rightarrow$

Type item no. \rightarrow F10 \rightarrow Alt + P \rightarrow Type telephone no. \rightarrow

 $F10 \rightarrow F4 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Night Service with Outward

Restriction

Console Display/Instructions Additional Information

PC

1. Select the Night Service menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F10

▶ 2. Select Outward Restriction.

Night Service:

Make a selection

GroupAssign Start

OutRestrict Stop

Emergency Time Control

ExcludeList Cover Control

Exit

Dial or type [n].

Enter item number (0-9)

Enter

Backspace Exit

Common Administrative Procedures
Night Service

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Console/Display Instructions

Additional Information

PC

▶ 14. Specify the extension.



If no DSS is attached:

SP: "Entering an Extension"

If DSS is attached:

Toggle the red LED on or off as required. Then, go to Step 16.
On = extension is excluded from list
Off = extension is not excluded from list

▶ 15. Assign or remove the extension(s) from the exclusion list.

Select Enter or Delete.

F10

F8

Continue to add or delete extensions by repeating Steps 14 and 15.

▶ 16. Return to the System Programming menu.

Select Exit twice.

F5 F5

Night Service with Time Set

Use this procedure to specify the time of day and the days of the week when Night Service is to be activated and deactivated.

Enter the time of day as four digits, using 24-hour notation. Enter the day of the week as a single digit (0 to 6), with 0 being Sunday. If you enter an invalid number, the system truncates the number.

If you change the system time while Night Service is active, Night Service is deactivated automatically and you must manually reactivate it.

Operators can override the timer and turn Night Service on and off manually. This feature can be deactivated when extraordinary situations occur (for example, a midweek holiday).

Common Administrative Procedures Night Service Page 3-251



NOTE:

For Release 2.1 and earlier, after setting Start and Stop time for Night Service you must use the following procedure to set the current day of the week for Night Service.

NightSrvce \rightarrow Day of Week \rightarrow Dial the current day of the week \rightarrow Enter \rightarrow Exit

If system programming information is being loaded into memory from a backup diskette, the current day of the week must be reset.

Night Service can be turned off by using the following procedure:

NightSrvce \rightarrow Day of Week \rightarrow Dial \neg Enter \rightarrow Exit

Summary: Night Service with Time Set

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 9c, Night Service: Time Set

Factory Setting Not applicable

Valid Entries Day: 0 to 6; Time: 0000 to 2359

Inspect No Copy Option No

Console Procedure To add or change start/stop time:

 $NightSrvce \rightarrow Start \rightarrow Drop \rightarrow Dial start day and time \rightarrow$

Enter \rightarrow Stop \rightarrow Drop \rightarrow Dial stop day and time \rightarrow

Enter→Exit

To activate/deactivate:

NightSrvce→Time Control→Off or On→Enter→Exit

PC Procedure To add or change start/stop time:

> $F10 \rightarrow F6 \rightarrow Alt + P \rightarrow Type start day and time \rightarrow F10 \rightarrow$ $F7 \rightarrow Alt + P \rightarrow Type stop day and time \rightarrow F10 \rightarrow F5$

To activate/deactivate:

 $F10 \rightarrow F8 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5$

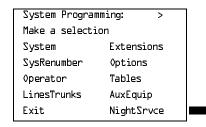
Common Administrative Procedures Night Service

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Procedure: Night Service with Time Set

Console Display/Instructions **Additional Information** PC

Select the Night Service menu.



F10

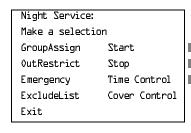
F6

F7

F8

PC

Select Night Service option.



To add or change start time, select Start and go to

Add or Change Start Time Procedure.

To add or change stop time, select Stop and go to

◆ Add or Change Stop Time Procedure.

To Activate/deactivate Night Service with Time Control, select Time Control and go to ■ Activate/Deactivate Night Service

Procedure.

Add or Change Start Time Procedure

Console/Display Instructions

Additional Information

Erase the current start day and time (xxxxx) if assigned.

Night Serv Start: Enter day(0-6), hr(00-23) and min(00-59)XXXXX Backspace Exit Enter

Press Drop.

Alt + P

Enter a one-digit day of the week (Sunday = 0, Monday = 1, and so on), followed by a four-digit time of day (hh = 00 to 23, mm = 00 to 59).

Dial or type [dhhmm].



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-	ommon Administrative Procedures ight Service		Page 3-253
▶ 3.	Console/Display Instructions Save your entry.	Additional Information	PC
	Select Enter.		(F10)
4 .	Return to the System Program	nming menu.	
	Select Exit.		F5
♦ Ad	d or Change Stop Time Proced	ure	
	Console Display/Instructions	Additional Information	PC
1 .	Erase the current stop day an	d time (xxxxx) if assigned.	
	Night Serv Stop: Enter day(0-6),hr(00-23) and min(00-59) xxxxx Backspace Exit Enter	Press Drop .	Alt + P
2 .		eek (<i>Sunday = 0, Monday = 1, and so on</i>), If day (<i>hh</i> = 00 to 23 <i>, mm</i> = 00 to 59).	
	Dial or type [dhhmm].		C
▶ 3.	Save your entry.		
	Select Enter.		F10
4 .	Return to the System Program	nming menu.	
	Select Exit.		F5

Issue 1

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3 Common Administrative Procedures Night Service

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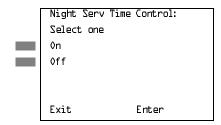
F1

F2

■ Activate/Deactivate Night Service Procedure

Console/Display Instructions Additional Information PC

▶ 1. Turn Night Service On or Off.



Select 0n to turn Night Service on.

Select Off to turn Night Service off.

2. Save your entry.

Select Enter. F10

3. Return to the System Programming menu.

Select Exit. F5

Night Service with Coverage Control

Use this procedure to enable or disable the Night Service Coverage Control option to automatically control the status of programmed **Coverage VMS Off** buttons.

When the Coverage Control option is enabled, a transition into Night Service (either by pressing a **Night Service** button or automatically by the Time Set option) automatically deactivates the **VMS Coverage Off** (Release 2.0 or later) buttons (LED is off) and allows outside calls to go to VMS Coverage at night. When the system is taken out of Night Service (either by pressing a **Night Service** button or automatically by the Time Set option), programmed VMS Coverage Off buttons are activated (LED is on) and outside calls are prevented from going to VMS Coverage during the day.

When the Coverage Control option is disabled, Night Service status has no effect on programmed **VMS Coverage Off** buttons.

Summary: Night Service with Coverage Control

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 9c, Night Service: Options

Common Administrative Procedures
Night Service

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Factory Setting Disabled

Valid Entries Enable or Disable

Inspect No Copy Option No

Console Procedure NightSrvce \rightarrow CoverContrl \rightarrow Enable or Disable \rightarrow

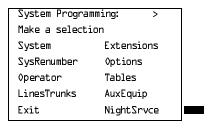
 $Enter \rightarrow Exit$

PC Procedure $[F10] \rightarrow [F9] \rightarrow [F1]$ **Or** $[F2] \rightarrow [F10] \rightarrow [F5]$

Procedure: Night Service with Coverage Control

Console Display/Instructions Additional Information

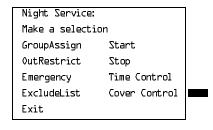
▶ 1. Select the Night Service menu.



F10

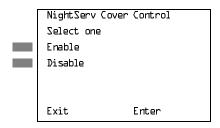
PC

▶ 2. Select Night Service Cover Control option.



F9

■ 3. Enable or disable Cover Control.



Select Enable to Enable cover control
Select Disable to Disable cover control.

F1
F2

▶ 4. Return to the System Programming menu.

Select Exit.

F5 F5

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Issue 1

Labeling

Labeling

The procedures in this section cover how to add or change labels for the following:

- **Extension Directory**
- Lines or Trunks
- Posted Message
- Group Calling
- System Speed Dial Directory

These procedures can be done using Integrated Administration.

Programming on the system programming console:

Use the buttons next to the display to specify the letters A through I and punctuation. Use the line/feature buttons to specify additional alphanumeric characters for labels. Use the template provided with the MLX-20L telephone to see which line buttons correspond to which alphanumeric characters.

Programming with SPM:

Use the PC keyboard for labels. All letters appear on the screen in uppercase.



≡> NOTE:

See the MLX-20L User's Guide for instructions on creating or editing a personal directory.

Extension Directory

Use this procedure to establish alphanumeric system labels for display telephone users to identify the person calling or leaving a message. This procedure is also used to program the Extension Directory feature for MLX telephones.



NOTE:

In Release 6.0 and later systems (Hybrid/PBX mode only) where networked systems are connected by PRI tandem trunks, programmed labels for extensions on the remote system may be displayed at a call recipient's MLX or analog multiline display telephone on a local system. If other types of trunks connect the networked systems, the call display is the same as for an outside call. For additional information about controlling the display for such incoming calls, see "Optional Extension Features" on page 3-93

A label can have a maximum of seven characters.

3 Common Administrative Procedures Labeling

Page 3-257

Summary: Extension Directory

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 2a, System Numbering: Extension Jacks

Factory Setting Not applicable

Valid Entries Not applicable

Inspect No Copy Option No

Console Procedure **More**→Labeling→Directory→Extension→

Dial ext. no. \rightarrow Enter \rightarrow Drop \rightarrow Enter label \rightarrow Enter \rightarrow

 $Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F1 \rightarrow F2 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Alt + P \rightarrow$

Type label \rightarrow F5 \rightarrow F5 \rightarrow F5

Procedure: Extension Directory

Console Display/Instructions Additional Information

PC

▶ 1. Go to the second screen of the System Programming menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

Press **More**.

PgUp

2. Select the Labeling menu.

System Programming:
Make a selection

Labeling Language
Data
Print
Cntr-Prg
Exit

[F1]

Ext xxxx:Enter new name				xxxx = number entered in St
AAAAAA				
Pund	ctuation	Enter		
Back	kspace	Exit		
Α	Ŧ	1	В	
C	_	&	D	
E		Space	F	Press Drop .

Alt + P

Common Administrative Procedures Labeling

Page 3-259

Console/Display Instructions

Additional Information

PC

▶ 8. Enter a label for the extension.

Use Punctuation to toggle between letters and punctuation.

Dial or type the label.



9. Save your entry.

Select Enter.

F6



Continue to label additional extensions by repeating Steps 5 through 9.

▶ 10. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Lines or Trunks

Use this procedure to establish alphanumeric system labels for display telephone users to identify the line or trunk being used.

Summary: Lines or Trunks

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting Not applicable

Valid Entries Not applicable

Inspect No

Copy Option No

Console Procedure $More \rightarrow Labeling \rightarrow LinesTrunks \rightarrow Dial line/trunk no. \rightarrow$

 $Enter \rightarrow Drop \rightarrow Dial\ label \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F2 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow Alt + P \rightarrow$

Type label \rightarrow F5 \rightarrow F5

Print Cntr-Prg Exit

F1

Select Lines/Trunks.

Labeling Make a selection Directory LinesTrunks PostMessage Grp Calling Exit

F2

C

Enter the line or trunk number.

Label Lines/Trunks: Enter the line/trunk number Backspace Exit Enter

Dial or type: Trunk number [nnn] Slot and port number *[sspp] Logical ID number #[nnn]

Save your entry.

Select Enter.

F10

Common Administrative Procedures Labeling

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Console/Display Instructions

Additional Information

PC

▶ 6. Erase the current label (AAAAAA) if assigned.

L xxx	Enter	new	label	
AAAAAA				
Punctuation			Enter	
Backspace		Exit		
Α	•		1	В
C	-		&	D
Ε	•		Space	F

xxx = number entered in Step 4

Press **Drop**.

Alt + P

▶ 7. Enter a label for the line or trunk.

Use Punctuation to toggle between letters and punctuation.

Dial or type the label.

C

8. Save your entry.

Select Enter.

F6

NOTE: [F6], not [F10].

Continue to label additional lines/trunks by repeating Steps 4 through 8.

▶ 9. Return to the System Programming menu.

Select Exit twice.

F5 F5

Posted Message

Use this procedure to add or change existing posted messages. The posted messages allow callers with display telephones to know why the called extension does not answer.

Each posted message can have a maximum of 16 characters. Messages 2 through 20 can be changed through programming. Message 1, Do Not Disturb, cannot be changed.

NOTE:

In Release 6.0 and later systems, posted messages are not supported across networked systems.

3 Common Administrative Procedures Labeling

Page 3-262

Summary: Posted Messages

Programmable by System Manager, Integrated Administration

Mode All

Idle Condition Not required

Planning Form Form 8a, Label Form: Posted Message

Factory Setting First 10 messages

Valid Entries 1 to 20

Inspect No Copy Option No

Console Procedure **More**→Labeling→PostMessage→Dial message no.→

 $Enter \rightarrow Drop \rightarrow Enter message \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F3 \rightarrow Type message no. \rightarrow F10 \rightarrow Alt + P \rightarrow$

Type message \rightarrow F6 \rightarrow F5 \rightarrow F5

Procedure: Posted Messages

Console Display/Instructions Additional Information

PC

▶ 1. Go to the second screen of the System Programming menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

Press More.

PgUp

▶ 2. Select the Labeling menu.

System Programming:

Make a selection

Labeling Language

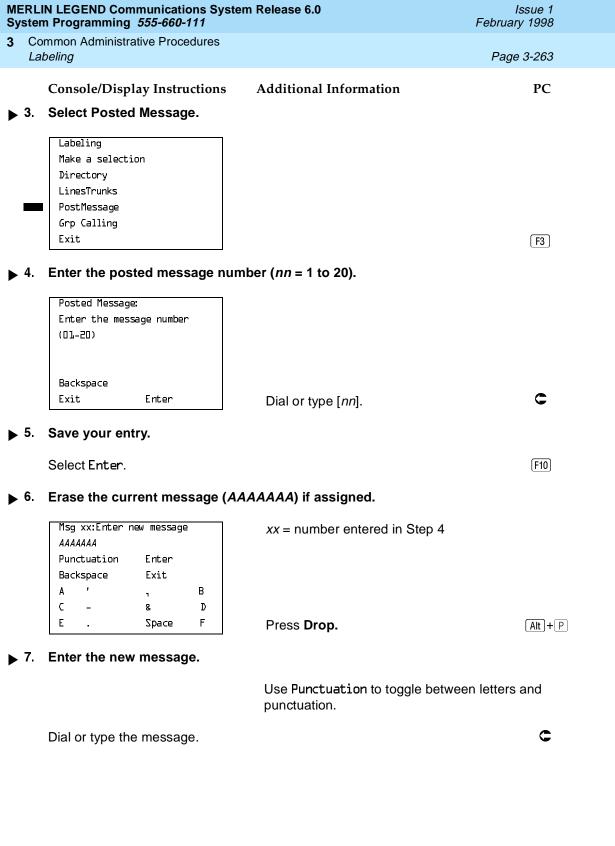
Data

Print

Cntr-Prg

Exit

[F1]



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Common Administrative Procedures Labeling

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Console/Display Instructions

Additional Information

PC

▶ 8. Save your entry.

Select Enter.

F6



Change additional messages by repeating Steps 4 through 8.

9. Return to the System Programming menu.

Select Exit twice.

F5 F5

Group Calling

Use this procedure to establish alphanumeric system labels for display telephone users to identify calling groups.

A label can have a maximum of seven characters.

Summary: Group Calling

Programmable by System Manager, Integrated Administration

Mode All

Idle Condition Not required

Planning Form Form 6e, Group Calling

Factory Setting Not applicable

Valid Entries Not applicable

Inspect No

Copy Option No

Console Procedure **More**→Labeling→Grp Calling→Dial calling group ext.

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Enter | abel \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F4 \rightarrow Type$ calling group ext. no. $\rightarrow F10 \rightarrow F4 \rightarrow Type$

Alt + \nearrow Type label \rightarrow F5 \rightarrow F5

▶ 5. Save your entry.

Select Enter. [F10]

Common Administrative Procedures Labeling

Page 3-266

Console/Display Instructions

Additional Information

PC

▶ 6. Erase the current label (AAAAAA) if assigned.

GrpCl xxxx:Enter new label				
AAAAAA				
Punctuation Enter				
Bac	kspace	Exit		
Α	*	7	В	
C	-	&	D	
Ε	•	Space	F	

xxxx = number entered in Step 4

Press **Drop**.

Alt + P

▼ 7. Enter a label for the calling group.

Use Punctuation to toggle between letters and punctuation.

Dial or type the label.

C

8. Save your entry.

Select Enter.

F6

NOTE: F6, not F10.

Continue to label additional calling groups by repeating Steps 4 through 8.

▶ 9. Return to the System Programming menu.

Select Exit twice.

F5 F5

3 Common Administrative Procedures Labeling

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System Speed Dial Directory

Use this procedure to establish System Speed Dial numbers for all system users. You can also use this procedure to enter the alphanumeric labels shown on display telephones (for the System Directory feature of the MLX telephone).

A total of 130 numbers (System Speed Dial plus System Directory) can be entered, with a maximum of 11 characters per label.

Speed dial code assignments are 600 through 729.

Summary: System Speed Dial Directory

Programmable by System Manager, Integrated Administration

Mode All

Idle Condition Not required

Planning Form Form 8b, System Speed Dial

Factory Setting Not applicable

Valid Entries 600 to 729

Inspect No

Copy Option No

Console Procedure **More**→Labeling→Directory→System→Dial dial code

no.→Enter→**Drop**→Enter label Enter→Backspace→

Dial telephone no. \rightarrow Enter \rightarrow Yes or No \rightarrow Enter \rightarrow

 $Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F1 \rightarrow Type dial code no. \rightarrow F10 \rightarrow$

Alt + $P \rightarrow Type label \rightarrow F6 \rightarrow F2 \rightarrow Type telephone no. \rightarrow$

 $F6 \longrightarrow F1 \text{ or } F2 \longrightarrow F6 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

Procedure: System Speed Dial Directory

Console Display/Instructions Additional Information

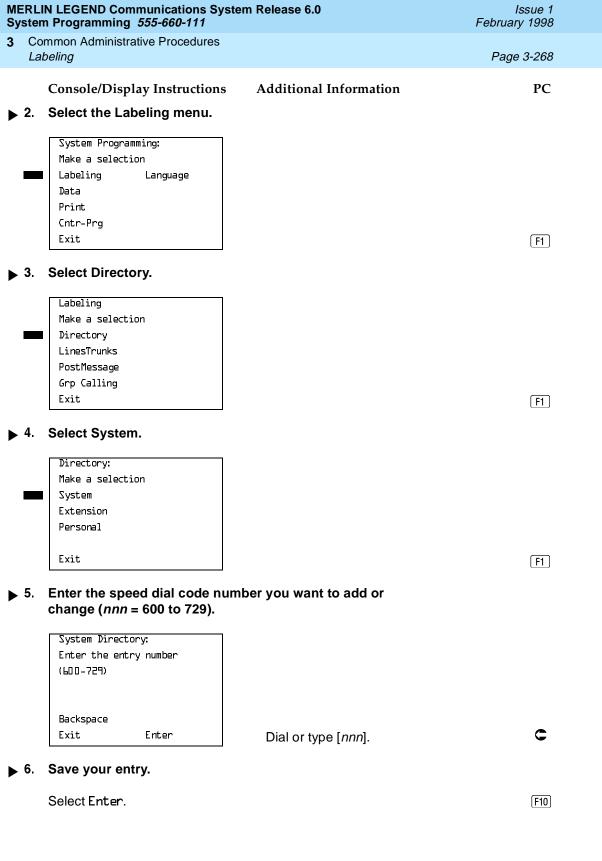
PC

▶ 1. Go to the second screen of the System Programming menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

Press More.

PgUp



3 Common Administrative Procedures Labeling

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Console/Display Instructions

Additional Information

PC

➤ 7. Erase the current label (AAAAAAA) if assigned.

Ent	ry <i>xxx</i> :Ent	er new name	
AAAAAA			
Pun	ctuation	Enter	
Bac	kspace	Exit	
Α	•	٦	В
C	_	&	D
Ε		Space	F

xxx = code entered in Step 4

Press **Drop**.

Alt + P

▶ 8. Enter a label for the speed dial code.

Use Punctuation to toggle between letters and punctuation.

Dial or type the label.

C

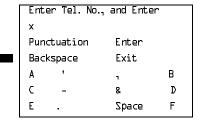
9. Save your entry.

Select Enter.

F6

NOTE: F6, not F10.

▶ 10. Erase the currently assigned telephone number (x).



Note: Do not press Drop.

Press Backspace.

F2

Common Administrative Procedures Labeling

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Console/Display Instructions Additional Information

PC

▶ 11. Enter a telephone number for the speed dial code entered in Step 5 (*n* = up to 20 digits).

Include any special characters shown on the planning form:

- Hold (A+H) = Pause
- **■** Drop (A+P) = Stop
- Conference (A+F) = switchhook flash

Dial or type [n].

C

▶ 12. Save your entry.

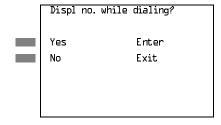
Select Enter.

F6

NOTE:

[F6], not [F10].

▶ 13. Select a display option.



If you want the dialed telephone number to display when using the System Directory feature, select Yes.

[F1]

If you do not want the dialed telephone number to display when using the System Directory feature, select No.

F2

▶ 14. Save your entry.

Select Enter.

F6

NOTE: F6, not F10.

Continue to assign additional Speed Dial numbers by repeating Steps 4 through 14.

▶ 15. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

3 Common Administrative Procedures
Print Reports
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Print Reports

Use the procedures in this section to change the language for system reports and to print the system reports.

Report Language

Use this procedure to change the language of the system reports. It applies to Release 1.1 and higher. Unless you change the report language, reports are printed in the language chosen as the system language.

Summary: Report Language

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 1, System Planning

Factory Setting English

Valid Entries English, French, Spanish

Inspect No Copy Option No

Console Procedure $More \rightarrow Language \rightarrow Printer \rightarrow English$ or French or

 $Spanish \rightarrow Enter \rightarrow Exit$

PC Procedure $PgUp \rightarrow F6 \rightarrow F4 \rightarrow F1$ or F2 or $F3 \rightarrow F10 \rightarrow F5$

Procedure: Report Language

Console/Display Instructions Additional Information

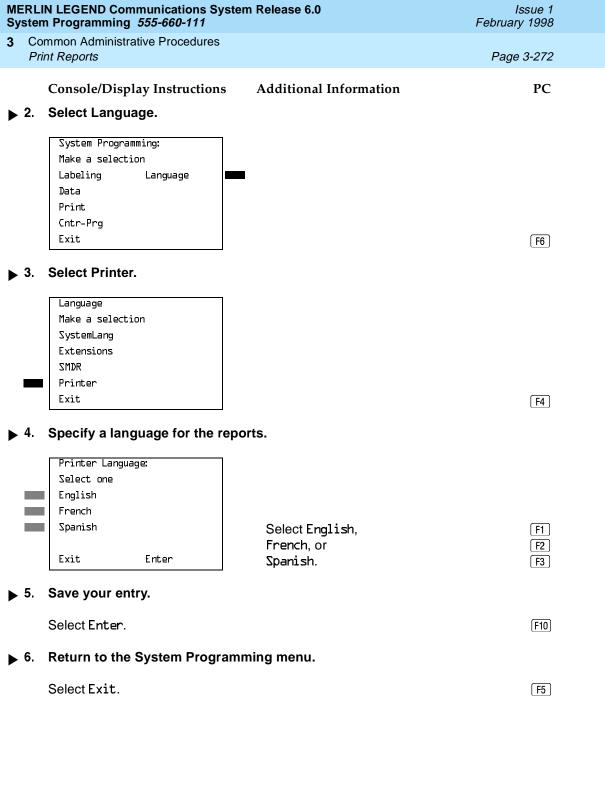
PC

PgUp

▶ 1. Go to the second screen of the System Programming menu.

System Programming: >		
Make a selection		
System	Extensions	
SysRenumber	Options	
Operator	Tables	
LinesTrunks	AuxEquip	
Exit	NightSrvce	

Press More.



3 Common Administrative Procedures Print Reports

Page 3-273

Printing System Reports

The communications system can be used to print a variety of reports. You can print individual reports or use the All option to print the entire set of available reports, including all report sections and options. See Appendix F for samples of the print reports.

Use this procedure to print the reports listed below. With the exception of Trunk Information, the dash lists under the bullets show the sections of each report that automatically print when the report option is selected.

- All
 - Each report
 - All report options
- System Set Up
- System Dial Plan
 - Pools
 - Telephone Paging Zones
 - Direct Group Calling
 - Lines/Trunks
 - Stations (Extensions)
- Label Information
 - Telephone Personal Directory
 - Message Numbers and Posted Messages
- Trunk Information*
 - TIE
 - DID
 - Loop/Ground
 - General
 - Switched 56 Data
- T1 Information
- PRI Information

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3 Common Administrative Procedures
Print Reports

- Remote Access
 - General Options
 - Non-TIE Restrictions
 - TIE Restrictions
 - Barrier Code Restrictions
- Operator Information
 - Position
 - General Options
 - DSS Options
 - QCC Operators
 - Operator Information
- Allowed Lists
- Allowed Lists Assigned to Extensions
- Disallowed Lists
- Disallowed Lists Assigned to Extensions
- Automatic Route Selection
- Tables
- Extension Directory
- System Directory
- Group Page
- Extension Information
- Group Coverage
- Group Calling
- Night Service
- Call Pickup Groups
- Error Logs
- Authorization Codes
- BRI Information Report
- Non-Local Dial Plan

Common Administrative Procedures

Print Reports

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NOTE:

If you select the All option, keep in mind that the reports take several minutes to print. You may want to schedule use of the printer during off-peak hours.

If you select a report for which there is no information, the report header still prints.

Print reports if you cannot back up your system programming information.

Do not print reports if your system must handle more than 100 calls per hour.

If you are printing from the console, your printer must be connected to the SMDR port. If you are programming on a PC with SPM, you have the following choices:

- Print reports on the SMDR printer (if available)
- Print reports on the PC printer
- Save reports (on hard disk or floppy)
- View reports (browse)

See Chapter 2, "Programming With SPM," for details.

Summary: Printing System Reports

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Not applicable

Factory Setting Not applicable

Valid Entries Any saved report

Inspect No

Copy Option No

Console Procedure To print trunk information:

More→Print→Trunk Info→Select trunk type→Exit

To print extension information:

 $More \rightarrow Print \rightarrow More \rightarrow Ext Info \rightarrow Dial extension no. \rightarrow$

Enter→Exit

To print all other reports:

More→Print→Select report→Exit

3 Common Administrative Procedures
Print Reports

Page 3-276

PC Procedure

To print trunk information:

PgUp \rightarrow F3 \rightarrow F6 \rightarrow Select trunk type \rightarrow F5

To print extension information:

 $PgUp \longrightarrow F3 \longrightarrow PgUp \longrightarrow F10 \longrightarrow Type \text{ extension no.} \longrightarrow F10 \longrightarrow F5$

To print all other reports:

 $PgUp \rightarrow F3 \rightarrow Select report \rightarrow F5$

To save report on disk:

 $[PgUp] \rightarrow [F3] \rightarrow Select report \rightarrow [F10] \rightarrow$

Select GOTO FLOPPY→F10

To view report:

Ctrl + F8

Procedure: Printing System Reports

Console Display/Instructions

Additional Information

PC

■ 1. Go to the second screen of the System Programming menu.

System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

Press More.

PgUp

▶ 2. Select Print.

System Programming:

Make a selection

Labeling Language

Data

Print

Cntr-Prg

Exit

F3

Common Administrative Procedures Print Reports

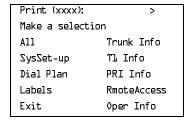
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Console/Display Instructions

Additional Information

PC

→ 3. Select the report you want to print. ◆



xxxx = previously selected language

For additional selections press **More**.

PgDn

If you select Trunk Info go to

Trunk Information Procedure.

Print More

Make a selection

GrpCoverage Error Log

Grp Calling Auth Code

Night Servce BRI Info

Call Pickup NonLcl UDP

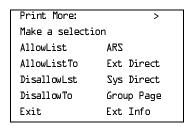
Exit

The All option prints each of the available reports and takes several minutes to complete.

Press the button or function key next to your selection.

C

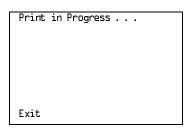
▶ 4. Observe the print progress screen.



If you select Ext Info go to

◆ Extension Information Procedure.

▶ 5. Return to the System Programming menu.



Press Exit (F5) to interrupt printing and display the print menu.

Select Exit.

F5

SP: "Entering an Extension"

C

F10

Exit

Save your entry.

Select Enter.

Enter

Return to Step 4 of the main procedure.

Common Administrative Procedures

Memory Card

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Memory Card

A PCMCIA (Personal Computer Memory Card International Association) interface slot is present on the processor module. The slot is a standard interface through which information can be added to or obtained from the system using a memory card. The PCMCIA interface slot accepts one memory card at a time.

This section covers the following memory card functions:

- Backup
- Automatic Backup

For information on the Restore procedure and additional information about memory cards, see Chapter 4, "Advanced Programming Procedures."

Card Types

There a four different types of memory cards that are identified by a preprinted, color-coded label. Backups are always performed using the **Translation Card** and the new Backup/Restore option on the System menu. A new automatic backup feature permits you to set the system to perform automatic backups to the memory card on a daily or weekly basis. See "Backup" on page –282 for more information.

This card is identified by a white label with black lettering.

3 Common Administrative Procedures

Memory Card Page 3-280

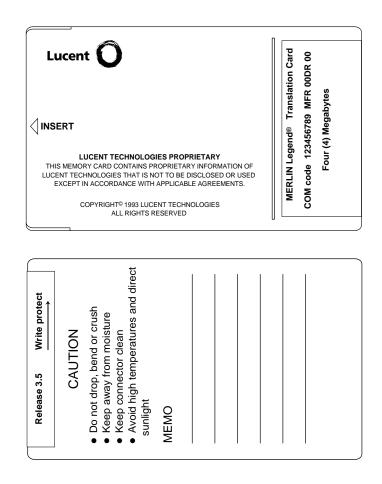


Figure 3-4. PCMCIA Memory Card

3 Common Administrative Procedures

Memory Card

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Inserting the Card

To insert the card, hold the card with the Lucent logo facing up and the arrow pointing toward the slot. See Figure 3-5 for the proper way to insert the memory card into the slot on the processor module.

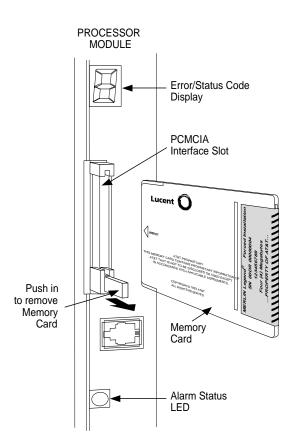


Figure 3–5. Inserting the Memory Card

3 Common Administrative Procedures Memory Card

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Backup

Use this procedure to make a copy of your customized system data. You should create a backup at least three times during system installation (so that programmed information is not lost) and once after each system upgrade, service technician visit, or major system reconfiguration.

The Inspect feature (Inspct or PgDn) is available to view the attributes of the backup files on the memory card prior to initiating the backup procedure. The attributes included on the Inspect screen are the filename, the time and date of the file creation/update, the location of the system programming port, and information about the system software release from which the backup was made.

The list of backup files contains three manual backup filenames and two automatic backup filenames. The default names of the manual backup files are BACK1.*****, BACK2.*****, and BACK3.*****. When you select one of the backup filenames, the system automatically replaces the stars in the filename with the current month and day (mmdd). For example, BACK1.1116 would appear if you selected BACK1.**** and performed the backup procedure on January 16. You can rename any of the three default files during the backup procedure. The automatic backup filenames are AUTO.BACK1 and AUTO.BACK2. You cannot change the names of these files.

If you enter a filename that currently exists, the message File already exists appears. You must enter another filename.

While the backup is in progress, you cannot access system programming functions, your Personal Directory, or alarm clock functions (any programmed alarms are temporarily deactivated). You may terminate the backup procedure at any point prior to receiving confirmation of a successful backup.

If any type of programming is taking place at another extension when you begin the backup procedure, the backup is canceled and the number of the first busy extension appears on the screen. Attempt the backup procedure again when the busy extension becomes idle.

If the system is turned off during a backup procedure, the backup is terminated. The system performs a System Reset (cold start), after which you may repeat the backup procedure.

If **Home** or **Menu** is pressed during a backup procedure, the backup is terminated. This may result in the deletion of an old backup file. See Chapter 1, "Programming Basics," for details about these keys.

Common Administrative Procedures

Memory Card

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If the system performs a System Erase (frigid start), all programming is set to the default values. If a previous backup file is available, perform a restore. If not, the system must be reprogrammed. See "Restore" on page —447 for information about the system restore procedure. Also see "Backup Messages" on page —290 for information about errors that may occur during the backup procedure.

Summary: Backup

Programmable by System Manager

Mode All

Idle Condition Not required (No extensions are allowed to be in

programming mode except system programming console)

Planning Form Form 1, System Planning

Factory Setting Not applicable

Valid Entries 1- to 11-character filename

Inspect Yes
Copy Option No

Console Procedure Insert memory card→System→Back/Restore→

Backup→Select backup file→Dial the new backup filename→Enter→Yes→Exit→Exit→Exit

PC Procedure Insert memory card \rightarrow F1 \rightarrow F9 \rightarrow F1 \rightarrow Select backup

file \rightarrow Type the new backup filename \rightarrow F6 \rightarrow F1 \rightarrow

 $F5 \rightarrow F5 \rightarrow F5$

Procedure: Backup

Console Display/Instructions Additional Information

PC

▶ 1. Insert the memory card into the PCMCIA interface slot on the processor module.

See Figure 3–5, "Inserting the Memory Card."

Common Administrative Procedures

Memory Card

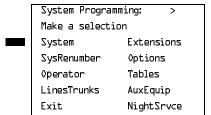
Page 3-284

Console/Display Instructions

Additional Information

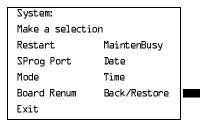
PC

▶ 2. Select the System menu.



F1

3. Select Back/Restore.



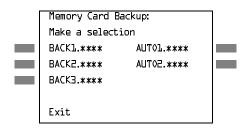
F9

▶ 4. Select Backup.



F1

▶ 5. Select the backup filename.



If you select AUTO.BACK1 or AUTO.BACK2, go to Step 8. You cannot rename either of these two files.

If you select BACK1., BACK2., or BACK3. and do not want to rename the file, go to Step 8.

Press the button or function key next to your selection.

Common Administrative Procedures

Memory Card

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Console/Display Instructions

Additional Information

PC

▶ 6. Rename the backup file (n = 1 to 11 characters).

Backup File:		Enter	name	2
BACKx.mmdd				
Punctuation				Enter
Backspace				Exit
Α	,		,	В
C	-		&	D
E	•	Zp	ace	F

x = backup file selected in Step 5 mm/dd = current month and day

Use Punctuation to toggle between the letters and punctuation.

Enter or type [filename].

Use the buttons next to the display to specify the letters A through I and punctuation. Use the line/feature buttons to specify additional alphanumeric characters for labels. Use the template provided with the MLX-20L telephone to see which line buttons correspond to which alphanumeric characters.

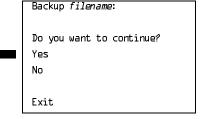
→ 7. Save your entry.

Select Enter.

F6



▶ 8. Respond to the prompt.



filename = file selected in Step 5 or entered in Step 6

Select No to terminate the backup. Go to Step 11.

F2

F1

Select Yes to continue the backup.

9. Observe the backup progress screen.

Backup filename:
Backup in Progress,
Please Wait.

xx% completed

Exit

filename = file selected in Step 5 or entered in Step 6

xx% = percentage of backup completed

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Memory Card

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Console/Display Instructions Additional Information

PC

▶ 10. Observe the backup completion screen.

Backup	nnnnnnnnnn:
Backup	Successfully
Complet	ted.
Exit	

nnnnnnnnn = backup filename

▶ 11. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Automatic Backup

To preserve the most recent copy of your customized system data, you can program the system to automatically backup programming information onto the translation memory card. Automatic backups may be set for daily or weekly operation. If automatic backup is activated, the time may be set for daily backup (factory setting is 2:00 am) or the time and day may be set for weekly backup (factory setting is 2:00 am Sunday).

The system places the automatic backup into one of two designated files: AUTO.BACK1 and AUTO.BACK2. If both files are empty, the system places the backup in AUTO.BACK1. If both files already contain backups, the system selects the older of the two files and overwrites it. The system performs this file "toggle" each time it performs an automatic backup.

While the backup is in progress, you cannot access system programming functions, your Personal Directory, or alarm clock functions (any programmed alarms are temporarily deactivated).

If any type of programming is taking place at an extension during the automatic backup procedure, the backup is canceled. The system does not re-attempt the backup.

If an automatic backup fails for any reason (including a system-busy condition), all of the programmed alarm buttons on system operator consoles light and the information is recorded in both the permanent error log and the last 10 error logs. The system does not re-attempt the backup.

Also see <u>"Backup Messages" on page –290</u> for information about errors that may occur during the automatic backup procedure.

3 Common Administrative Procedures

Memory Card Page 3-287

NOTE:

If an automatic backup fails for any reason (except when the failure results because the memory card is write-protected) the automatic backup feature is turned off. Follow the procedure below to reprogram automatic backups.

Summary: Automatic Backup

Programmable by System Manager

Mode All

Idle Condition Not required (No extensions are allowed to be in

programming mode including the system programming

console)

Planning Form Form 1, System Planning

Factory Setting Weekly backup: Sunday at 2:00 am

(if daily backup is selected, time is factory set for 2:00 am)

Valid Entries Daily: hhmm (00 to 23; 00 to 59)

Weekly: dhhmm (0 to 6; 00 to 23; 00 to 59)

Inspect No Copy Option No

Console Procedure To program daily backup:

Insert memory card \rightarrow System \rightarrow Back/Restore \rightarrow Auto Backup \rightarrow Daily \rightarrow Drop \rightarrow Dial time \rightarrow

Enter→Exit→Exit

To program weekly backup:

Insert memory card \rightarrow System \rightarrow Back/Restore \rightarrow Auto Backup \rightarrow Weekly \rightarrow Drop \rightarrow Dial day and time \rightarrow

Enter→Exit→Exit

PC Procedure To program daily backup:

Insert memory card \rightarrow F1 \rightarrow F9 \rightarrow F2 \rightarrow F2 \rightarrow

Alt + \nearrow Type time \rightarrow F10 \rightarrow F5 \rightarrow F5

To program weekly backup:

Insert memory card \rightarrow F1 \rightarrow F9 \rightarrow F2 \rightarrow F3 \rightarrow Alt + P \rightarrow Type day and time \rightarrow F10 \rightarrow F5

3 Common Administrative Procedures Memory Card

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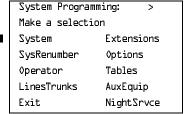
Procedure: Automatic Backup

Console Display/Instructions

Additional Information

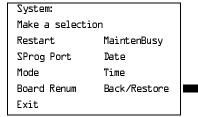
PC

- Insert the memory card into the PCMCIA interface slot on the processor module.
- 2. Select the System menu.



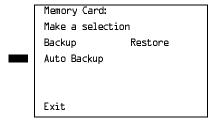
F1

3. Select Back/Restore.



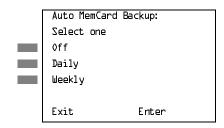
F9

4. Select Auto Backup.



F2

5. Make a selection.



Select Off, Daily, or Weekly F1 F2

F3

F5 F5

Select Exit twice.

Common Administrative Procedures Memory Card

Page 3-290

♦ Weekly Backup Procedure

Console/Display Instructions Additional Information

PC

■ 1. Erase the current weekly backup day and time (xxxxx).

Weekly MemCard Backup:
Enter day (0-6) hr (00-23)
and min (00-59) dhhmm
xxxxx

Backspace
Exit Enter

Press Drop.

Alt + P

2. Enter the day (d = 0 to 6) and time (hh = 00 to 23, mm = 00 to 59) when you want the automatic backup to run each week.

Weekly MemCard Backup:
Enter day (O-6), hr (OO-23)
and min (OO-59) dhhmm

Backspace
Exit Enter

0 = Sunday, 1 = Monday, and so on.

Dial or type [dhhmm].

3. Save your entry.

Select Enter.

F10

▶ 4. Return to the System Programming menu.

Select Exit twice.

F5 F5

Backup Messages

During manual or automatic backup procedures, additional screens may appear to alert you to problems with the translation memory card, the backup file, or the backup procedure. This section contains displays of each screen and information about what to do if the screen appears.



NOTE:

The screens shown in this section are from the manual backup procedure; however, the screens that may appear in both the manual and automatic backup procedures are similar. The screens in both procedures differ only in the appearance of the first line. On the automatic backup screens, Auto MemoryCard Backup replaces Memory Card Backup shown on the screens below.

3 Common Administrative Procedures

Memory Card

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Backup Canceled

If the system detects an error, either on the memory card or with the backup file, or if you terminate the backup, this screen appears.

Backup x:
BACKUP IS CANCELED.
File has been DELETED.

Exit

x =backup filename

The backup file being created is deleted and the backup is terminated. You must repeat the backup procedure.

Card Removed While Backup Is in Progress

The memory card is not inserted or is inserted incorrectly while a backup is in progress. The backup file that was being created is deleted and the backup is terminated. You must reinsert the memory card and repeat the backup procedure.

Backup x:
BACKUP IS CANCELED.
Verify that Memory Card
has been inserted
correctly.
File has been DELETED.

x =backup filename

Card Missing or Card Not Inserted Correctly

The memory card is either not inserted or is inserted incorrectly. The backup is terminated. You must reinsert the memory card and repeat the backup procedure. This screen may also appear if the wrong type of memory card is inserted and a backup or automatic backup is requested within one minute of insertion. Verify that the card is a translation memory card.

Memory Card Backup:
Verify that Memory Card
has been inserted
correctly.

Exit

3 Common Administrative Procedures
Memory Card
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Card Is Write-Protected

The memory card is write-protected. You must remove the memory card, flip the write-protect tab, reinsert the memory card, and repeat the backup procedure.

Memory Card Backup:
Memory Card is WriteProtected.
Reset Write-Protect Tab
on Memory Card.

Exit



CAUTION:

The memory card may be write-protected to avoid the accidental erasure of the backup files. Make certain this is not the case before you change the write-protect tab.

Card Failure

If the card is damaged, repeat the backup with a different card. If a backup is in progress and fails, the system makes two additional attempts at the backup. At the start of each attempt, a message appears with the percentage of the backup that is completed. If the backup fails after three attempts, the screen shown below appears. Repeat the backup procedure using a different file and/or memory card.

Memory Card Backup:
Backup Failure
Try a different file or
a new Memory Card.

Exit

4 Programming Procedures

Page 4-1

Programming Procedures



This chapter contains procedures for all of the advanced programming features and options available on the System Programming menu, where each of the procedures begins. It also contains summary information for all of the common programming features described in detail in Chapter 3, "Common Administrative Procedures." Use one of the methods shown below to display the System Programming menu.

- At the console: **Menu**→Sys Program→Exit
- At the PC or with SPM: Type $spm \rightarrow Press$ any $key \rightarrow F1 \rightarrow F5$

Before you begin any of the procedures in this chapter, you should read and understand all of the information presented in Chapter 1, "Programming Basics."

Programming Procedures Basic System Operating Conditions

Page 4-2

Basic System Operating Conditions

The procedures in this section are all related to the system rather than to the operation of telephones, operator positions, lines, or trunks. These are operating conditions that must be set only once, when the system is new, or when you reset the system defaults.



You must reset the system time when Daylight Savings Time begins and ends.

This section contains the following programming procedures:

- System Restart
- **Board Renumbering**
- Mode of Operation
- Automatic Maintenance Busy

Programming summaries are included for the following procedures:

- System Programming Position Assignment
- System Language
- System Date
- System Time

See Chapter 3, "Common Administrative Procedures," for detailed programming information.

System Restart



CAUTION:

This procedure is to be performed by qualified support personnel only.

Use this procedure to perform a System Restart (cold start). All calls are dropped when you perform this procedure. System programming is saved. Telephones with the Extension Status feature may lose toll restrictions as a result of a System Restart.

4 Programming Procedures

Basic System Operating Conditions

Page 4-3

Summary: System Restart

Programmable by Qualified support personnel

Mode All

Idle Condition Not required

Planning Form Not applicable

Factory Setting None

Valid Entries None

Inspect No

Copy Option No

Console Procedure System→Restart→Yes

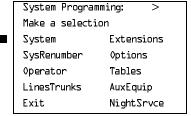
PC Procedure $[f1] \rightarrow [f1] \rightarrow [f1]$

Procedure: System Restart

Console/Display Instructions Additional Information

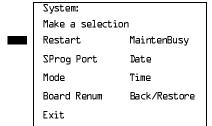
PC

▶ 1. Select the System menu.



F1

▶ 2. Select System Restart.



F1

Programming Procedures

Basic System Operating Conditions

Page 4-4

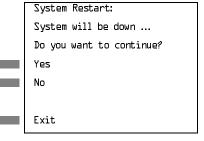
Console/Display Instructions

Additional Information

РC

F1

▶ 3. Respond to the query.



To restart the system select Yes. The System Restart screen appears.

To terminate the restart and return to the System menu select No, then select Exit.

F2 F5

Restart

System is restarting

The session is finished, and the system restarts. You must enter system programming again to continue.

System Programming Position Assignment

Use this procedure to reassign the extension used for system programming. This extension should not be the same extension as that used for the operator position. The system programming position can be reassigned only to one of the first five extension jacks on the first MLX module. Only one system programming console is allowed per system.

If you are programming on the console, be aware of the following:

- The console must be connected to the extension currently assigned for system programming.
- As soon as you change the system programming extension, the system programming session is terminated. To proceed with system programming, you must connect the system programming console to the newly assigned extension and enter system programming again.

NOTE:

The telephone used for system programming must be an MLX-20L.

See <u>"System Programming Position Assignment" on page 3–3</u> for detailed information.

4 Programming Procedures

Basic System Operating Conditions

Page 4-5

Summary: System Programming Position Assignment

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 1, System Planning

Factory Setting First extension jack on the first MLX module (also set as an

operator position)

Valid Entries Extension number of one of the first five extension jacks on

the first MLX module

Inspect No Copy Option No

Console Procedure System \rightarrow SProg Port \rightarrow Drop \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Exit

PC Procedure $F1 \rightarrow F2 \rightarrow Alt + P \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5$

System Language

Use this procedure to set the system language (English, French, or Spanish) for the following options:

- System Language. System programming.
- Station Message Detail Recording (SMDR) Reports. See <u>"System</u> Features" on page 317.
- Print Reports. See "Print Reports" on page 427.
- Extensions. See "Optional Extension Features" on page 277.

NOTE:

MERLIN LEGEND Communications System Release 1.0 does not offer a choice of languages.

See <u>"System Language" on page 3–5</u> for detailed information.

Summary: System Language

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 1, System Planning

4 Programming Procedures

Basic System Operating Conditions

Page 4-6

Factory Setting English

Valid Entries English, French, Spanish

Inspect No Copy Option No

Console Procedure $More \rightarrow Language \rightarrow SystemLang \rightarrow Yes \rightarrow$

Select a language→Enter

PC Procedure $PgUp \rightarrow F6 \rightarrow F1 \rightarrow F3 \rightarrow Select a language \rightarrow F10$

Board Renumbering



CAUTION:

This procedure is to be performed by qualified support personnel only.

Use this procedure to renumber boards that have already been installed. This procedure restarts the system (system programming is not lost). Note that this is not the same procedure used with the Boards option, which is available to qualified service personnel with SPM only.

Board Renumber is a system programming procedure that is required only when an existing module is replaced by a different type of module. When a Board Renumber is performed, the system reassigns the logical ID numbers to the extension and line ports sequentially from left to right in the control unit and from bottom to top of each module.

Summary: Board Renumbering

Programmable by Qualified support personnel only

Mode All

Idle Condition System idle

Planning Form Not applicable

Factory Setting None

Valid Entries Not applicable
Inspect Not applicable

Copy Option Not applicable

Console Procedure System \rightarrow Board Renum \rightarrow Yes

PC Procedure $\boxed{F1} \rightarrow \boxed{F4} \rightarrow \boxed{F2}$

Programming Procedures

Basic System Operating Conditions

Page 4-7

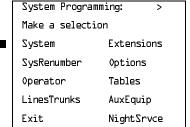
Procedure: Board Renumbering

Console Display/Instructions

Additional Information

PC

▶ 1. Select the System menu.



F1

▶ 2. Select Board Renumbering.

System:

Make a selection

Restart MaintenBusy

SProg Port Date

Mode Time

Board Renum Back/Restore

Exit

F4

▶ 3. Respond to the prompt.

Board Renumber:
System will be down
Do you want to continue?
Yes
No

To continue the Board Renumbering procedure, select Yes. The renumbering information screen appears.

F2

To terminate this procedure and return to the System menu select No, then select

F3 F5

Board Renumber:

System is Renumbering

When renumbering completes, the system returns to the screen shown in Step 1.

Exit.

Page 4-8

Programming Procedures

Basic System Operating Conditions

Basic System Operating Conditions

Mode of Operation

The system mode—Key, Behind Switch, or Hybrid/PBX—determines how the system operates and directly affects the following operations:

- How lines and/or trunks are provided to users
- Types of operator consoles allowed
- Features available

Changing this option causes a system restart and terminates the programming session. You must enter system programming again to program other features.

NOTE:

The Hybrid/PBX option is not available if the control unit processor module has been modified to operate in Permanent Key mode only. See the *Equipment and Operations Reference*.

The following options cannot be programmed for Behind Switch or Key systems:

- Automatic Route Selection (ARS)
- Pools
- Queued Call Consoles (QCCs) and associated features
- Direct Inward Dialing (DID) Trunks
- System Access buttons
- Dial Plan Routing (PRI)
- Call by Call Services (PRI)

The Ground-Start lines/trunks option cannot be programmed if the processor module has been modified for Permanent Key mode operation only.

Summary: Mode of Operation

Programmable by System Manager

Mode All

Idle Condition System idle

Planning Form Form 1, System Planning

Factory Setting Hybrid/PBX

Valid Entries Key, Behind Switch, Hybrid/PBX

Inspect No Copy Option No

4 Programming Procedures

Basic System Operating Conditions

Page 4-9

 $Console\ Procedure\ System {\longrightarrow} Mode {\longrightarrow} Select\ mode {\longrightarrow} Enter$

PC Procedure $F1 \rightarrow F3 \rightarrow Select \mod \rightarrow F10$

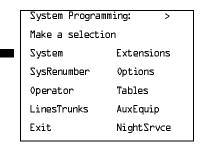
Procedure: Mode of Operation

Console Display/Instructions

Additional Information

PC

▶ 1. Select the System menu.



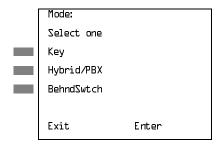
F1

■ 2. Select Mode.

System:						
Make a selection						
Restart	MaintenBusy					
SProg Port	Date					
Mode	Time					
Board Renum	Back/Restore					
Exit						

F3

▶ 3. Select the mode.



Select Key,

F1

Hybrid/PBX, or BehndSwtch.

F2 F3

4. Save your entry.

Select Enter.

F10

The session is terminated and the system restarts. You must enter system programming again to continue.

Programming Procedures

Basic System Operating Conditions

Page 4-10

Automatic Maintenance Busy

Automatic Maintenance Busy allows the system to take a malfunctioning trunk out of service for outgoing calls (incoming calls are never blocked). This prevents faulty outside facilities from causing disruptions in outgoing calling patterns.

For optimal performance, enable Automatic Maintenance Busy for Hybrid/PBX systems with pooled trunks.



NOTE:

No more than half of the trunks in a trunk pool are allowed to be placed in the maintenance busy state at one time unless the central office has failed to disconnect a trunk (which prevents anyone from using that trunk) or an entire trunk module is manually taken out of use (a maintenance-busy state deliberately caused by the user).

Summary: Automatic Maintenance Busy

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form 1, System Planning

Factory Setting Disabled

Valid Entries Enabled, Disabled

Inspect No Copy Option No

Console Procedure To disable Automatic Maintenance Busy:

 $System \rightarrow MaintenBusy \rightarrow Disable \rightarrow Enter \rightarrow Exit$

To enable Automatic Maintenance Busy excluding

tie trunks:

 $System \rightarrow MaintenBusy \rightarrow Enable \rightarrow Enter \rightarrow Exit$

To enable/disable with tie trunks:

 $System \rightarrow MaintenBusy \rightarrow Enable \rightarrow Enter \rightarrow$

Enable or Disable \rightarrow Enter \rightarrow Exit

PC Procedure To disable Automatic Maintenance Busy:

 $F1 \longrightarrow F6 \longrightarrow F2 \longrightarrow F10 \longrightarrow F5$

To enable Automatic Maintenance Busy excluding tie trunks:

 $F1 \longrightarrow F6 \longrightarrow F1 \longrightarrow F10 \longrightarrow F5$

To enable/disable with tie trunks:

 $F1 \longrightarrow F6 \longrightarrow F1 \longrightarrow F10 \longrightarrow F1 \text{ or } F2 \longrightarrow F10 \longrightarrow F5$

Programming Procedures

Basic System Operating Conditions

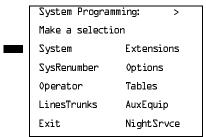
Page 4-11

Procedure: Automatic Maintenance Busy

Console Display/Instructions Additional Information

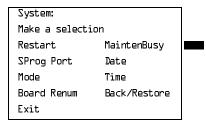
PC

▶ 1. Select the System menu.



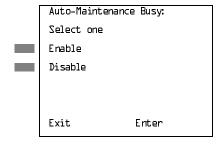
F1

▶ 2. Select Automatic Maintenance Busy.



[F6]

▶ 3. Enable or disable Automatic Maintenance Busy.



Disable leaves malfunctioning trunks available for outgoing calls.

Select Enable or Disable.

F1 F2

▶ 4. Save your entry.

Select Enter.

F10

If you selected Enable or Disable and your system has no tie trunks, you have finished this procedure. Go to Step 7.

Programming Procedures

Basic System Operating Conditions

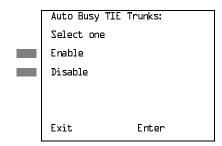
Page 4-12

Console/Display Instructions

Additional Information

PC

▶ 5. Select the malfunctioning tie trunk service.



If you selected Enable and your system has tie trunks, specify whether to take malfunctioning tie trunks out of service automatically or leave malfunctioning tie trunks available for outgoing calls.

Select Enable or Disable.

F1

▶ 6. Save your entry.

Select Enter.

F10

▶ 7. Return to the System Programming menu.

Select Exit.

F5

Set System Date

The System Date feature allows you to set the month, day, and year that appear on MLX display telephones and on Station Message Detail Recording (SMDR) reports. See "Set System Date" on page 3–7 for detailed information.

NOTES:

- If you are planning to use the SMDR feature, make sure the current date is set.
- 2. In Release 6.0 and later systems, where a MERLIN LEGEND Communications System is networked in a private network with one or more other MERLIN LEGEND Communications Systems or with one or more DEFINITY Communications Systems, SMDR reports may report outgoing calls using more than one call record (for example, for tandem calls), depending upon how SMDR is programmed and how calls are routed. Therefore, ensure that the system date and time are set accurately on each system that carries these calls. As you examine records for network calls, you may need to be aware of time zone differences among networked system locations.

Programming Procedures Basic System Operating Conditions

Page 4-13

Summary: Set System Date

Programmable by. System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 1, System Planning

Factory Setting 01-01-00

Valid Entries Month: 01 to 12

> Day: 01 to 31 Year: 00 to 99

Inspect No Copy Option No

Console Procedure System \rightarrow Date \rightarrow Drop \rightarrow Dial current date \rightarrow Enter \rightarrow Exit

PC Procedure $F1 \rightarrow F7 \rightarrow Alt + P \rightarrow Type current date \rightarrow F10 \rightarrow F5$

Set System Time

The System Time feature allows you to set the time that appears on MLX display telephones and on SMDR reports. See "Set System Time" on page 3-9 for detailed information.



In Release 6.0 and later systems, where a MERLIN LEGEND Communications System switch is networked in a private network with one or more other MERLIN LEGEND Communications System switches or with one or more DEFINITY Communications Systems, SMDR reports may report outgoing calls using more than one call record (for example, for tandem calls), depending upon how SMDR is programmed and how calls are routed. If SMDR is reporting outgoing calls and users are employing private network lines to make these calls, ensure that the system date and time are set accurately on each system that carries these calls. As you examine call reports, you may need to be aware of time zone differences among networked system locations.

Summary: Set System Time

Programmable by System Manager

Mode ΑII

Idle Condition Not Required

Planning Form Form 1, System Planning

Factory Setting 0000

Page 4-14

4 Programming Procedures
System Renumbering

Valid Entries 0000 to 2359

Inspect No Copy Option No

Console Procedure System \rightarrow Time \rightarrow Drop \rightarrow Dial current time \rightarrow Enter \rightarrow Exit

PC Procedure $F1 \rightarrow F8 \rightarrow Alt + P \rightarrow Type current time \rightarrow F10 \rightarrow F5$

System Renumbering

The procedures in this section are used to assign the 2-digit, 3-digit, and Set Up Space numbering plans for the local MERLIN LEGEND Communications System.

NOTE:

System Renumbering is called *Flexible Numbering* in the MERLIN II Communications System. This is *not* the same as Board Renumbering, an option used when modules in the control unit are changed.

Do not attempt to assign a numbering plan without Planning Forms 2a, System Numbering: Extension Jacks; 2b, System Numbering: Digital Adjuncts; and 2d, System Numbering: Special Renumbers. Form 6a, Optional Operator Features, is needed to assign a DSS **Page** button. This section contains the following programming procedures:

- Select System Numbering Plan
- Direct Station Selector (DSS) Page Button Assignment

This section contains summaries of the following procedures which are described in detail in Chapter 3, "Common Administrative Procedures."

- Single Renumbering
- Block Renumbering
- Non-Local Dial Plan Renumbering (Release 6.0 and later systems only)

For the local system, you then select only one of the numbering plans (2-digit numbering, 3-digit numbering, or Set Up Space numbering). In addition, you may need to perform single and/or block renumbering. You do not need to assign DSS **Page** buttons unless the system programming console or one of the operator positions is connected to a DSS. No matter which procedures you need to perform, assign the numbering plan first, then do single and/or block renumbering, and finally, assign DSS **Page** buttons (if necessary).

Programming Procedures System Renumbering

Page 4-15

In Release 6.0 and later systems (Hybrid/PBX mode only), you may choose non-local dial plan numbering to specify the numbering of extensions connected to remote networked systems and allow users on your system to access those extensions as if they were connected to your own system. You specify only ranges of extensions.

Use the single renumbering procedure whenever the extension numbers you are changing from or to are not sequential.

Block renumbering is quicker, but you can use block renumbering only when the extension numbers you are changing from and to are sequential.

When trunk or extension modules are removed from the control unit, the remaining modules must be rearranged so that no empty slots remain. The system does not acknowledge any modules installed after an empty slot; therefore, if the system is renumbered, extensions are not assigned to extension jacks after the empty slots.



NOTE:

Figure 4–1, Figure 4–2, and Figure 4–3 show the default settings in the gray spaces. Extensions can be renumbered to any number shown in the white spaces.

0	0 Operator Console (not flexible) 0									
1	Extensions 10–19									
2	Extensions 20–29									
3	Extensions 30–39									
4	Extensions 40–49									
5	Extensions 50–59									
6	Extensions 60–66			Extra		6843-	Extra MFMs/ 6993-		6993-	
	Extension		ons	6849	Terminal Adapters 6999			6999		
	6700–6842			342		6850	-6992			
7	Main Pool MFMs/ 70 Terminal A 710-766		MFMs/	767–		Calling Groups		Pag	Paging	
			Terminal Adapters		769	770–791,7920–7		7929	Groups	
					793–799			-799		
8	800* Trunks 801–880				Park		889†	Pools	3	
					881–888		890–899			
9	ARS Access (Hybrid/PBX Mode) / Idle Line Access 9									

Listed Directory Number (QCC Queue)

NOTE: "0" and "10" are the same station.

[†] Remote Access

4 Programming Procedures System Renumbering

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0	Operator Console (not flexible) 0								
1		Extensions 100–199							
2		Extensions 200–299							
3	MFMs/Terminal Adapters 300–399								
4	MFMs/Terminal Adapters 400–499								
5		500–599							
6		600–699							
7	Main Pool 70			Calling Groups 770–791, 7920–7929		•	Paging		
			71–76	7	Groups				
							793–799		
8	800*	800 [*] Trunks			Park	889†	Pools		
			801–880		881–888		890-899		
9	ARS Access (Hybrid/PBX mode)/Idle Line Access								

^{*} Listed Directory Number (QCC)

NOTE: "0" and "100" are the same station.

Figure 4–2. 3-Digit Numbering

0	Operator Console (not flexible) 0									
1	100–199									
2	200–299									
3	300–399									
4	400–499									
5	500–599									
6	600–699									
7	Main Pool	Extensions	MFMs/Terminal	7500-7699	Calling Group	Paging				
	70	7100-7299	Adapters		770–791,	Groups				
			7300–7499		7920-7929	793–799				
8	800*	Trunks		Park	889†	Pools				
		801-880		881-888		890-899				
9	ARS Access (Hybrid/PBX mode)/Idle Line Access 9									

Listed Directory Number (QCC).

NOTE: "0" and "7001" are the same station.

Figure 4-3. Set Up Space Numbering

[†] Remote Access

[†] Remote Access

Programming Procedures System Renumbering

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Select System Numbering Plan



MARNING:

To avoid possible loss of system programming information, renumber the system before you program the rest of the options described in this chapter.

The three available local system numbering plans listed below appear on System Planning Form 2a.

- **Two-Digit.** This plan is for systems with fewer than 50 extensions and no plans to exceed that number in the foreseeable future. Each of the first 58 extension jacks is assigned a 2-digit extension number, beginning with 10 and ending with 67. Any remaining extensions are assigned 4-digit numbers, starting with 6700 and ending with 6842.
- **Three-Digit.** This plan is for systems with 50 or more extensions or plans to grow to that number in the foreseeable future. All extensions are assigned a 3-digit number, starting with 100 and ending with 299.
- **Set Up Space.** This plan is for systems with a need to customize extension numbers or use extension numbers of varying lengths (one to four digits). All extensions are assigned 4-digit numbers in the 7000 range. Extension numbers 1000 through 6999 are also available for use when you renumber.

In all three local numbering plans, the system assigns 3-digit extension numbers to pools (Hybrid/PBX only), calling groups, paging groups, remote access codes, the Listed Directory Number, park codes, and Idle Line Access (Key and Behind Switch modes). In addition, the system assigns 9 for Automatic Route Selection (Hybrid/PBX only) and Idle Line Access (Key and Behind Switch only). Zero (0) represents a special extension number—actually a fixed dial code—for the primary operator or QCC queue. Any extension number except 0 can be renumbered.

Extension numbers can be composed of any combination of digits; however, no number can begin with 0. Trunk numbers (801 to 880) are considered to be extensions and can be renumbered.

The system does not provide a message to indicate a successful renumber when either the 2-digit or 3-digit numbering plan is selected. For the Set Up Space numbering plan, the system provides a message indicating that all extensions are in the 7000 range.



A CAUTION:

Select Exit on the console or F5 on the PC when you have finished selecting the numbering plan. If you press **Home**, extensions may remain in the forced idle condition (indicated when the LED next to each DSS button is on). To restore extensions to their normal operating state, restart the system.

4 Programming Procedures
System Renumbering

Page 4-18

Summary: Select System Numbering Plan

Programmable by System Manager

Mode All

Idle Condition System idle

Planning Form Form 2a, System Numbering: Extension Jacks

Factory Setting Two-digit

Valid Entries Two-digit, Three-digit, Set Up Space

Inspect No Copy Option No

Console Procedure SysRenumber→Default Numbering→

Select numbering plan→Exit→Exit

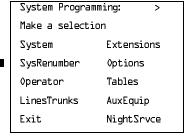
PC Procedure $F2 \rightarrow F1 \rightarrow Select numbering plan \rightarrow F5 \rightarrow F5$

Procedure: Select System Numbering Plan

Console Display/Instructions Additional Information

PC

▶ 1. Select the System Renumbering menu.



F2

2. Select Default Numbering.

System:

Make a selection

Default Numbering

Single

Block

NonLocal UDP

Exit

If you get the System Busy message, wait for an idle condition or exit system programming and try again later.

F1

Programming Procedures System Renumbering

Page 4-19

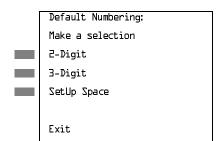
Console Display/Instructions

Additional Information

PC

F1

Select the appropriate system numbering plan.

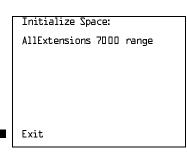


Select 2-Digit and go to Step 5.

Select 3-Digit and go to Step 5. [F2] Select SetUp Space and continue with F3

Step 4.

Observe the initialize space screen.



If you selected SetUp Space you have finished this procedure.

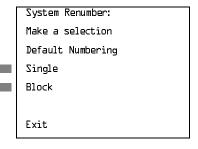
Select Exit and go to Step 6.

F5

F2

F3

Select the type of extension to renumber.



To change individual extension numbers, select Single and go to "Single Renumbering" in the next section.

To change a block of extension numbers, select Block and go to

"Block Renumbering" on page 4-21.

Return to the System Programming menu.

Select Exit twice.

F5 F5

Page 4-20

Programming Procedures System Renumbering

Single Renumbering

Use this procedure to assign a specified extension number to a telephone, accessory, line, pool (Hybrid/PBX only), calling group, paging group, or Listed Directory Number. Single renumbering is also used for Remote Access, Park, Idle Line Access (Key and Behind Switch only), and Automatic Route Selection (Hybrid/PBX only).

See "Single Renumbering" on page 3–14 for detailed information.



A CAUTION:

Select Exit on the console or [5] on the PC after renumbering extensions. If you press **Home**, extensions may remain in the forced idle condition (indicated when the LED next to each DSS button is on). To restore extensions to their normal operating state, restart the system.

When required, this procedure should be performed immediately following the selection of a system numbering plan.

Summary: Single Renumbering

Programmable by System Manager

Mode ΑII

Idle Condition System idle

Planning Form Form 2a, System Numbering: Extension Jacks

> Form 2b, System Numbering: Digital Adjuncts Form 2d, System Numbering: Special Renumbers

Factory Setting Not applicable

Valid Entries Old and new extension numbers

Inspect Yes Copy Option No

Console Procedure SysRenumber \rightarrow Single \rightarrow Select item \rightarrow Dial old ext. no. \rightarrow

Enter \rightarrow Dial new ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F2 \rightarrow F2 \rightarrow Select item \rightarrow Type old ext. no. \rightarrow F10 \rightarrow$

Type new ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Programming Procedures System Renumbering

Page 4-21

Block Renumbering

Use this procedure to assign extension numbers to a group of extensions, accessories, or lines. Both the original numbers and the numbers they are being changed to must be sequentially numbered.

When required, this procedure should be performed immediately following the selection of a system numbering plan.

See "Block Renumbering" on page 3–16 for detailed information.



A CAUTION:

Select Exit on the console or F5 on the PC when you have finished renumbering extensions. If you press Home, extensions may remain in the forced idle condition (indicated when the LED next to each DSS button is on). To restore extensions to their normal operating state, restart the system.

Summary: Block Renumbering

Programmable by System Manager

Mode ΑII

Idle Condition System idle

Planning Form Form 2a, System Numbering: Extension Jacks

> Form 2b, System Numbering: Digital Adjuncts Form 2d, System Numbering: Special Renumbers

Factory Setting Not applicable

Valid Entries Old and new extension numbers

Inspect Yes Copy Option Yes

Console Procedure SysRenumber→Block→Select type of group→Dial no. of first

group member→Enter→Dial no. of last group

member→Enter→Dial new beginning no.→Enter→

 $Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F2 \rightarrow F3 \rightarrow Select$ type of group $\rightarrow Type$ no. of first group

> member \rightarrow F10 \rightarrow Type no. of last group member \rightarrow F10 \rightarrow Type new beginning no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

Programming Procedures
System Renumbering Page 4-22

Non-Local Dial Plan Extension Ranges

There are two procedures in non-local numbering:

- Specifying new extension ranges
- Deleting extension ranges

Chapter 3, "Common Administrative Procedures," includes further details about this type of numbering.

Summary: Specifying New Extension Ranges

This procedure verifies that extension numbers on the local system do not conflict with those on a networked outside switch. For example, if Extension 110 exists in the local system, Extension 1100 cannot exist on a networked outside system. It also checks to see whether new extension number ranges conflict with existing ranges set for the non-local system.

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition None

Planning Form Form 2a, System Numbering: Extension Jacks

Form 2b, System Numbering: Digital Adjuncts Form 2d, System Numbering: Special Renumbers

Non-Local Dial Plan Administration Form in the Installation

Specification

Factory Setting Not applicable

Valid Entries Starting and ending numbers for old and new extension

ranges

Ranges 50

Inspect Yes, existing number ranges

Copy Option No

Console Procedure SysRenumber→NonLocal UDP→Dial no. of first extension in

range→Enter→Dial no. of last extension in range→
Enter→Dial no. of pattern for extension range→

Enter→Exit→Exit

PC Procedure $F2 \rightarrow F4 \rightarrow Type$ no. of first extension in range $\rightarrow F10 \rightarrow Type$

no. of last extension in range \rightarrow F10 \rightarrow Type no. of pattern for

extension range \rightarrow F10 \rightarrow F5 \rightarrow F5

Page 4-23

Programming Procedures System Renumbering

Summary: Deleting Extension Ranges

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition None

Planning Form Form 2a, System Numbering: Extension Jacks

Form 2b, System Numbering: Digital Adjuncts Form 2d, System Numbering: Special Renumbers

Non-Local Dial Plan Administration Form in the Installation

Specification

Factory Setting Not applicable

Starting numbers for extension ranges to be deleted Valid Entries

Inspect Yes: existing number ranges

Copy Option No

Console Procedure SysRenumber→NonLocal UDP→Dial no. of first extension in

 $range \rightarrow Enter \rightarrow DelRange \rightarrow Exit \rightarrow Exit$

PC Procedure $F2 \longrightarrow F4 \longrightarrow Type$ no. of first extension in range $\longrightarrow F10 \longrightarrow F$

 $F8 \rightarrow F5 \rightarrow F5$

Direct Station Selector (DSS) Page Buttons

Use this procedure to set the three Page buttons on the DSS to correspond to the system numbering plan. This procedure assigns extension numbers to DSS buttons. You cannot program individual buttons on a DSS; this is the only method for programming DSS buttons.

Page button assignment should be sequential. If only one DSS is attached, each Page button assignment sets the console for a range of 50 extension numbers: Page 1: 0 to 49; Page 2: 50 to 99; Page 3: 100 to 149.

If two DSSs are attached, each Page button assignment sets the console for a range of 100 extension numbers. If two DSSs are attached to the console, change the factory setting so that the difference between extension numbers assigned to the range is at least 100. For example, assign Page 1 to begin with extension 10, Page 2 to begin with extension 110, and Page 3 to begin with extension 210.

Operator Park Zone codes must be included in the extension number range specified for one of the Page buttons.



A CAUTION:

Select Exit on the console or F5 on the PC when you have finished this procedure. If you press **Home**, extensions may remain in the forced idle condition (the LED next to each DSS button is on), and the system may have to be restarted.

4 Programming Procedures
System Renumbering

Page 4-24

Summary: Assign Direct Station Selector Page Buttons

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Page 1=0; Page 2=50; Page 3=100

Valid Entries 1, 2, 3

Inspect Yes
Copy Option No

Console Procedure SysRenumber \rightarrow Single \rightarrow More \rightarrow DSS Buttons \rightarrow Dial page

 $no. \rightarrow Enter \rightarrow Dial first ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F2 \rightarrow F2 \rightarrow PgUp \rightarrow F1 \rightarrow Type page no. \rightarrow F10 \rightarrow$

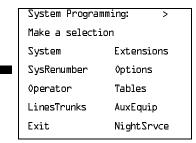
Type first ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Assign Direct Station Selector Page Buttons

Console Display/Instructions Additional Information

PC

1. Select the System Renumber menu.



F2

▶ 2. Select Single renumbering.

System Renumber:

Make a selection

Default Numbering

Single

Block

NonLocal UDP

Exit

F2

(F10)

Select Enter.

F5 F5

Select Exit twice.

Programming Procedures
System Operator Positions

Page 4-27

System Operator Positions

A system operator position, for a Queued Call Console (QCC) operator or a Direct-Line Console (DLC) operator, should be programmed before you program lines or trunks.

QCC Operator Position

The QCC operator position is available only for Hybrid/PBX systems. The DLC operator position is available in any mode and must be programmed if you have Call Management Systems connected to any operator extension jacks. For detailed programming procedures see "QCC System Operator Positions" on page 3–27.

This procedure applies to Hybrid/PBX systems only.



If you want to add or remove QCC operator positions, the following conditions apply:

- If other QCC positions remain in your system, the primary QCC operator position cannot be removed.
- When QCC operator positions are added, the primary QCC operator position should be the first one added.
- If QCC operator positions are being removed, the primary QCC operator position must be the last one removed.

Summary: QCC Operator Positions

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition System idle

Planning Form Form 2a, System Numbering: Extension Jacks

Factory Setting Type: DLC

Valid Entries First or fifth extension jack on MLX module (maximum: two

per module; maximum: four QCCs per system)

Inspect Yes
Copy Option No

Console Procedure Operator \rightarrow Positions \rightarrow Queued Call \rightarrow Dial ext. no. \rightarrow

Enter→Store All

PC Procedure $F3 \rightarrow F1 \rightarrow F2 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow F3$

4 Programming Procedures
System Operator Positions

Page 4-28

DLC Operator Positions

DLC operator positions can be assigned to the first and fifth extension jacks on the first modules with digital or analog multiline extension jacks. A maximum of eight DLC operator positions can be assigned. For detailed programming procedures see "DLC Operator Positions" on page 3–29.

Summary: Identify or Remove DLC Operator Positions

Programmable by System Manager

Mode All

Idle Condition System idle

Planning Form Form 2a, System Numbering: Extension Jacks

Factory Setting Type: DLC

Valid Entries First or fifth extension jack on MLX module (maximum: two

per module; maximum: eight DLCs per system)

Inspect Yes

Copy Option No

Console Procedure $Operator \rightarrow Positions \rightarrow Direct Line \rightarrow Dial ext. no. \rightarrow$

Enter→Store All

PC Procedure $F3 \rightarrow F1 \rightarrow F1 \rightarrow Type \text{ ext. no. } F10 \rightarrow F3$

Programming Procedures
Lines and Trunks

Page 4-29

Lines and Trunks

The procedures in this section are used to assign optional features to individual lines and trunks. The following optional features can be assigned:

- Type of Trunk
- Outmode Signaling for Loop- or Ground-Start Trunks
- Rotary Trunk Digit Transfer
- Disconnect Signaling Reliability
- Toll Type
- Hold Disconnect Interval
- Principal User for Personal Line
- QCC Queue Priority
- QCC Operator to Receive Calls
- Incoming Call Line Identification Delay
- Trunks to Pools Assignment

The Copy Options feature (described at the end of this section) allows you to copy several optional features from an idle trunk. This option eliminates the need to individually enter each feature.

Separate sections cover "DS1 Facilities," "Tie Trunks," "DID Trunks," "PRI Facilities," and "BRI Facilities."

A slot is the physical location of the individual module on the control unit. There is a maximum of 17 slots which are numbered as follows:

- Basic carrier: slots 1 through 5
- First expansion carrier: slots 6 through 11
- Second expansion carrier: slots 12 through 17

A port is a line or trunk jack on the module. Individual modules support different numbers of ports. On any module, port 1 is the lowest physical jack position. Lines connect equipment to the switch and trunks connect a switch to a switch. Lines and trunks have logical IDs, unique numeric identifiers for each extension and trunk jack in the communications system control unit. Lines are numbered from 1 to 144, while trunks are numbered from 801 to 880. An MLX extension port has 2 logical IDs for each physical jack.

1 Programming Procedures

Lines and Trunks Page 4-30

Type of Trunk

Use this procedure to specify the type of trunk, loop-start (LS) or ground-start (GS), for each outside trunk connected to one of the following modules:

- 400 GS/LS
- 408 GS/LS
- 800 GS/LS
- 408 GS/LS-MLX
- 800 GS/LS-ID (loop-start trunks only)

Any combination of trunk types (all loop-start, all ground-start, or some of each) is permissible.

This procedure is not used for a system registered with a KF registration number (Key or Behind Switch). Ground-start trunks are allowed only for systems with an MF (Hybrid) or PF (PBX) registration number.

Summary: Type of Trunk

Programmable by System Manager

Mode All

Idle Condition None required

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting All loop-start

Valid Entries All Ground, All Loop, Ground-Start, Loop-Start

Inspect Yes
Copy Option Yes

Console Procedure LinesTrunks \rightarrow LS/GS/DS1 \rightarrow Dial slot no. \rightarrow Enter \rightarrow

Select trunk type→Dial port no.→Enter→Exit→Exit

PC Procedure $F4 \rightarrow F1 \rightarrow Type$ slot no. $\rightarrow F10 \rightarrow Select$ trunk type \rightarrow

Type port no. \rightarrow F10 \rightarrow F5 \rightarrow F5

4 Programming Procedures

Lines and Trunks

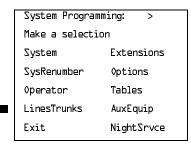
Page 4-31

Procedure: Type of Trunk

Console Display/Instructions Additional Information

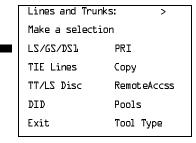
PC

▶ 1. Select the Lines and Trunks menu.



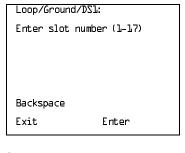
F4

▶ 2. Select Loop-Start/Ground-Start/DS1.



F1

▶ 3. Enter the slot number in the control unit that contains the module (nn = 1 to 17).



Module is: 400, 408, 408GS/LS-MLX, 800 GS/LS, or 800 GS/LS-ID.

Dial or type [nn].

C

▶ 4. Save your entry.

Select Enter.

F10

Programming Procedures

Lines and Trunks

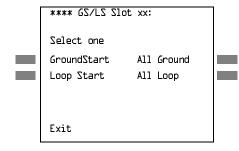
Page 4-32

Console/Display Instructions

Additional Information

PC

▶ 5. Specify the type of trunks connected to the module.



**** = 400, 408, 408-MLX, or 800 modules

xx = slot number entered in Step 3

Select GroundStart or

Loop Start and go to Step 6.

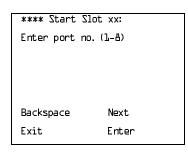
Or, select All Ground or All Loop and go to Step 9.

F1

F1

F6 F7

▶ 6. Enter the port numbers that have ground-start or loop-start trunks connected. 400 and 408 ports: n = 1 to 4; 800 ports: n = 1 to 8.



**** = option name selected in Step 5

xx = slot number entered in Step 3

NOTE:

If you get the Trunk Busy message, wait for an idle condition or exit system programming and try again later.

Dial or type [n].

C

▶ 7. Continue to assign trunk types or go to Step 8.

Select Next.

F9

Return to Step 6. The next slot number is displayed on Line 1.

8. Save your entry.

Select Enter.

F10

▶ 9. Return to the System Programming menu.

Select Exit twice.

F5 F5

Programming Procedures Lines and Trunks

Page 4-33

Outmode Signaling for Loop- or Ground-Start Trunks

Use this procedure to identify either touch-tone signaling or rotary-dial signaling for outgoing calls placed by using the specified loop- or ground-start trunk.



NOTE:

Since the factory setting is touch-tone, this procedure is not required if your system has only touch-tone lines/trunks.

Summary: Outmode Signaling for Loop- or **Ground-Start Trunks**

Programmable by System Manager

Mode Loop-Start: All; Ground-Start: Hybrid/PBX only

Idle Condition Not required

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting Touch-tone

Valid Entries Touch-tone, Rotary

No Inspect Copy Option Yes

Console Procedure To program a single line/trunk:

LinesTrunks→TT/LS Disc→Outmode→Select entry

 $mode \rightarrow Dial no. of line/trunk \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To program a block of lines/trunks:

LinesTrunks-TT/LS Disc-OutMode-Select block of lines/ trunks→Toggle LED On/Off→Enter→ Exit→Exit→Exit

PC Procedure To program a single line/trunk:

 $F4 \longrightarrow F3 \longrightarrow F1 \longrightarrow F6 \longrightarrow Type no. of the line/trunk \longrightarrow$

 $F10 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

To program a block of lines/trunks:

 $F4 \rightarrow F3 \rightarrow F1 \rightarrow Select block of lines/trunks \rightarrow$ Toggle letter G On/Off \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

4 Programming Procedures

Lines and Trunks

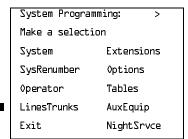
Page 4-34

Procedure: Outmode Signaling for Loop- or Ground-Start Trunks

Console Display/Instructions Additional Information

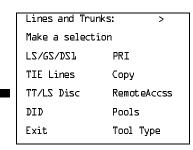
PC

1. Select the Lines and Trunks menu.



F4

▶ 2. Select Touch-Tone/Loop-Start Disconnect.



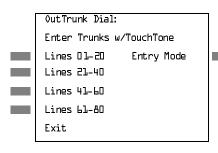
F3

■ 3. Select Outward Dialing Mode.



F1

▶ 4. Select the outward trunk dial line(s).



For a single line, go to

• Single Line Procedure.

For a block of lines, go to

◆ Block Procedure.

F5 F5 F5

Return to the System Programming menu.

Select Exit three times.

4 Programming Procedures
Lines and Trunks

Page 4-36

♦ Block Procedure

Console/Display Instructions Additional Information

PC

▶ 1. Specify the block of 20 lines associated with 20 buttons on the system programming console.

SelectLines 01-20 Lines 21-40 F1 F2

Lines 41-40 Lines 41-40

F3

Lines 61-80

F4

▶ 2. Specify touch-tone or rotary signaling for each block.

Toggle the green LED on or off as required.

On = touch-tone

Off = rotary

3. Return to the System Programming menu.

Select Exit three times.

[F5][F5][F5]

Rotary Trunk Digit Transfer

Use this procedure to designate whether dialed digits on rotary-dial lines/trunks are sent one by one as they are dialed (no delay), or are stored and sent when dialing is completed (delay). Contact your service provider for more information about the appropriate setting.

Summary: Rotary Trunk Digit Transfer

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting No Delay

Valid Entries Delay, No Delay

Inspect No Copy Option No

Console Procedure 0ptions \rightarrow **More** \rightarrow Rotary \rightarrow Select option \rightarrow Enter \rightarrow Exit

PC Procedure $F7 \rightarrow PgUp \rightarrow F4 \rightarrow Select option \rightarrow F10 \rightarrow F5$

No Delay.

F2

Exit

Enter

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4 Programming Procedures

Lines and Trunks

Page 4-38

PC

Console/Display Instructions Additional Information

▶ 5. Save your entry.

Select Enter. (F10)

▶ 6. Return to the System Programming menu.

Select Exit. F5

Ringing Frequency

Use this procedure to program the ringing frequency on an 016 module. Contact your service provider for more information about the appropriate setting. The 016 module is available only in Release 4.0 and later.

Summary: Ringing Frequency

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 20 Hz

Valid Entries 20 Hz, 25 Hz

Inspect No Copy Option No

Console Procedure Options \rightarrow More \rightarrow Ringing Freq \rightarrow dial slot no. \rightarrow

Select 20Hz or 25Hz→Enter→Exit

PC Procedure $(F7) \rightarrow (PgUp) \rightarrow (F8) \rightarrow type slot no. \rightarrow (F1) or (F2) \rightarrow (F10) \rightarrow (F5)$

4 Programming Procedures

Lines and Trunks

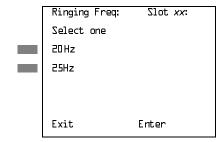
Page 4-40

Console/Display Instructions

Additional Information

PC

▶ 5. Specify 20 Hz or 25 Hz.



xx = slot number entered in Step 4

Select 20Hz or

25Hz.

F1 F2

▶ 6. Save your entry.

Select Enter.

F10

▶ 7. Return to the System Programming menu.

Select Exit.

F5

Second Dial Tone Timer

Use this procedure to program the second dial tone timer. The second dial tone timer sets a delay in providing a dial tone after a star code is dialed to obtain special services from the central office. See the *Feature Reference* for information about programming the second dial tone timer to prevent toll fraud. The second dial tone timer is available only in Release 3.1 and later.

Summary: Second Dial Tone Timer

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 0 ms.

Valid Entries 0–5,000 ms, increments of 200 ms

Inspect No Copy Option No

Console Procedure $Options \rightarrow More \rightarrow SecDT \rightarrow Drop \rightarrow Dial second dial tone$

timer value→Enter→Exit

PC Procedure $[F7] \rightarrow [PgUp] \rightarrow [F9] \rightarrow [Alt] + [P] \rightarrow Type$ second dial tone timer

value \rightarrow F10 \rightarrow F5

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Programming Procedures Lines and Trunks

Page 4-42

Additional Information Console/Display Instructions

PC

Enter the second dial tone timer (nnnn = 0 to 5,000 ms, in increments of 200 ms).

Dial or type [nnnn].

C

Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit.

F5

Disconnect Signaling Reliability

Use this procedure to classify the disconnect signal sent by the central office on loop-start trunks as one of the following:

- **Reliable.** Signal sent within a short time.
- Unreliable. Signal may not be provided.



A SECURITY ALERT:

Toll fraud can occur if you have loop-start trunks with unreliable disconnect. In this situation, if someone calls you and you hang up, the CO could send dial tone before the caller hangs up, allowing the caller to place another call as if it originated at your company.

The setting selected applies to all trunks in the system because trunks cannot be programmed individually. The reliable/unreliable setting does not apply to loopstart trunks emulated on a T1 facility. If you specify a reliable disconnect for trunks programmed with a short hold disconnect interval (see "Hold Disconnect Interval" on page 4-47), active calls as well as trunks on hold may be disconnected. For more information about reliable and unreliable disconnect and its implications, see the Feature Reference.



NOTE:

Certain features (Remote Call Forwarding and Transfer to outside numbers) and applications (CMS, AUDIX Voice Power, and MERLIN MAIL) are not recommended with loop-start trunks. See "Hold Disconnect Interval" on page 4-47.

4 Programming Procedures

Lines and Trunks

Page 4-43

Summary: Disconnect Signaling Reliability

Programmable by System Manager, Integrated Administration

Mode All

Idle Condition Not required

Planning Form Cc, System Numbering: Line/Trunk Jacks

Factory Setting Unreliable

Valid Entries Unreliable, Reliable

Inspect No Copy Option No

Console Procedure LinesTrunks→TT/LS Disc→LS Disconnect→

Yes or No→Enter→Exit→Exit

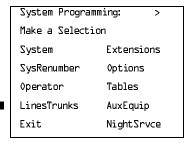
PC Procedure $F4 \rightarrow F3 \rightarrow F2 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Disconnect Signaling Reliability

Console Display/Instructions Additional Information

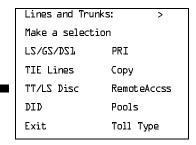
PC

▶ 1. Select the Lines and Trunks menu.



F4

2. Select Touch-Tone/Loop-Start Disconnect.



F3

Programming Procedures

Lines and Trunks

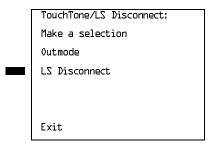
Page 4-44

Console/Display Instructions

Additional Information

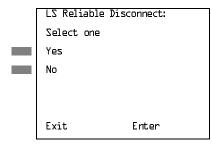
PC

■ 3. Select Loop-Start Disconnect.



F2

▶ 4. Specify the disconnect signal as reliable or unreliable.



Select Yes or

No.

F1

F2

▶ 5. Save your entry.

Select Enter.

F10

▶ 6. Return to the System Programming menu.

Select Exit twice.

F5 F5

Toll Type

Use this procedure to specify whether users have to dial a toll prefix (1 or 0) before dialing an area code and telephone number. (Your local telephone company should verify toll prefix requirements for each line/trunk.)

This setting is used by the system to classify calls as local or long distance so that appropriate toll restrictions can be applied.



This option applies only to loop- and ground-start trunks; it does not apply to tie trunks or DID trunks.

4 Programming Procedures

Lines and Trunks

Page 4-45

Summary: Toll Type

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting Toll prefix required

Valid Entries Required, Not required

Inspect No Copy Option Yes

Console Procedure To program a single line/trunk:

LinesTrunks→Toll Type→Select entry mode→Dial no. of

the line/trunk→Enter→Exit→Exit→Exit

To program a block of lines/trunks:

LinesTrunks→Toll Type→Select block of lines/trunks→

Toggle LED On/Off→Enter→Exit→Exit→Exit

PC Procedure To program a single line/trunk:

 $F4 \rightarrow F10 \rightarrow F6 \rightarrow Type no. of the line/trunk \rightarrow F10 \rightarrow F5 \rightarrow$

F5 → F5

To program a block of lines/trunks:

F4 →F10 →Select block of lines/trunk →Toggle letter G

 $On/Off \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Toll Type

Console Display/Instructions Additional Information

PC

1 Select the Lines and Trunks menu.

System Programming: >

Make a selection

System Extensions

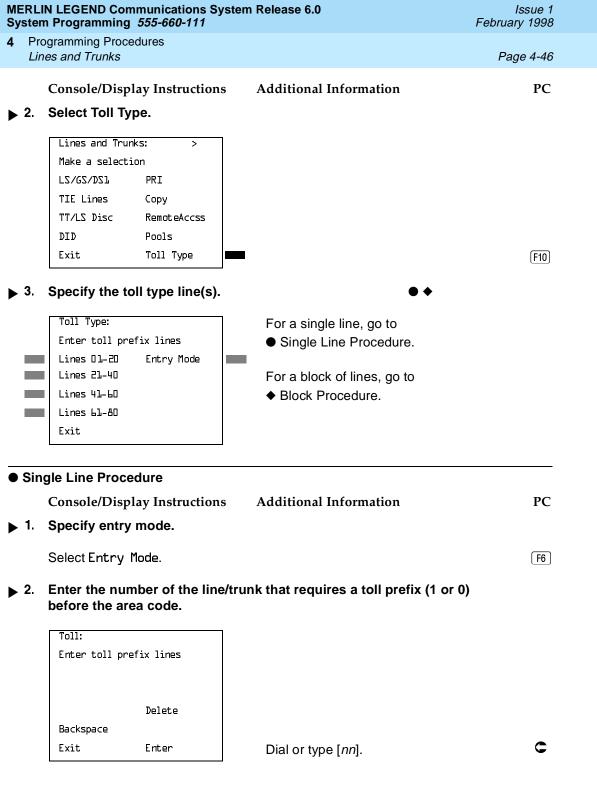
SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

[F4]



MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111 Issue February 199					
	ogramming Procedures les and Trunks		Page 4-47		
	Console/Display Instructions	Additional Information	PC		
▶ 3.	▶ 3. Assign or remove the toll prefix requirement from the line/trunk.				
	Select Enter or Delete.		F10 F8		
		You may continue to assign or remprefix requirement from additional repeating Steps 2 and 3.			
4 .	. Return to the System Programming menu.				
	Select Exit three times.		F5 F5 F5		
♦ Block Procedure					
	Console/Display Instructions	Additional Information	PC		
1 .	Specify the block of 20 lines associated with 20 buttons on the system programming console.				
	SelectLines 01–20 Lines 21–40 Lines 41–60 Lines 61–80		F1 F2 F3 F4		
2 .	2. Specify whether or not a toll prefix is needed.				
		Toggle the green LED on or off as On = toll prefix needed Off = toll prefix not needed	required.		
▶ 3.	Return to the System Programming menu.				
	Select Exit three times.		F5 F5 F5		
Hold	Disconnect Interval				

Use this procedure to specify the number of milliseconds before a loop-start line/trunk is released when a caller on hold hangs up and abandons the call. This can be specified as either a long interval (450 ms) or a short interval (50 ms). The hold disconnect interval applies to loop-start trunks connected to 400, 408, or 800

modules; it does not apply to emulated loop-start trunks (T1 facility).

4 Programming Procedures

Lines and Trunks Page 4-48

NOTES:

- 1. If the disconnect interval is longer than the telephone company setting, the line is not released when a caller on hold hangs up.
- 2. Do not program a short interval unless the local telephone company's central office is the crossbar type.
- Do not program a reliable disconnect for lines/trunks with a short hold disconnect interval. This can cause active calls as well as lines/trunks on hold to be disconnected. See "Disconnect Signaling Reliability" on page 42.

For more information on Hold Interval Disconnect and Reliable and Unreliable Disconnect, see the *Feature Reference*.

Summary: Hold Disconnect Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting Long interval (450 ms)

Valid Entries Long interval, Short interval

Inspect No Copy Option No

Console Procedure To program a single line/trunk:

 $\label{linesTrunks} $\rightarrow \textbf{More} \rightarrow $\text{HoldDiscnct} \rightarrow $\text{Select entry} \\ \text{mode} \rightarrow $\text{Dial no. of the line/trunk} \rightarrow $\text{Enter} \rightarrow Exit \\$

To program a block of lines/trunks:

LinesTrunks→More→HoldDiscnct→Select block of lines/trunks→Toggle LED On/Off→Enter→Exit→Exit

PC Procedure To program a single line/trunk:

 $F10 \rightarrow F5 \rightarrow F5$

To program a block of lines/trunks:

F4 → PgUp → F1 → Select block of lines/trunks →

Toggle letter G On/Off \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

4 Programming Procedures

Lines and Trunks

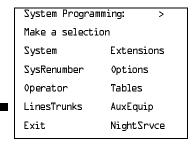
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Procedure: Hold Disconnect Interval

Console Display/Instructions Additional Information

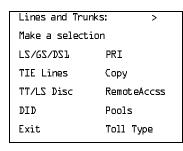
PC

▶ 1. Select the Lines and Trunks menu.



F4

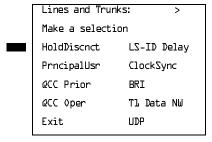
2. Go to the second screen of the Lines and Trunks menu.



Press More.

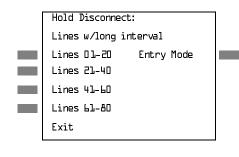
PgUp

3. Select Hold Disconnect Interval.



F1

↓ 4. Specify the hold disconnect line(s). ◆



For a single line, go to

Single Line Procedure.

For a block of lines, go to

◆ Block Procedure.

F5 F5 F5

Return to the System Programming menu.

Select Exit.

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4 Programming Procedures

Lines and Trunks

Page 4-51

♦ Block Procedure

Console/Display Instructions Additional Information

PC

▶ 1. Specify the block of 20 lines associated with 20 buttons on the system programming console.

Select Lines 01–20 Lines 21–40 Lines 41–60 Lines 61–80

F1

F2

F4

➤ 2. Specify touch-tone or rotary signaling for each block.

Toggle the green LED on or off as required.

On = long hold disconnect interval

Off = short hold disconnect interval

Return to the System Programming menu.

Select Exit.

[F5][F5][F5]

Principal User for Personal Line

Use this procedure to assign or remove one telephone as principal user for a personal line. When a telephone with Remote Call Forwarding activated is assigned as principal user, calls received on the personal line are forwarded to an outside telephone number. In addition, calls received on that line are sent to that telephone's individual and/or Group Coverage receivers unless the personal line button is set to No Ring.

The principal user assignment must be removed before the trunk can be removed from a button on the telephone.

When no principal user is assigned for a personal line, calls received on the personal line are not forwarded to outside telephone numbers; calls received on the personal line follow the coverage patterns for all users who share the line.

4 Programming Procedures
Lines and Trunks

Page 4-52

Summary: Principal User for Personal Line

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Factory Setting No principal user

Valid Entries Not applicable

Inspect No Copy Option No

 $Console\ Procedure\ Lines Trunks {\longrightarrow} \textbf{More} {\longrightarrow} Prncipal Usr {\longrightarrow} Dial\ line/trunk$

 $no. \rightarrow Enter \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow PgUp \rightarrow F2 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow Type ext.$

Procedure: Principal User for Personal Line

Console Display/Instructions Additional Information

PC

1 Select the Lines and Trunks menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

[F4]

▶ 2. Go to the second screen of the Lines and Trunks menu.

Lines and Trunks: >

Make a selection

LS/GS/DSl PRI

TIE Lines Copy

TT/LS Disc RemoteAccss

DID Pools

Exit Toll Type

Press More.

[PgUp]

Programming Procedures

Lines and Trunks

Page 4-54

Console/Display Instructions

Additional Information

PC

▶ 8. Continue to assign a principal user to another line or trunk, or go to Step 9.

Select Next.

F9

Return to Step 6. The next line/trunk is displayed on Line 1.

9. Save your entry.

Select Enter.

F10

▶ 10. Return to the System Programming menu.

Select Exit twice.

F5 F5

QCC Queue Priority Level

Use this procedure to assign QCC queue priority level values (1 to 7) to each loop-start, ground-start, and automatic-in tie trunk in your system. The value assigned determines the order in which calls are sent to the QCC operator positions. Call priority 1 is the highest priority, and 7 is the lowest priority.



This procedure applies to Hybrid/PBX mode only in a system that includes QCC operator positions.

Summary: QCC Queue Priority Level

Programmable by System Manager

Mode Hybrid/PBX Idle Condition Not required

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting 4

Valid Entries 1 to 7
Inspect Yes
Copy Option No

4 Programming Procedures

Lines and Trunks

Page 4-55

Console Procedure To program a single line/trunk:

 $LinesTrunks \rightarrow More \rightarrow QCC Prior \rightarrow Dial priority level \rightarrow$

Enter \rightarrow Select entry mode \rightarrow Dial trunk no. \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit$

To program a block of lines/trunks:

LinesTrunks \rightarrow More \rightarrow QCC Prior \rightarrow Dial priority level \rightarrow Enter \rightarrow Select block of lines \rightarrow Toggle LED On/Off \rightarrow

Enter→Exit→Exit

PC Procedure To program a single line/trunk:

 $F4 \rightarrow PgUp \rightarrow F3 \rightarrow Type priority level \rightarrow Select entry mode \rightarrow$

Type trunk no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

To program a block of lines/trunks:

 $F4 \longrightarrow PgUp \longrightarrow F3 \longrightarrow Type \text{ priority level} \longrightarrow F10 \longrightarrow Select \text{ block of }$

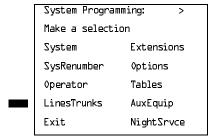
lines \rightarrow Toggle letter G On/Off \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: QCC Queue Priority Level

Console Display/Instructions Additional Information

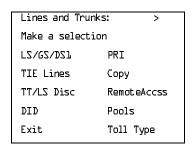
PC

▶ 1. Select the Lines and Trunks menu.



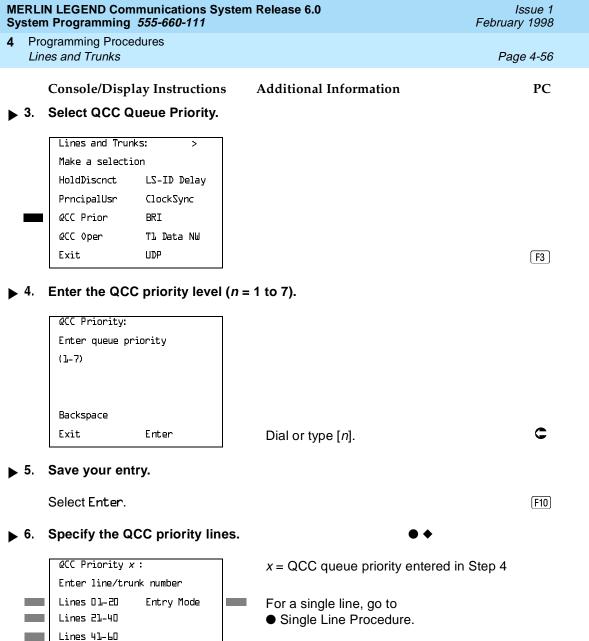
F4

▶ 2. Go to the second screen of the Lines and Trunks menu.



Press More.

PgUp



For a block of lines, go to

◆ Block Procedure.

Lines 61-80

Exit

F5 F5

Return to the System Programming menu.

Select Exit twice.

4 Programming Procedures
Lines and Trunks

Page 4-58

♦ Block Procedure

Console Display/Instructions

Additional Information

PC

F1

F2

F3

F4

▶ 1. Specify the block of 20 lines associated with the 20 line buttons on the system programming console.

Select Lines 01-20

Lines 21-40

Lines 41-60

Lines NI-AD

▶ 2. Assign the queue priority specified.

Toggle the green LED on or off as required.

On = to assign the queue priority

Off = not to assign the queue priority

Return to the System Programming menu.

Select Exit twice.

[F5][F5]

QCC Operator to Receive Calls

Use this procedure to specify whether or not incoming calls on each line/trunk ring into the QCC queue and to identify the QCC system operator positions that receive incoming calls on each line/trunk.

NOTES:

- 1. This procedure applies to Hybrid/PBX mode only in a system that includes QCC operator positions.
- Each ground-start, loop-start, or automatic-in tie trunk programmed to ring into the QCC queue can be associated with one or more QCC operator positions.
- If a trunk assigned to ring into the QCC queue is also used for shared remote access, see See <u>"Remote Access Features" on page 337.</u> You must assign remote access before you assign a QCC system operator to receive calls (see <u>"QCC Operator to Receive Call Types" on page</u> -294).
- Do not change the factory setting of No QCC Operator Assigned to Receive Calls for trunks dedicated to incoming calls for calling groups, trunks used as personal lines, DID trunks, unequipped DS1 trunks, or dial-in tie trunks.

4 Programming Procedures

Lines and Trunks

Page 4-59

Summary: QCC Operator to Receive Calls

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting No QCC operator is assigned to receive calls.

Valid Entries Extension number of first or fifth extension jack

Inspect Yes

Copy Option

Console Procedure To program a single line/trunk:

No

LinesTrunks \rightarrow More \rightarrow QCC Oper \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Select entry mode \rightarrow Dial line/trunk no. \rightarrow

 $Enter \rightarrow Enter \rightarrow Enter$

To program a block of lines/trunks:

LinesTrunks→More→QCC Oper→Dial ext. no.→

Enter→Select block of lines/trunks→Toggle LED On/Off→

Enter→Exit→Exit

PC Procedure To program a single line/trunk:

F4 \rightarrow PgUp \rightarrow F4 \rightarrow $Type ext. no. <math>\rightarrow$ F10 \rightarrow F6 \rightarrow

Type line/trunk no. \rightarrow F10 \rightarrow F5 \rightarrow F5

To program a block of lines/trunks:

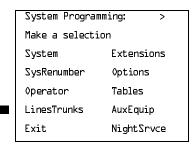
 $F4 \rightarrow PgUp \rightarrow F4 \rightarrow Type \ ext. \ no. \rightarrow F10 \rightarrow Select \ block \ of lines/trunks \rightarrow Toggle \ letter \ G \ On/Off \rightarrow F10 \rightarrow F5) \rightarrow F5$

Procedure: QCC Operator to Receive Calls

Console Display/Instructions Additional Information

PC

▶ 1 Select the Lines and Trunks menu.



[F4]

Programming Procedures

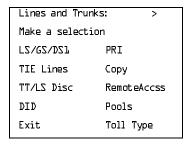
Lines and Trunks

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Console/Display Instructions Additional Information

PC

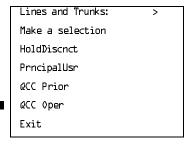
2. Go to the second screen of the Lines and Trunks menu.



Press More.

PgUp

■ 3. Select QCC Operator.



F4

▶ 4. Specify the QCC operator extension.

QCC Operator:
Enter QCC operator
extension number

Backspace
Exit Enter

If no DSS is attached:

SP: "Entering an Extension"

_

If DSS is attached:

Toggle the red LED on or off as required. Go to Step 6.
On = operator receiving calls

Off = operator not receiving calls

▶ 5. Save your entry.

Select Enter.

F10

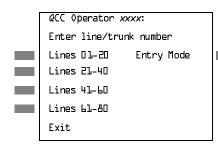
1 Programming Procedures

Lines and Trunks Page 4-61

Console/Display Instructions Additional Information

PC

▶ 6. Specify the line(s) associated with the QCC operator.



xxxx = extension number entered in Step 4

For a single line/trunk, go to

Single Line Procedure.

For a block of lines/trunks, go to

◆ Block Procedure.

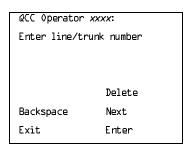
Single Line Procedure

Specify entry mode.

Select Entry Mode.

F6

■ 2. Enter the line/trunk assigned to ring into the QCC queue.



xxxx = extension number entered in Step 4

Dial or type:

Trunk number [nnn]

Slot and port number *[sspp]

Logical ID number #[nnn]

■ 3. Assign or remove the line/trunk from the specified QCC operator.

Select Enter or Delete.

F10 F8

You may continue to assign or remove additional

lines/trunks from the QCC operator by repeating Steps 2 and 3.

▶ 4. Continue to assign line/trunk to another QCC operator or go to Step 5.

Select Next. F9

Return to Step 2. The next QCC operator is displayed on Line 1.

ERLIN LEGEND Communications System Release 6.0 ystem Programming 555-660-111					
<u> </u>		Page 4-62			
Console/Display Instructions	Additional Information	PC			
Return to the System Programming menu.					
Select Exit twice.		F5 F5			
Block Procedure					
Console/Display Instructions	Additional Information	PC			
Specify the block of 20 lines associated with the 20 line buttons on the system programming console.					
SelectLines 01–20 Lines 21–40 Lines 41–60 Lines 61–80		F1 F2 F3 F4			
Assign or remove the lines for	the specified QCC operator.				
	Toggle the green LED on or off On = operator receiving calls Off = operator not receiving call	·			
3. Return to the System Programming menu.					
Select Exit twice.		F5 F5			
oop-Start Identification Delay					
lines/trunks connected to an a approximately six seconds has system software that the line informed that Caller ID inform	800 GS/LS-ID module at all extensions are elapsed since the port module is was ringing, or the system softward nation is available, whichever come	ions until informed the e has been s first.			
	n Programming 555-660-111 begramming Procedures es and Trunks Console/Display Instructions Return to the System Programm Select Exit twice. ck Procedure Console/Display Instructions Specify the block of 20 lines as on the system programming consoler Lines 21-40 Lines 41-40 Lines	responsible procedures ses and Trunks Console/Display Instructions Additional Information Return to the System Programming menu. Select Exit twice. Ck Procedure Console/Display Instructions Additional Information Specify the block of 20 lines associated with the 20 line buttons on the system programming console. Select Lines 01-20 Lines 21-40 Lines 41-60 Lines 41-60 Assign or remove the lines for the specified QCC operator. Toggle the green LED on or off On = operator receiving calls Off = operator not receiving call Return to the System Programming menu. Select Exit twice.			

This option can be programmed on a per-trunk basis. It gives the appearance to the users that the Caller-ID information is available the moment the call arrives at the extension, and prevents applications or adjuncts from answering the call too soon.

The LS-ID Delay setting appears on the Ground-Start/Loop-Start Trunk Information report.

4 Programming Procedures

Lines and Trunks Page 4-63

Any extension or adjunct that answers an incoming CO line on the first ring causes the Caller ID information associated with the call to be lost. The adjunct must be programmed to either answer the call on the second (or later) ring, or delay the call. The call can be delayed either by setting the ring option on the buttons associated with the adjunct or by using the LS-ID Delay option.



Caller-ID information is not available on ground-start lines/trunks.

Summary: Loop-Start Identification Delay

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting No delay

Valid Entries Loop-start line/trunk numbers

Inspect Yes

Copy Option Yes, but only to the same trunk type

Console Procedure To program a single line/trunk:

LinesTrunks→More→LS-ID Delay→Select entry mode→

Dial no. of the line/trunk \rightarrow Enter \rightarrow Exit \rightarrow Exit

To program a block of lines/trunks:

 $\verb|LinesTrunks| \rightarrow \verb|More| \rightarrow \verb|LS-ID| | \verb|Delay| \rightarrow \verb|Select| | block| of lines/$

 $trunks \rightarrow Toggle \ LED \ On/Off \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure To program a single line/trunk:

F4 \rightarrow PgUp \rightarrow F6 \rightarrow F6 \rightarrow Type no. of the line/trunk \rightarrow

 $F10 \rightarrow F5 \rightarrow F5$

To program a block of lines/trunks:

F4 \rightarrow PgUp \rightarrow F6 \rightarrow Select block of lines/trunks \rightarrow

Toggle letter G On/Off \rightarrow F10 \rightarrow F5 \rightarrow F5

4 Programming Procedures

Lines and Trunks

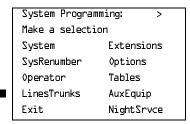
Page 4-64

Procedure: Loop-Start Identification Delay

Console/Display Instructions Additional Information

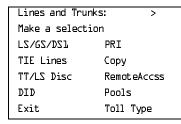
PC

Select the Lines and Trunks menu.



F4

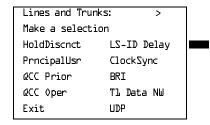
▶ 2. Go to the second screen of the Lines and Trunks menu.



Press More.

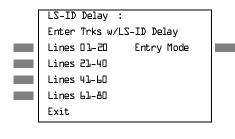
PgUp

3. Select Loop-Start Identification Delay.



[F5]

▶ 4. Specify the line(s) for LS-ID Delay.



For a single line/trunk, go to

• Single Line Procedure.

or a block of lines/trunks, go to

◆ Block Procedure.

Toggle the green LED on or off as required.

On = assign the LS-ID Delay Off = remove the LS-ID Delay Programming Procedures

Lines and Trunks

Page 4-66

Console/Display Instructions Additional Information

PC

3. Return to the System Programming menu.

Select Exit twice.

F5 F5

Clock Synchronization

Use this procedure to specify the primary, secondary, and tertiary clock source. A clock source may be either a 100D module or a port on an 800 NI-BRI module. See the *Feature Reference* for more information about the appropriate setting. If the clock is taken from a 100D module, you can also specify whether the clock is synchronized to the outside endpoint (loop) or to the clock reference source (local).



- 1. This procedure is necessary only if your system includes an 800 NI-BRI module or more than one 100D module.
- 2. In Release 6.0 and later systems, assign the primary, secondary, and tertiary clocks to any DS1 or BRI line that connects directly to the PSTN at each system with DS1 and BRI lines. In prioritizing sources of clock synchronization, a DS1 facility connecting to a long-distance carrier's toll office should take precedence over a DS1 or BRI facility connecting to a local exchange carrier's central office. In the absence of digital PSTN facilities at a switch, either because they are not equipped or they are not available, use a tandem PRI board for the loop clock source. The clock synchronization can be derived from tandeming switches if another switch in the network is connected to correctly functioning digital PSTN facilities. Therefore, the system deriving its clock from the tandem trunk will be assigned loop. If no digital PSTN trunks exist for either reason and PRI tandem trunks exist, the hub system for a star network configuration should provide the clock source. The DS1 PRI lines should be specified as local at the hub and loop at the non-hub switches. For a linear network configuration or a combination linear and star network configuration with no PSTN facilities, or PSTN facilities only at a single switch, all systems not connected to the PSTN facilities and not acting as a hub and connected by PRI tandem trunks will be set to loop for clock synchronization sources using the tandem trunks. In the absence of any external digital facilities, there can be only one active local clock in the private network.
- 3. The administration of clock synchronization is not related to the administration of the PRI switch type or PRI tandem trunk mode.

4 Programming Procedures
Lines and Trunks

Page 4-67

Summary: Clock Synchronization

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity 100D module

Form 3i, Incoming Trunks: BRI Options

Factory Setting Primary clock: the first 100D module in the control unit

carrier;

Valid Entries Primary, Secondary, Tertiary, Loop/Local

Inspect No Copy Option No

Console Procedure LinesTrunks→More→ClockSync→Primary→Dial slot

no.→Enter→Dial port no. OR Select source of

$$\label{lem:synchronization} \begin{split} & \operatorname{synchronization} \to \operatorname{Enter} \to \operatorname{Secondary} \to \operatorname{Dial\ slot\ no.} \to \\ & \operatorname{Enter} \to \operatorname{Dial\ port\ no.} \ \, \operatorname{OR\ Select\ source\ of\ synchronization} \to \operatorname{Enter} \to \operatorname{Dial\ port\ no.} \ \, \operatorname{OR\ Select\ source\ of\ synchronization} \to \operatorname{Enter} \to \operatorname{Exit} \to \operatorname{Exit} \end{split}$$

PC Procedure $F4 \rightarrow PgUp \rightarrow F7 \rightarrow F1 \rightarrow Type$ slot no. $\rightarrow F10 \rightarrow Type$ port no.

OR Select source of synchronization \rightarrow F10 \rightarrow F2 \rightarrow Type slot

no. \rightarrow F10 \rightarrow Type port no. OR Select source of

synchronization \rightarrow F10] \rightarrow F3] \rightarrow Type slot no. \rightarrow F10] \rightarrow Type

port no. OR Select source of synchronization→

 $[F10] \rightarrow [F5] \rightarrow [F5]$

Procedure: Clock Synchronization

Console Display/Instructions Additional Information

PC

▶ 1 Select the Lines and Trunks menu.

System Programming: >

Make a selection

System Extensions

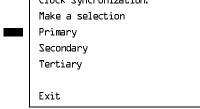
SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

[F4]



Enter the slot number of the module to contain the primary system clock.

Primary System Clock Enter slot number (1-17) XX Delete Backspace Exit Enter

Dial or type [xx].

[F1]

F2

Clock Syncronization: Make a selection

Primary Secondary Tertiary

Exit

F10

▶ 15. Save your entry.

Select Enter.

4 Programming Procedures

Lines and Trunks

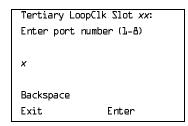
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Console/Display Instructions

Additional Information

PC

▶ 20. Select the port on the 800 NI-BRI module to be the tertiary clock source.



Dial or type [x].

C

▶ 21. Save your entry.

Select Enter.

F10

▶ 22. Return to the System Programming menu.

Select Exit twice.

F5 F5

Trunks to Pools Assignment

Use this procedure to create trunk pools (groups of outside lines/trunks connected to the system). Trunk pools are used to specify preferred routes for Automatic Route Selection (ARS). In addition, trunk pools enable users to select a line/trunk by dialing a pool dial-out code or by pressing a single button on the telephone. (A separate button for each line/trunk is not needed.) Each pool should contain trunks of the same type (for example, loop- or ground-start or WATS); however, ground- and loop-start trunks of the same type can be included in the same pool. Ground-start trunks must be manually assigned. A maximum of 11 trunk pools is allowed. A trunk can be assigned to only one pool.

Do not mix different service areas of WATS (Wide Area Telecommunications Service) trunks or FX (Foreign Exchange) lines to different cities. Do not include both incoming only and outgoing only lines/trunks in the same pool.

In Release 6.0 and later systems (Hybrid/PBX mode only), when dialing 10*** and 101**** equal access (Interexchange Carrier or IXC) calls via a private networked switch that is not connected to the public switched network, the private trunks must be assigned to the main pool. When routing Dial 0 and N11 calls via this type of networked switch, the private trunks must be assigned to the main pool containing private network trunks. For more information, see "Automatic Route Selection" on page –363.

Programming Procedures Lines and Trunks

Page 4-73

If you want to reassign a line/trunk to a different pool, you must remove it from the current pool before you assign it to the new pool. Once you assign a line/trunk to a pool, it can be assigned to a button only on a direct-line console operator position; individual lines intended for personal use on telephones other than the DLC console should not be assigned to pools.

DID trunks cannot be grouped in pools. Loop-start trunks are automatically placed in pools and must be removed manually if used for paging loudspeakers, Music on Hold, or maintenance alarms.

Dial-in tie trunks should not be grouped in pools if you intend to assign **Pool** buttons on telephones.



A SECURITY ALERT:

In Release 6.0 and later systems (Hybrid/PBX mode only), do not assign pools of non-local tie or PRI tandem trunks to Pool buttons or allow dial access to them. When callers in your system need to use these pools for outside calls, use ARS to direct the calls to these pools. Callers in your system use normal calling procedures to reach extensions on networked svstems.

If you are using Automatic Route Selection, the main pool (factory-set dial-out code 70) must contain loop- or ground-start trunks.

The system provides an error tone when a line/trunk is in use or if a loudspeaker paging system, Music on Hold, or maintenance alarm is already assigned; however, the system does not indicate the reason for the error tone.



■> NOTE:

This procedure applies to Hybrid/PBX mode only.

Summary: Trunks to Pools Assignment

Programmable by System Manager

Mode Hybrid/PBX Idle Condition Trunk idle

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting All loop-start trunks are assigned to the main trunk pool

> (factory-set extension number 70); all tie trunks are assigned to the trunk pool with the factory-set extension number 891;

no factory-set extension numbers are assigned to

ground-start trunks.

Valid Entries Line numbers

4 Programming Procedures

Lines and Trunks

Page 4-74

Inspect Yes
Copy Option Yes

Console Procedure To program a single line/trunk:

 $\label{linesTrunks} $\operatorname{Pools} \to \operatorname{Dial\ pool\ dial-out\ code} \to \operatorname{Select\ entry\ mode} \to \operatorname{Dial\ no.\ of\ the\ line/trunk} \to$

Enter→Exit→Exit

To program a block of lines/trunks:

 $\label{linesTrunks} \rightarrow Pools \rightarrow Dial pool dial-out code \rightarrow Select block of lines/trunks \rightarrow Toggle LED On/Off \rightarrow $\rightarrow$$

 $Enter \rightarrow Exit \rightarrow Exit$

PC Procedure To program a single line/trunk:

 $\begin{array}{c}
\hline{\text{F4}} \rightarrow \hline{\text{F9}} \rightarrow \text{Type pool dial-out code} \rightarrow \hline{\text{F10}} \rightarrow \hline{\text{F6}} \rightarrow \\
\hline
\end{array}$

Type no. of the line/trunk \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)

To program a block of lines/trunks:

 $F4 \rightarrow F9 \rightarrow Type pool dial-out code \rightarrow F10 \rightarrow Select block of$

lines/trunks \rightarrow Toggle letter R On/Off \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Trunks to Pools Assignment

Console Display/Instructions Additional Information

PC

1. Select the Lines and Trunks menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

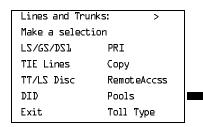
Operator Tables

LinesTrunks AuxEquip

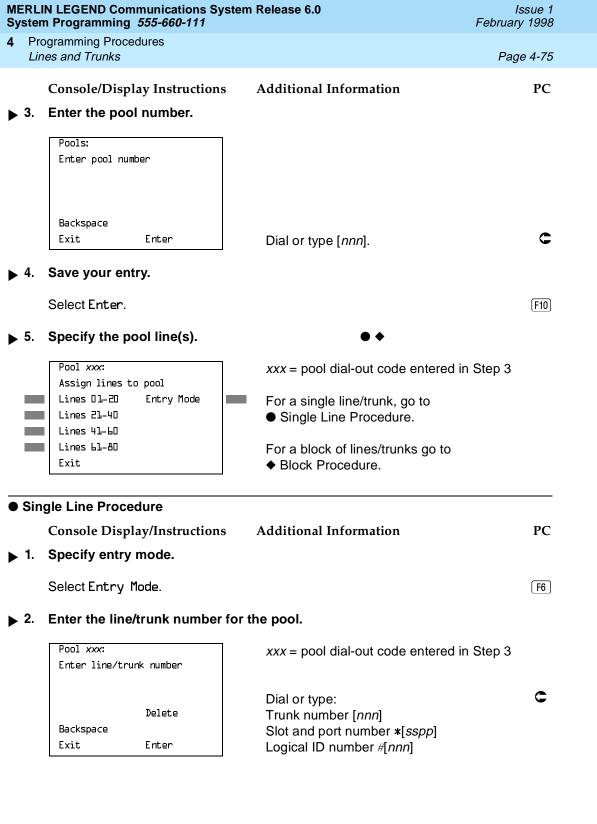
Exit NightSrvce

F4

2. Select Pools.



F9



MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111 Issue February 199					
-	ogramming Procedures nes and Trunks		Page 4-76		
▶ 3.	Console/Display Instructions Assign or remove the line/trunk		PC		
	Select Enter or Delete.		F10 F8		
		You may continue to assign or rem lines/trunks from the pool by repeatand 3.			
> 4.	Return to the System Programming menu.				
	Select Exit twice.		F5 F5		
◆ Block Procedure					
	Console Display/Instructions	Additional Information	PC		
▶ 1.	Specify the block of 20 lines associated with the 20 line buttons on the system programming console.				
	SelectLines 01–20 Lines 21–40 Lines 41–60 Lines 61–80		F1 F2 F3 F4		
▶ 2.	Assign the appropriate lines/trunks to the pool.				
		Toggle the red LED on or off as re On = trunk is assigned to specified Off = trunk is not assigned to spec	d pool		
▶ 3.	3. Return to the System Programming menu.				
	Select Exit twice.		F5 F5		

Programming Procedures

Lines and Trunks

Page 4-77

Copy Options for Lines/Trunks

Use this procedure to copy options assigned to loop-start or ground-start trunks, Tie trunks, or DID trunks. Note that many of these options apply to Hybrid/PBX systems only. The following information is copied for each line/trunk type:

- **Loop-Start or Ground-Start Trunks** (including those emulated on T1 facilities). Toll type, signaling type, and trunk pool assignment (Hybrid/PBX only).
- **Tie Trunks**. Direction, Tie trunk type, E&M signal, dial mode, dial tone, answer supervision time, disconnect time, and trunk pool assignment (Hybrid/PBX only).
- **DID Trunks** (Hybrid/PBX only). Block assignment and disconnect time.

To find out whether there is an optional feature assigned that you would like to copy, use **Inspct** from the system programming console or PgDn on a PC.

NOTES:

- 1. You can copy options to a block of lines/trunks only if they are all the same type (loop-start, ground-start, Tie, or DID). If you attempt to copy assignments and there is a mismatch in line/trunk type, information is copied to that point only. You receive no error message.
- In Release 6.0 and later systems, options cannot be copied from private lines/trunks.
- 3. If you are copying options to a block of lines/trunks, they must be sequentially numbered.
- 4. If the block you are copying to includes an invalid line/trunk type, the copying process stops at the invalid type. Only the lines/trunks that were copied to before the invalid type was found are copied successfully.
- 5. If you are copying assignments to a block of lines/trunks and one of the lines or trunks is in use, you see the message Trunk Busy Pls wait on your display. The copying for the rest of the lines/trunks in the block is delayed until the busy line/trunk becomes idle. If you exit without waiting for the copying to complete, the copying done up to that point is not canceled.

4 Programming Procedures

Lines and Trunks

Page 4-78

Summary: Copy Options for Lines/Trunks

Programmable by System Manager

Mode All (but note differences)

Idle Condition Not required

Planning Form Cc, System Numbering: Line/Trunk Jacks

Form 3c, Incoming Trunks: TIE Form 3d, Incoming Trunks: DID

Factory Setting Not applicable
Valid Entries Not applicable

Inspect No

Copy Option Not applicable

Console Procedure To copy individual lines/trunks:

 $\label{linesTrunks} $$\operatorname{LinesTrunks} \to \operatorname{Copy} \to \operatorname{Single} \to \operatorname{Dial\ copy} \ \text{from\ trunk\ no.} \to $$\operatorname{Enter} \to \operatorname{Exit} \to \operatorname{Exit} \to \operatorname{Exit} \to \operatorname{Exit} \to \operatorname{Exit}$

To copy blocks of lines/trunks:

 $\label{linesTrunks} $\to $Copy \to Block \to Dial$ copy from trunk no. \to Enter \to Dial$ first copy to trunk no. in block \to Enter \to Dial$ last copy to trunk no. in block \to Enter \to Exit \to Exit \to Exit \to Exit \to Exit \to Exit \to Exit \to Exit \to Exit \to Exit \to E$

PC Procedure To copy individual lines/trunks:

 $F4 \rightarrow F7 \rightarrow F1 \rightarrow Type copy to trunk no. \rightarrow F10 \rightarrow Type copy$

from trunk no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

To copy blocks of lines/trunks:

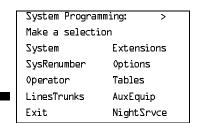
 $F4 \longrightarrow F7 \longrightarrow F2 \longrightarrow Type$ copy from trunk no. $\longrightarrow Type$ first copy to trunk no. in block $\longrightarrow F10 \longrightarrow F5 \longrightarrow Type$ last copy to trunk no.

in block \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Copy Options for Lines and Trunks

Console Display/Instructions Additional Information

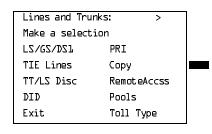
Select the Lines and Trunks menu.



PC

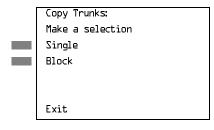
Page 4-79

PC



[F7]

Specify trunk(s).



To copy a single trunk, select Single and go to Single Trunk Procedure.

To copy a block of trunks,

select Block and go to

◆ Block of Trunks Procedure.

F2

F1

Single Trunk Procedure

Console/Display Instructions

Additional Information

PC

C

Enter the trunk number to copy from.

Copy Trunk Info From: Enter trunk number Backspace Exit Enter

Dial or type: Trunk number [nnn] Slot and port number *[sspp] Logical ID number #[nnn]

Save your entry.

Select Enter.

F10

If you get the Station Busy message, wait for an idle condition or exit system programming and try again later.

number Backspace Exit Enter

Dial or type: Trunk number [nnn]

Slot and port number *[sspp] Logical ID number #[nnn]

Save your entry.

Select Enter. F10

> If you get the Station Busy message, wait for an idle condition or exit system programming and try again later.

Programming Procedures

Lines and Trunks

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Console/Display Instructions Additional Information

PC

▶ 3. Enter the first trunk number to copy to.

COPY Trunk xxx To:
Enter starting trunk
number

Backspace
Exit Enter

xxx = "copy from" trunk entered in Step 1

Dial or type:

Trunk number [nnn]
Slot and port number *[sspp]
Logical ID number #[nnn]

▶ 4. Save your entry.

Select Enter.

F10

If you get the Station Busy message, wait for an idle condition or exit system programming and try again later.

▶ 5. Enter the last trunk number in the block to copy to.

START at Trunk xxx To:
Enter ending trunk
number

Backspace
Exit Enter

xxx = "start copy to" trunk entered in Step 3

Dial or type:

Trunk number [nnn]
Slot and port number *[sspp]

Logical ID number [nnn]

▶ 6. Save your entry.

Select Enter.

(F10)

C

7. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Programming Procedures
Uniform Dial Plan Facilities

Page 4-82

Uniform Dial Plan Facilities

Release 6.0 and later systems, Hybrid/PBX mode only, provide support for Uniform Dial Plan (UDP) facilities, networked lines/trunks originating at one or more other MERLIN LEGEND Communications Systems or DEFINITY Communications Systems. Use the procedures in this section to program the switch identifiers for private network trunks.

Switch Identifiers

Switch identifiers are 1- or 2-digit prefixes that appear in print reports and are used by the system to identify calls, transmission level determination, and route checking. If your system uses private facilities, you *must* program switch identifiers. Switch identifiers indicate the switch connected to the far end of a private trunk.

The procedures in this topic allow you to add, change, and remove switch identifiers.

Trunks connected to your system from the CO do not require identifiers. They are, by default, correctly assigned a null identifier.

When a private networked trunk is deleted, it is assigned a null identifier, as are trunks newly added to the system.

You can add a switch identifier to a block of trunks, and you can remove a switch identifier from a block of trunks that use the same switch identifier.

The correct switch identifier for a trunk or block of trunks is determined by the type of switch to which the trunk is connected and whether or not that switch is a satellite switch located within 200 miles of the local system. Identifying those switches greater than 200 miles from the local system is important in assuring transmission quality across the network. The identifiers are switch numbers that have the following meanings:

- Unassigned (null) = trunk connected to CO (central office)
- 1–20 = trunk connected to a non-satellite MERLIN LEGEND Communications System
- 21–40 = trunk connected to a satellite MERLIN LEGEND Communications System
- 41–50 = trunk connected to a non-satellite, non-LEGEND system (for example, a DEFINITY Communications System)
- 51–60 = trunk connected to a satellite, non-LEGEND system (for example, a DEFINITY Communications System)

NOTE:

The Enter Switch Number screens for the switch identifier procedures include a Help option that supplies the information above.

Programming Procedures
Uniform Dial Plan Facilities

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Wherever possible, the same switch identifiers should be used for the same switch across a network. For example, LEGEND A is identified by switch identifier 22 in LEGEND B and LEGEND C systems in a network. This helps avoid a situation where calls are directed in a loop through several systems. However, a trunk may connect to a switch that is a satellite for one networked system but not a satellite for another networked system. In this case, a system may have more than one switch identifier. For example, LEGEND D may be located within 200 miles of LEGEND E but be more than 200 miles from LEGEND F in the same private network. In this case, the switch identifier for LEGEND D (for example, 21) in LEGEND E is different from the identifier for LEGEND D (for example, 1) as specified in LEGEND F.

This topic includes procedures for adding a switch identifier to a single trunk or to a block of sequentially numbered trunks.

Summary: Switch Identifiers

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition None

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Form 3b, Incoming Trunks: DS1 Connectivity (100D Module)

Factory Setting Null (no value)

Valid Entries Null, 1–20, 21–40, 41–50, 51–60

Inspect No Copy Option No

Console Procedure To enter or remove an identifier for one trunk:

 ${\tt LinesTrunks} {\rightarrow} {\tt More} {\rightarrow} {\tt UDP} {\rightarrow} {\tt SwNum-Single} {\rightarrow}$

Dial trunk no. \rightarrow Enter \rightarrow Dial switch no. \rightarrow Enter or Delete \rightarrow

 $Exit \rightarrow Exit \rightarrow Exit$

To enter or remove identifiers for a block of trunks:

LinesTrunks—More—UDP—>SwNum-Block—Dial starting

trunk in block \rightarrow Enter \rightarrow Dial ending trunk in block \rightarrow

Enter→Dial switch no.→Enter or Delete→

 $Exit \rightarrow Exit \rightarrow Exit$

PC Procedure To enter or remove an identifier for one trunk:

Type switch no. \rightarrow F10 or F8 \rightarrow F5 \rightarrow F5 \rightarrow F5

To enter or remove identifiers for a block of trunks:

F4 → Paub → F10 → F2 → Type starting trunk in block →

 $\overline{\mathbb{F}_{10}} \rightarrow \overline{\text{Type}}$ ending trunk in block $\rightarrow \overline{\mathbb{F}_{10}} \rightarrow \overline{\text{Type}}$ switch no. \rightarrow

F10 or F8 \rightarrow F5 \rightarrow F5

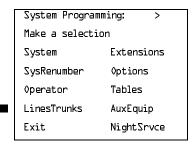
4 Programming Procedures
Uniform Dial Plan Facilities

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Console Display/Instructions Additional Information

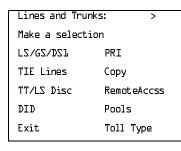
PC

■ 1. Select the Lines and Trunks menu.



[F4]

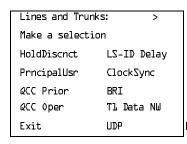
▶ 2. Go to the second screen of the Lines and Trunks menu.



Press More.

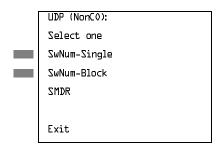
PgUp

■ 3. Select UDP.



F10

▶ 4. Select Single or Block Identifiers.



For a single trunk, go to

• Single Trunk Procedure.

For a block of trunks, go to

◆ Block Procedure.

repeating Steps 2 and 3.

Return to the System Programming menu.

Select Exit three times. F5 F5 F5 MERLIN LEGEND Communications System Release 6.0 System Programming *555-660-111*

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4 Programming Procedures

DS1 Facilities

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Console/Display Instructions Additional Information

PC

▶ 7. Assign or remove the switch identifier.

Select Enter or Delete or F10 F8

You may continue to assign or remove switch identifiers from additional lines/trunks by repeating Steps 2 through 7.

▶ 8. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

DS1 Facilities

Use the procedures in this section to program the following options for DS1 (digital signal level 1) facilities (T1 or PRI) connected to a 100D (DS1) module:

- Type of DS1 facility
 - T1
 - ISDN (Integrated Services Digital Network) Primary Rate Interface (PRI)
- Switched 56 Dial Plan Routing
- Frame Format
- Zero Code Suppression
- Signaling Mode
- Line Compensation
- Channel Service Unit

Type of DS1 Facility

Use this procedure to specify the type of facility (T1 or PRI) connected to a 100D (DS1) module. If T1 type is programmed, and the channels are used for emulation and/or AT&T Switched Network (ASN), you must specify the type of channel emulation.



In Release 6.0 and later systems, you may order a point-to-point T1 circuit in order to provide amplification but not switching for a PRI tandem trunk that carries calls over long distances. PRI tandem trunks are preferable to T1 tandem trunks. Consult your Lucent Technologies representative for advice.

Programming Procedures DS1 Facilities

Page 4-88

If the type is T1 and the type of channel emulation is tie trunk, you must specify whether the lines/trunks are TIE-PBX, Toll, or Switched 56 Data service. The valid settings are as follows:

- TIE-PBX. Select when emulated tie trunks are used to connect to another communications system (such as PBX or Centrex). The transmit/receive parameter is set to 0/4.
- Toll. Select when emulated tie trunks are used for ASN services (such as Megacom[®], Megacom 800, or Software Defined Network). The transmit/ receive parameter is set to 0/6.



NOTE:

The parameters listed in the two above items are for releases prior to Release 6.0. In Release 6.0 and later systems, the transmit/receive gains are determined by the call constituents.

TIE - S56 Data. Select when emulated tie trunks are used for Switched 56 Data Service. Switched 56 Data Service is available only in Release 4.0 and later. The transmit/receive parameter is set to 0/0.

If the type is T1 and S56 Data Network Service is selected, you must specify the following parameters (Switched 56 Data Service is available only in Release 4.0 and later):

- **Direction.** Specifies whether the trunk operates in one- or two-way direction. For one-way trunks, Outgoing Only or Incoming Only must also be specified.
- **Trunk Seizure Type.** Trunk seizure type is administered independently for incoming or outgoing directions. Select one of the following: Wink Start, Delay Start, or Automatic Start.
- Answer Supervision Time. The time in milliseconds the answer supervision signal must be present to be considered valid.
- Disconnect Time. The time in milliseconds the disconnect signal must be present to be considered valid.
- Dial Mode. Select either Rotary or Touch-Tone. Dial mode is set independently for incoming or outgoing directions (Inmode or Outmode).



Touch-Tone receivers are required on the far-end switch when the setting is Touch-Tone.

Table 4–1 shows the factory setting for each S56 Data Network Service option and the valid range for each threshold.

4 Programming Procedures

DS1 Facilities

Page 4-89

In Release 6.0 and later systems, T1 S56 service is not supported for tandeming applications. Use PRI instead.

If you select T1, channels can emulate ground- or loop-start trunks, tie trunks, or DID trunks in any combination. Note that unused channels must be specified as unequipped.

If either T1 or PRI is selected, channels can be used for ASN services. When T1 channels are used for ASN services, each channel must be programmed for tie trunk emulation.

If you select PRI, you must also perform additional procedures. At a minimum, the Framing Mode and Zero Code Suppression procedures must be performed. See "PRI Facilities" on page 4–165 for more information.

Summary: Type of DS1 Facility

Programmable by System Manager

Mode All

Idle Condition 100D module idle

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting T1, see Table 4–1 for options

Valid Entries T1, PRI

Inspect Yes
Copy Option No

Console Procedure To select PRI:

LinesTrunks \rightarrow LS/GS/DS1 \rightarrow Dial slot no. \rightarrow Enter \rightarrow Type \rightarrow PRI \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

To select T1: All Ground, All Loop, or All Unequip:

LinesTrunks \rightarrow LS/GS/DSL \rightarrow Dial slot no. \rightarrow Enter \rightarrow Type \rightarrow

Tl→Enter→Select type of emulation→Enter→

 $Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To select T1: Ground-Start, Loop-Start, All Tie, or Unequip:

 $\label{linesTrunks} $$ LS/GS/DSL \to Dial slot no. \to Enter \to Type \to TL \to Enter \to Select type of emulation \to Enter \to Dial channel no. \to Enter \to Exit \to$

To select T1: All DID:

 $\label{linesTrunks} $$ LS/GS/DS1 \to Dial slot no. \to Enter \to Type \to T1 \to Enter \to More \to All DID \to Enter \to Exit \to Type \to T1 \to Enter \to Exit \to Type \to T1 \to Type \to T1 \to Type \to T1 \to T1$

 $Exit \rightarrow Exit \rightarrow Exit$

Programming Procedures DS1 Facilities

Page 4-90

```
To select T1: DID:
```

 $\label{linesTrunks} $$ \bot S/GS/DS1 \longrightarrow Dial slot no. \longrightarrow Enter \longrightarrow Type \longrightarrow T1 \longrightarrow Enter \longrightarrow More \longrightarrow DID \longrightarrow Enter \longrightarrow Dial channel no. \longrightarrow Enter \longrightarrow Exit \longrightarrow Exit$

T . . . T. AUT

To select T1- All Tie:

LinesTrunks \rightarrow LS/GS/DS1 \rightarrow Dial slot no. \rightarrow Enter \rightarrow Type \rightarrow T1 \rightarrow Enter \rightarrow All TIE \rightarrow Enter \rightarrow TIE-PBX, Toll, or S5L \rightarrow Enter \rightarrow Dial channel no. \rightarrow Enter \rightarrow Exit \rightarrow

Exit→Exit→Exit

To select T1- Tie:

LinesTrunks—LS/GS/DS1—Dial slot

 $no. \rightarrow Enter \rightarrow Type \rightarrow Tl \rightarrow Enter \rightarrow TIE \rightarrow Enter \rightarrow$

TIE-PBX, Toll, or S5 $b \rightarrow$ Enter \rightarrow Dial channel no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit

EXIT→EXIT→EXIT→EXIT

To select T1: All Switched 56 Data:

LinesTrunks—LS/GS/DS1—Dial slot

 $\text{no.}{\rightarrow}\text{Enter}{\rightarrow}\text{Type}{\rightarrow}\text{Tl}{\rightarrow}\text{Enter}{\rightarrow}\text{More}{\rightarrow}$

ALL S5L Data Enter—Select Direction, Intype, Outtype, AnsSupv, Disconnect, Inmode, or Outmode—

Program options—Enter—Exit—Exit—Exit—Exit

To select T1: Switched 56 Data:

 $LinesTrunks \rightarrow LS/GS/DSL \rightarrow Dial slot no. \rightarrow Enter \rightarrow Type \rightarrow$

 $Tl \rightarrow Enter \rightarrow More \rightarrow S5b$ Data $\rightarrow Enter \rightarrow$

Dial channel no.—Enter—Select Direction, Intype, Outtype, AnsSupv, Disconnect, Inmode, or Outmode—

 $Program \ options {\longrightarrow} \ Enter {\longrightarrow} Exit {\longrightarrow} Exit {\longrightarrow} Exit {\longrightarrow} Exit$

PC Procedure

To select PRI:

$$F4$$
 \rightarrow $F1$ \rightarrow $F5$ \rightarrow $F5$ \rightarrow $F5$ \rightarrow $F5$ \rightarrow $F5$

To select T1: All Ground, All Loop, All Unequip:

To select T1: Ground-Start, Loop-Start, All Tie, or Unequip: $\boxed{\text{F4}} \rightarrow \boxed{\text{F10}} \rightarrow \text{Type}$ slot no. $\rightarrow \boxed{\text{F10}} \rightarrow \boxed{\text{F1}} \rightarrow \boxed{\text{F1}} \rightarrow \boxed{\text{F10}} \rightarrow \text{Select}$ type

of emulation \rightarrow [F10] \rightarrow Type channel no. \rightarrow [F10] \rightarrow [F5] \rightarrow

 $F5 \rightarrow F5 \rightarrow F5$

To select T1: All DID:

$$\begin{array}{c} \hline \texttt{F4} \rightarrow \hline \texttt{F1} \rightarrow \hline \texttt{Type slot no.} \rightarrow \hline \texttt{F10} \rightarrow \hline \texttt{F1} \rightarrow \hline \texttt{F10} \rightarrow \hline \texttt{F20} \rightarrow \hline \texttt{F3} \rightarrow \hline \texttt{F5} \rightarrow \hline \texttt{F5} \rightarrow \hline \texttt{F5} \\ \hline \end{array}$$

To select T1: DID:

$$F4 \rightarrow F10 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F1 \rightarrow F10 \rightarrow F20 \rightarrow F20$$

4 Programming Procedures DS1 Facilities

Page 4-91

To select T1- All Tie: $F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F1 \rightarrow F1 \rightarrow F10 \rightarrow F1, F2, or }F3 \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$ To select T1- Tie: $F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F1 \rightarrow F1 \rightarrow F10 \rightarrow F1, }F2, or }F3 \rightarrow F10 \rightarrow Type \text{ channel no.} \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$ To select T1: ALL Switched 56 Data: $F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F1 \rightarrow F1 \rightarrow F10 \rightarrow PgUp \rightarrow F7 \rightarrow F10 \rightarrow Select }F1, F2, F3, F4, F5, F6, or <math display="block">F7 \rightarrow Program \text{ options} \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$ To select T1: Switched 56 Data: $F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F1 \rightarrow F1 \rightarrow F10 \rightarrow PgUp \rightarrow F2 \rightarrow F10 \rightarrow Type \text{ channel no.} \rightarrow F10 \rightarrow Select }F1, F2, F3, F4, F5, F6, or <math display="block">F7 \rightarrow Program \text{ options} \rightarrow F10 \rightarrow F1 \rightarrow F1 \rightarrow F10 \rightarrow F2, F3, F4, F5, F6, or <math display="block">F7 \rightarrow Program \text{ options} \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Table 4–1. Switched 56 Data Signaling Options

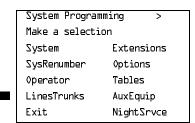
Option	Factory Setting	Range
Direction	Two-Way	Two-Way, Outgoing, Incoming
Intype	Wink-Route by Dial Plan	Wink-Route by Dial Plan,
	•	Delay-Route by Dial Plan
		Auto-Route by Line Appearance
Outtype	Wink	Wink, Delay, Auto
Answer Supervision	300 ms	200-4,800 ms (increments of 20 ms)
Disconnect	300 ms	200-4,800 ms (increments of 20 ms)
Inmode	Touch Tone	Touch Tone, Rotary
Outmode	Touch Tone	Touch Tone, Rotary

Procedure: Type of DS1 Facility

Console Display/Instructions Additional Information

PC

▶ 1. Select the Lines and Trunks menu.



F4

Programming Procedures

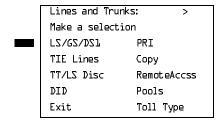
DS1 Facilities

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Console/Display Instructions Additional Information

PC

2. Select Loop-Start/Ground-Start/DS1.



F1

▶ 3. Enter the slot number in the control unit that contains the 100D module (nn = 1 to 17).

Loop/Ground/DS1:
Enter slot number(1-17)

Backspace
Exit Enter

Dial or type [nn].

C

▶ 4. Save your entry.

Select Enter.

F10

If you get the System Busy message, wait for an idle condition and try again or exit system programming and try again later.

5. Select Type.

DS1 Slot xx:

Make a selection

Type Line Comp
FrameFormat ChannelUnit
Suppression
Signaling
Exit

xx = slot number entered in Step 3

F1

Programming Procedures

DS1 Facilities

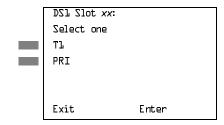
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Console/Display Instructions

Additional Information

PC

▶ 6. Select a facility type.



xx =slot number entered in Step 3

Select T1 or

PRI.

F1 F2

▶ 7 Save your entry.

Select Enter.

(F10)

If you selected PRI, you have finished this procedure. Go to "Frame Format."

8. Select a trunk type.

Port Type Slot	xx:	>
Select One		
GroundStart	A11	Ground
Loop Start	A11	Loop
TIE	A11	TIE
Unequipped	A11	Unequip
Exit	Ent	er

xx = slot number entered in Step 3

If the trunk type you want is not displayed, go to the second screen of the Port Type Slot menu.

Press **More** to view second screen. Press the button or function key next to your selection. PgUp

C

Port Type Slot xx:
Select one
DID All DID
S56 Data All S56Data

Exit Enter

Press the button or function key next to your selection.

C

Programming Procedures

DS1 Facilities

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Console/Display Instructions

Additional Information

PC

▶ 9. Save your entry.

▲ * ● ◆

Select Enter.

F10

If you selected All Ground, All Loop, All Unequipped, or All DID, you have finished this procedure.

If you selected Ground Start, Loop Start, DID, or Unequipped trunks, continue with Step 10.

If you selected TIE trunks, go to

▲ Tie Trunk Procedure.

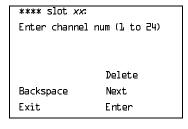
If you selected All TIE trunks, go to * All Tie Trunk Procedure.

If you selected S5L Data, go to ◆ S56 Data Procedure.

If you selected ALL S5L Data, go to

● All S56 Data Procedure.

▶ 10. Enter the channel number (*nn* = 1 to 24).



**** = option name selected in Step 8

xx = slot entered in Step 3

Dial or type [nn].

_

▶ 11. Assign or remove the channel.

Select Enter or Delete.

(F10)

F8

You may continue to assign or remove additional channels by repeating the last two steps.

[F10]

F5 F5 F5 F5

Select Enter.

Select Exit four times.

Return to the System Programming menu.

Programming Procedures

DS1 Facilities

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◆ S56 Data Procedure

Console Display/Instructions

Additional Information

PC

■ 1. Enter the channel number (nn = 1 to 24).

Enter

S56 Data Lines Slot xx:
Enter channel num (1-24)

Delete
Backspace

xx = slot number entered in Step x.

Dial or type [nn].

▶ 2. Assign or remove the channel.

Select Enter or Delete.

F10

F1

F2

[F3]

F4

F5

[F6]

[F7]

C

F8

If you select Enter, continue with Step 3. If you select Delete, return to Step 1.

■ 3. Select an option.

Exit

S56 Data Signaling:

Make a selection

Direction Disconnect

Intype Inmode

Outtype Outmode

AnsSupvr

Exit

▲+0 ★ ⊙

If you select Direction, go to ▲ Direction procedure.

If you select Intype or Outtype, go to

+ Trunk Seizure Type procedure.

If you select AnsSupvr, go to

Answer Supervision Timing Procedure.

If you select Disconnect, go to

★ Disconnect Timing Procedure.

If you select Inmode or Outmode, go to

Dial Mode Procedure.

Programming Procedures

DS1 Facilities

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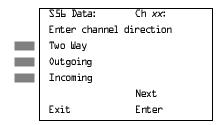
▲ Direction Procedure

Console/Display Instructions

Additional Information

PC

▶ 1. Select Direction.



xx = channel selected in Step x.

Select Two Way,

F1 F2

Outgoing, or Incoming

F3

▶ 2. Continue to assign direction to the next channel or go to Step 3.

Select Next.

F9

Return to Step 1. The next channel is displayed on Line 1.

■ 3. Save your entry.

Select Enter.

F10

▶ 4. Return to the System Programming menu.

Select Exit four times.

F5 F5 F5 F5

4 Programming Procedures

DS1 Facilities

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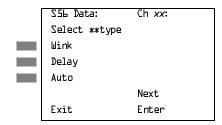
+ Trunk Seizure Type Procedure

Console/Display Instructions

Additional Information

PC

1. Select Trunk Seizure Type.



xx = channel selected in Step x.

** = In or Out

Select Wink,

Delay, or

F1 F2 F3

Auto

If Intype was selected in Step 3 of the main procedure, the following screen options will appear:

Wink-Route by Dial Plan Delay-Route by Dial Plan Auto-Route by LineAprnce

▶ 2. Continue to assign Intype or Outtype to the next channel or go to Step 6.

Select Next.

F9

Return to Step 1. The next channel is displayed on Line 1.

■ 3. Save your entry.

Select Enter.

F10

▶ 4. Return to the System Programming menu.

Select Exit four times.

F5 F5 F5 F5

F5 F5 F5 F5

Select Exit four times.

F5 F5 F5 F5

Select Exit four times.

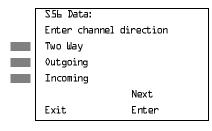
4 Programming Procedures DS1 Facilities

Page 4-103

▲ Direction Procedure

Console/Display Instructions Additional Information PC

1. Select Direction.



Select Two Way, Outgoing, or Incoming

F1 F2 F3

[F1]

F2

F3

2. Save your entry.

Select Enter. F10

Return to the System Programming menu.

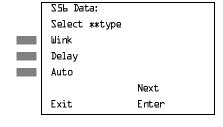
Select Exit four times.

F5 F5 F5 F5

+ Trunk Seizure Type Procedure

Console Display/Instructions Additional Information PC

1. Select Trunk Seizure Type.



** = In or Out

Select Wink, Delay, or Auto

If Intype was selected in Step 3 of the main procedure, the following screen options will appear:

Wink-Poute by Dial Plan

Wink-Route by Dial Plan Delay-Route by Dial Plan Auto-Route by LineAprnce

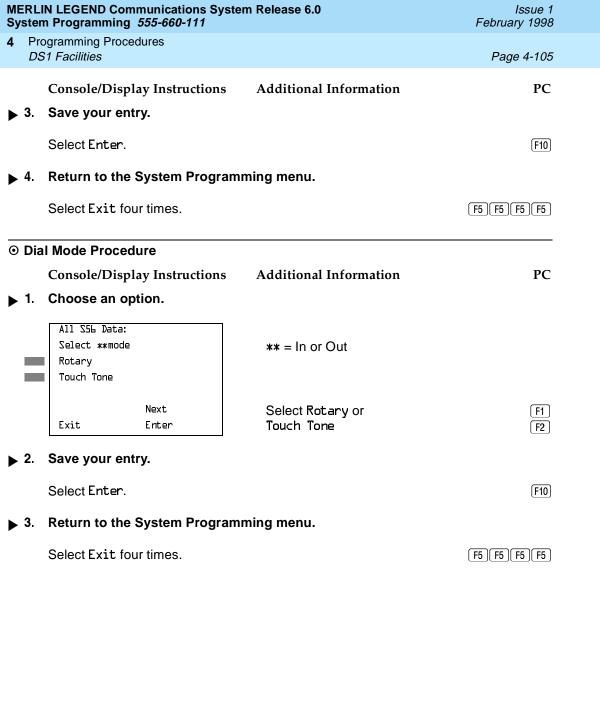
2. Save your entry.

Select Enter. F10

▶ 3. Return to the System Programming menu.

Select Exit four times.

F5 F5 F5



4 Programming Procedures

DS1 Facilities

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Switched 56 Dial Plan Routing

Dial plan routing provides a way to route incoming calls received on a Switched 56 Network line. An incoming call is routed by matching the incoming number and then optionally deleting and/or adding digits to direct the call to a specific endpoint. The expected digits are the number of incoming digits outpulsed from the central office.

Summary: Switched 56 Dial Plan Routing

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition 100D module idle

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting D4 compatible

Valid Entries D4, ESF

Inspect No

Copy Option No

Console Procedure To specify Expected Digits:

 $digits \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To specify Delete Digits:

 $\label{linesTrunks} $$\operatorname{More} \to Tl \ Data \ NU \to S5L \ Dial \ Plan \\ \operatorname{Routing} \to Delete \ Digits \to Drop \to Dial \ delete \ digits \to Drop \to Dial \ delete \ digits \to Drop \to Drop$

Enter→Exit→Exit→Exit

To specify Add Digits:

LinesTrunks→More→Tl Data NW→S5L Dial Plan Routing→Add Digits→Drop→Dial add digits→

 ${\sf Enter} {\rightarrow} {\sf Exit} {\rightarrow} {\sf Exit} {\rightarrow} {\sf Exit}$

PC Procedure To specify Expected Digits:

 $\begin{picture}(100,0) \put(0,0){$\tt F4$} \put(0,0){$\tt F9$} \put(0,0){$\tt F1$} \put(0$

 $digits \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

To specify Delete Digits:

 $digits \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

To specify Add Digits:

 $digits \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

[F1]

Exit

F10

F5 F5 F5

Select Enter.

Select Exit four times.

Return to the System Programming menu.

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4		Programming Procedures DS1 Facilities Page 4-				
	DO	T T domines		1 age 4 105		
+	Add	l Digits Procedure				
	Console Display/Instructions Additional Information			PC		
>	▶ 1. Erase the current number of digits to add (nnnn = 0 to 9999).					
		S5L Data Add Digits: Enter digits to add				
		nnnn				
		Backspace Exit Enter	Press Drop.	Alt + P		
>	2.	Enter the new number of digits	s to add $(n = 0 \text{ to } 3)$.			
		Dial or type [n].		C		
>	3.	Save your entry.				
		Select Enter.		F10		
>	4. Return to the System Programming menu.					
		Select Exit four times.		(F5)(F5)(F5)(F5)		
0	O Delete Digits Procedure					
		Console Display/Instructions	Additional Information	PC		
>	1.	Erase the current number of d	ligits to delete (n).			
		S5L Data Delete Digits: Enter number of digits to delete (O-4)				
		Backspace Exit Enter	Press Drop .	Alt + P		
>	2. Enter the new number of digits to delete ($n = 0$ to 4).					
		Dial or type [n].		C		
▶ 3. Save your entry.						
•		Select Enter.		F10		
>	4.	4. Return to the System Programming menu.				
		Select Exit four times.		F5 F5 F5 F5		

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4 Programming Procedures

DS1 Facilities

Frame Format

Use this procedure to specify the framing format for the 100D module as D4-compatible or Extended Superframe. Your selection must match the framing mode at the far end of the DS1 facility.



In Release 6.0 and later systems, use the Extended Superframe format for tandem PRI trunks.

Summary: Frame Format

Programmable by System Manager

Mode All

Idle Condition 100D module idle

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting D4 compatible

Valid Entries D4, ESF

Inspect No Copy Option No

Console Procedure LinesTrunks→LS/GS/DS1→Dial slot no.→ Enter→

FrameFormat→Select format type→ Enter→Exit→Exit

PC Procedure $F4 \rightarrow F1 \rightarrow Type$ slot no. $\rightarrow F10 \rightarrow F2 \rightarrow Select$ format

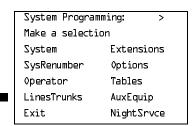
type \rightarrow [F10] \rightarrow [F1] \rightarrow [F5]

Procedure: Frame Format

Console Display/Instructions Additional Information

PC

1 Select the Lines and Trunks menu.



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4 Programming Procedures

DS1 Facilities

Page 4-112

Console/Display Instructions Additional Information

- -

PC

▶ 7. Save your entry.

Select Enter. (F10)

▶ 8. Return to the System Programming menu.

Select Exit twice. F5 F5

If you are using PRI Facilities, go to "Zero Code Suppression."

Zero Code Suppression

Use this procedure to specify zero code suppression for the 100D module as AMI zero code suppression (AMI-ZCS) or bipolar eight zero suppression (B8ZS). Your selection must match the suppression at the far end of the DS1 facility.



In Release 6.0 and later systems, use bipolar eight zero suppression (B8ZS) for tandem PRI trunks.

Summary: Zero Code Suppression

Programmable by System Manager

Mode All

Idle Condition 100D module idle

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting AMI-ZCS

Valid Entries AMI-ZCS, B8ZS

Inspect No Copy Option No

Suppression→AMI-ZCS or B&ZS→ Enter→Exit→Exit

 $F10 \rightarrow F5 \rightarrow F5$

Programming Procedures

DS1 Facilities

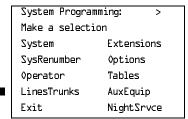
Page 4-113

Procedure: Zero Code Suppression

Console Display/Instructions Additional Information

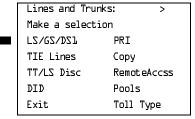
PC

▶ 1. Select the Lines and Trunks menu.



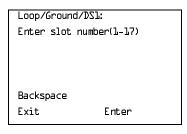
[F4]

▶ 2. Select Loop-Start/Ground-Start/DS1.



[F1]

■ 3. Enter the slot number in the control unit that contains the 100D module (nn = 1 to 17).



Dial or type [nn].

4. Save your entry.

Select Enter.

Programming Procedures DS1 Facilities

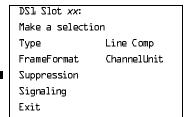
Page 4-114

Console/Display Instructions

Additional Information

PC

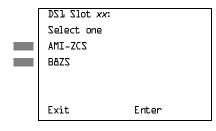
Select Suppression.



xx =slot number entered in Step 3

F3

Select AMI zero code suppression or bipolar 8 zero substitution.



xx = slot number entered in Step 3

Select AMI-ZCS or B&ZS.

F1 F2

Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit twice.

F5 F5

Signaling Mode

Use this procedure to specify the signaling for the 100D module as robbed-bit or common-channel signaling.



This procedure is needed only for T1 facilities; common-channel signaling is set automatically for PRI facilities.

Summary: Signaling Mode

Programmable by System Manager

Mode ΑII

Idle Condition 100D module idle

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

4 Programming Procedures

DS1 Facilities

Page 4-115

Factory Setting Robbed bit

Valid Entries Robbed Bit, Common Channel

Inspect No Copy Option No

Console Procedure LinesTrunks \rightarrow LS/GS/DS1 \rightarrow Dial slot no. \rightarrow Enter \rightarrow

Signaling→Select type of signaling→Enter→Exit→Exit

PC Procedure $F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F4 \rightarrow Select type of$

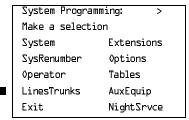
signaling \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Signaling Mode

Console Display/Instructions Additional Information

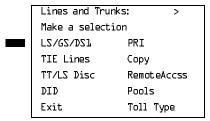
PC

▶ 1. Select the Lines and Trunks menu.



F4

2. Select Loop-Start/Ground-Start/DS1.



[F1]

3. Enter the slot number in the control unit that contains the 100D module (nn = 1 to 17).

Loop/Ground/DS1:
Enter slot number(1-17)

Backspace
Exit Enter

Dial or type [nn].

Unit, as shown below:

- 1 = 0.6 dB loss
- 2 = 1.2 dB loss
- 3 = 1.8 dB loss
- 4 = 2.4 dB loss
- 5 = 3.0 dB loss

4 Programming Procedures

DS1 Facilities

Page 4-117

Summary: Line Compensation

Programmable by System Manager

Mode All

Idle Condition 100D module idle

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting 1 (0.6 dB loss)

Valid Entries 1 to 5
Inspect No
Copy Option No

Console Procedure LinesTrunks→LS/GS/DS1→Dial slot no.→Enter→

Line $Comp \rightarrow Drop \rightarrow Dial$ line compensation value $\rightarrow Enter \rightarrow$

Exit→Exit

PC Procedure $F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F6 \rightarrow Alt + P \rightarrow$

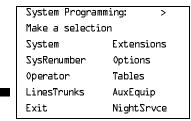
Type line compensation value \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Line Compensation

Console Display/Instructions Additional Information

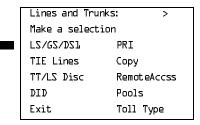
PC

1. Select the Lines and Trunks menu.



F4

▶ 2. Select Loop-Start/Ground-Start/DS1.



F5 F5

Return to the System Programming menu.

Select Exit twice.

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4 Programming Procedures

DS1 Facilities

Channel Service Unit

Use this procedure to specify the type of equipment provided by the local telephone company as foreign exchange or special access.



You do not need to use this procedure unless your system emulates loopstart or ground-start with the T1 type of DS1 facility.

Summary: Channel Service Unit

Programmable by System Manager

Mode All

Idle Condition 100D module idle

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting Foreign Exchange

Valid Entries Foreign Exchange, Special Access

Inspect No Copy Option No

Console Procedure LinesTrunks→LS/GS/DS1→Dial slot no.→Enter→

ChannelUnit→Foreign Exchange or Special Access→

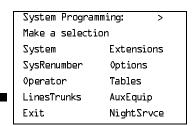
Enter→Exit→Exit

 $F10 \rightarrow F5 \rightarrow F5$

Procedure: Channel Service Unit

Console Display/Instructions Additional Information

▶ 1. Select the Lines and Trunks menu.



F4

PC

MERLIN LEGEND Communications System Release 6.0 Issue 1 System Programming 555-660-111 February 1998 **Programming Procedures** Tie Trunks Page 4-121 **Additional Information** PC Console/Display Instructions Save your entry. **▶** 7. Select Enter. F10 Return to the System Programming menu. Select Exit twice. F5 F5

Tie Trunks

This section covers programming procedures for the following tie trunk options:

- Direction
- Tie Trunk Seizure Type
- E&M Signal
- Dial Mode
- Tie Trunk Dial Tone
- Tie Trunk Answer Supervision Time
- Disconnect Time

See the *Equipment and Operations Reference* for additional information on tie trunks.

Direction

Use this procedure to specify whether tie trunks operate in a one- or two-way direction. For one-way tie trunks, you must also specify whether the direction is out or in.

Summary: Direction

Programmable by System Manager

Mode All

Idle Condition Tie trunk idle

Planning Form Form 3c, Incoming Trunks: Tie

Factory Setting Two-way

Valid Entries Two-way, Outgoing, Incoming

Inspect No

4 Programming Procedures
Tie Trunks

Page 4-122

Copy Option Yes

Console Procedure LinesTrunks \rightarrow TIE Lines \rightarrow Direction \rightarrow Dial trunk no. \rightarrow

Enter \rightarrow Specify direction \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F2 \rightarrow F1 \rightarrow Type trunk no. \rightarrow F10 \rightarrow$

Specify direction \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Direction

Console Display/Instructions Additional Information

PC

1. Select the Lines and Trunks menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F4

2. Select TIE Lines.

Lines and Trunks: >

Make a selection

LS/GS/DSL PRI

TIE Lines Copy

TT/LS Disc RemoteAccss

DID Pools

Exit Toll Type

F2

3. Select Direction.

TIE Trunks:

Make a selection

Direction Inmode

Intype Outmode

Outtype Dialtone

E&M Signal AnsSupvr

Exit Disconnect

F10

F5 F5

Select Enter.

Select Exit twice.

Return to the System Programming menu.

Programming Procedures Tie Trunks

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Tie Trunk Seizure Type

Use this procedure to specify whether the seizure type of incoming or outgoing tie trunk is wink, delay, immediate, or automatic.



NOTE:

In Release 6.0 and later systems, delay-start tie trunks should be used for tandeming.

The following settings are recommended when T1 facilities are programmed for tie-trunk emulation to provide special network services [such as Megacom. Megacom 800, or Software Defined Network (SDN)]:

- If Automatic Route Selection (ARS) is used for all outgoing calls and no personal line or **Pool** buttons are used, assign the wink signaling type. Set the network to wink.
- If personal line or Pool buttons (pool or dial-out codes) are used for outgoing calls, assign the immediate signaling type. Set the network to dial. Contact your service provider for more information about the dial setting.
- If Dialed Number Identification Service (DNIS) is used for incoming calls, assign the wink signaling type. The network is also set to wink. (Setting both ends to immediate also works.) Contact your service provider for more information about the appropriate setting.
- When DNIS is not used for incoming calls, assign the automatic signaling type. The network is set to automatic.

Summary: Tie Trunk Type

Programmable by System Manager

ΑII Mode

Idle Condition Tie trunk idle

Planning Form Form 3c, Incoming Trunks: Tie

Factory Setting Wink

Valid Entries Wink, Delay, Immediate, Automatic

Inspect Nο Copy Option Yes

Console Procedure LinesTrunks→TIE Lines→Intype or Outtype→Dial trunk

no. \rightarrow Enter \rightarrow Specify seizure type \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F2 \rightarrow F2$ or $F3 \rightarrow Type trunk no. \rightarrow F10 \rightarrow$

Specify seizure type \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Programming Procedures

Tie Trunks

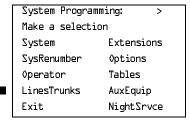
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Procedure: Tie Trunk Type

Console Display/Instructions Additional Information

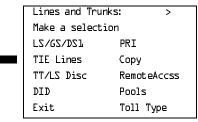
PC

▶ 1. Select the Lines and Trunks menu.



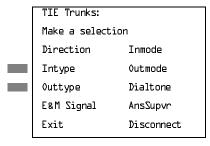
F4

▶ 2. Select Tie Lines.



F2

■ 3. Select Intype (incoming) or Outtype (outgoing).



Select Intype or Outtype.

F2 F3

C

▲ 4. Enter the tie trunk number.

**** Trunk Tyoe:			
Enter trunk	for assignmt		
Backspace			
Exit	Enter		

**** = option name selected in Step 3

Dial or type:
Trunk number [nnn]

Slot and port number *[sspp]

Logical ID number #[nnn]

4 Programming Procedures
Tie Trunks

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Console/Display Instructions

Additional Information

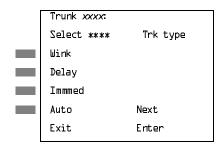
PC

▶ 5. Save your entry.

Select Enter.

F10

▶ 6. Specify the tie trunk type.



xxxx = trunk entered in Step 4
**** = option name selected in Step 3
Delay is used for private tie trunks in R6.0
or later systems.

Select Wink,

Delay,

Immed, or

Auto.

F1 F2

F3 F4

▶ 7. Continue to assign a type to another trunk or go to Step 8.

Select Next.

[F9]

Return to Step 6. The next trunk is displayed on Line 1.

8. Save your entry.

Select Enter.

F10

▶ 9. Return to the System Programming Menu.

Select Exit twice.

[F5][F5]

4 Programming Procedures

Tie Trunks

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E&M Signal

Use this procedure to specify the type of tie trunk signal, as follows:

- E&M Mode:
 - 1S, Type 1 Standard. Tie trunks that are connected through the local telephone company.
 - 1C, Type 1 Compatible. Tie trunks that are connected directly to a system that uses 1S signaling.
- Simplex Mode:
 - 5, Type 5 Simplex. Tie trunks that are connected to a system using Type 5 signaling.

NOTE:

In Release 6.0 and later systems, E&M trunks that are used for networking should be programmed at each end with a switch identifier that indicates the remote system where the trunk is connected. See "Uniform Dial Plan Facilities" on page 4–82 for details.

Summary: E&M Signal

Programmable by System Manager

Mode All

Idle Condition Tie trunk idle

Planning Form Form 3c, Incoming Trunks: Tie

Factory Setting 1S

Valid Entries 1S, 1C, 5

Inspect No Copy Option Yes

Console Procedure LinesTrunks→TIE Lines→E&M Signal→Dial trunk no.→

Enter \rightarrow Specify signaling type \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $\boxed{F4} \rightarrow \boxed{F2} \rightarrow \boxed{F4} \rightarrow \boxed{Type}$ trunk no. $\rightarrow \boxed{F10} \rightarrow \boxed{Specify}$ signaling

type \rightarrow F10 \rightarrow F5 \rightarrow F5

4 Programming Procedures
Tie Trunks

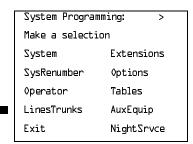
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Procedure: E&M Signal

Console Display/Instructions Additional Information

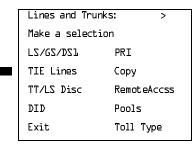
PC

▶ 1. Select the Lines and Trunks menu.



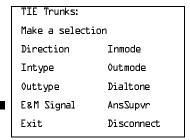
F4

▶ 2. Select Tie Lines.



F2

■ 3. Select E&M Signal.



F4

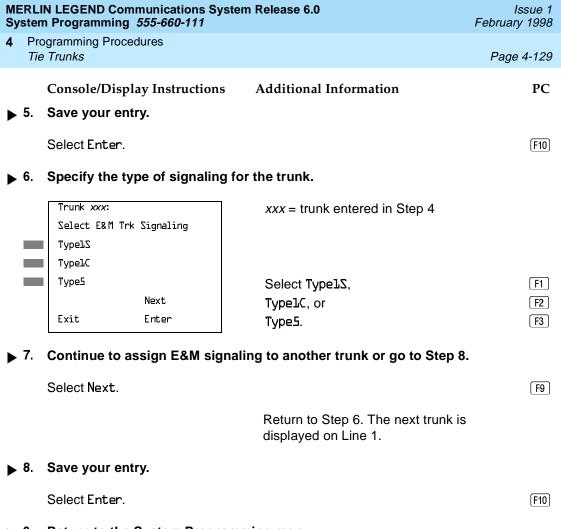
C

4. Enter a tie trunk number.

E&M Signal:	
Enter trunk	for assignmt
Backspace	
Exit	Enter

Dial or type:
Trunk number [nnn]
Slot and port number *[sspp]

Logical ID number #[nnn]



▶ 9. Return to the System Programming menu.

Select Exit twice. F5 F5

Dial Mode

Use this procedure to specify whether an incoming or outgoing tie trunk is touchtone or rotary.

Touch-tone cannot be programmed for incoming immediate signaling tie trunks. Users of touch-tone single-line telephone cannot make calls by using individual trunks programmed for rotary operation. The touch-tone signals generated from the telephone while the user is dialing are transmitted to the central office at the same time the rotary signals are sent to the system. The central office receives both signals and cannot process the call.

4 Programming Procedures
Tie Trunks

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Summary: Dial Mode

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 3c, Incoming Trunks: Tie

Factory Setting Rotary

Valid Entries Rotary, Touch-tone

Inspect Yes
Copy Option Yes

Console Procedure To program a single line/trunk:

LinesTrunks→TIE Lines→Inmode or Outmode→Entry

 $Mode \rightarrow Dial line/trunk no. \rightarrow Enter or Delete \rightarrow$

 $Exit \rightarrow Exit \rightarrow Exit$

To program a block of lines/trunks:

 $\label{linesTrunks} \begin{array}{l} {\sf Lines} {\to} {\sf Inmode} \ {\sf or} \ {\sf 0utmode} {\to} {\sf Select} \\ {\sf block} \ {\sf of} \ {\sf lines} {\to} {\sf Toggle} \ {\sf LED} \ {\sf On}/{\sf Off} {\to} {\sf Exit} {\to} {\sf Exit} \\ \end{array}$

PC Procedure To program a single line/trunk:

 $F4 \rightarrow F2 \rightarrow F6$ or $F7 \rightarrow F6 \rightarrow T$ ype line/trunk no. $\rightarrow F10$ or

 $F8 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

To program a block of lines/trunks:

 $F4 \rightarrow F2 \rightarrow F6$ or $F7 \rightarrow Select block of lines <math>\rightarrow$

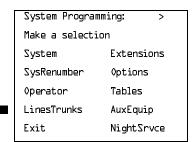
Toggle letter G On/Off \rightarrow F5 \rightarrow F5

Procedure: Dial Mode

Console Display/Instructions Additional Information

PC

▶ 1. Select the Lines and Trunks menu.



Programming Procedures Tie Trunks

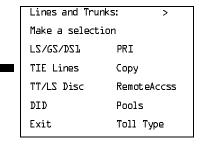
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Console Display/Instructions

Additional Information

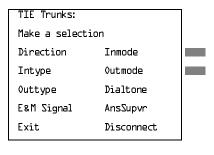
PC

Select Tie Lines.



F2

Select Inmode signaling or Outmode signaling.

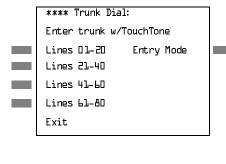


Select Inmode or Outmode.

F6

[F7]

Specify the line(s).



**** = option name selected in Step 3

For a single line, go to

Single Line Procedure.

For a block of lines, go to

◆ Block Procedure.

■ 3. Assign or remove touch-tone dial mode from the line/trunk.

Delete. F8

You may continue to assign or remove touch-

Dial or type [nnn].

You may continue to assign or remove touchtone dial mode from additional lines/trunks by repeating Steps 2 and 3.

(F10)

▶ 4. Return to the System Programming menu.

Enter

Exit

Select Enter or

Select Exit three times. F5 F5 F5

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Programming Procedures Tie Trunks

Page 4-133

◆ Block Procedure

Console/Display Instructions

Additional Information

PC

Specify the block of 20 lines associated with the 20 line buttons on the system programming console.

Select Lines 01-20

Lines 21-40

Lines 41-60

Lines 61-80

F1 F2

F3 **F4**

Specify touch-tone or rotary signaling for each line/trunk.

Toggle the green LED on or off as required.

On = touch-tone

Off = rotary

Return to the System Programming menu.

Select Exit three times.

[F5][F5][F5]

Tie Trunk Dial Tone

Use this procedure to specify whether the system provides dial tone for people calling in on a tie trunk. Settings are remote (system provides dial tone) and local (system does not provide dial tone).

Summary: Tie Trunk Dial Tone

Programmable by System Manager

ΑII

Mode

Idle Condition Not required

Planning Form Form 3c, Incoming Trunks: Tie

Factory Setting Remote

Valid Entries Remote, Local

Inspect Yes

Copy Option Yes

4 Programming Procedures
Tie Trunks

Page 4-134

Console Procedure To program a single line/trunk:

LinesTrunks→TIE Lines→Dialtone→Entry Mode→
Dialtrunk no.→Enter or Delete→Exit→Exit→Exit

To program a block of lines/trunks:

LinesTrunks→TIE Lines→Dialtone→Select block of lines/

trunks→Toggle LED On/Off→Exit→Exit→Exit

PC Procedure To program a single line/trunk:

 $F5 \rightarrow F5$

To program a block of lines/trunks:

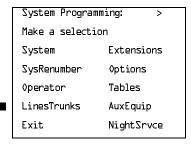
$$F4 \rightarrow F2 \rightarrow F8 \rightarrow Select block of lines \rightarrow Toggle letter G On/Off \rightarrow F5 \rightarrow F5 \rightarrow F5$$

Procedure: Tie Trunk Dial Tone

Console/Display Instructions Additional Information

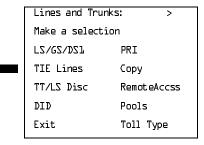
PC

▶ 1. Select the Lines and Trunks menu.



F4

▶ 2. Select Tie Lines.



Dial or type [nnn].

Backspace Exit

Enter

MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111 Issue 1 February 1998				
4		ogramming Procedures e Trunks		Page 4-136
	3.	Console Display/Instructions Assign or remove remote dial to	Additional Information	PC
•	Э.	Select Enter or Delete.	one.	F10 F8
			You may continue to assign or dial tone from additional lines/t Steps 2 and 3.	
>	4.	Return to the System Programm	ming menu.	
		Select Exit three times.		F5 F5 F5
•	Blo	ck Procedure		
		Console Display/Instructions	Additional Information	PC
>	 Specify the block of 20 lines associated with the 20 buttons on the system programming console. 			
		Select Lines 01-20 Lines 21-40 Lines 41-60 Lines 61-80		F1 F2 F3 F4
>	2.	Specify remote or local dial sig	naling for each block.	
			Toggle the green LED on or of On = remote dial tone Off = local dial tone	f as required.
>	3.	3. Return to the System Programming menu.		
		Select Exit three times.		F5 F5 F5

1 Programming Procedures

Tie Trunks

Page 4-137

Tie Trunk Answer Supervision Time

Use this procedure to specify the tie trunk answer supervision time in milliseconds. This is the time limit for the called system to respond.

Summary: Tie Trunk Answer Supervision Time

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 3c, Incoming Trunks: Tie

Factory Setting 300 ms

Valid Entries 20 to 4,800 ms, in increments of 20 ms

Inspect No Copy Option Yes

Console Procedure LinesTrunks→TIE Lines→AnsSupvr→Dial trunk no.→

 $Enter \rightarrow Drop \rightarrow Dial no. of ms \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow F2 \rightarrow F9 \rightarrow Type \text{ trunk no.} \rightarrow F10 \rightarrow Alt + P \rightarrow$

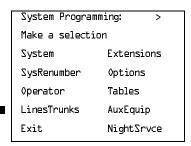
Type no. of ms \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

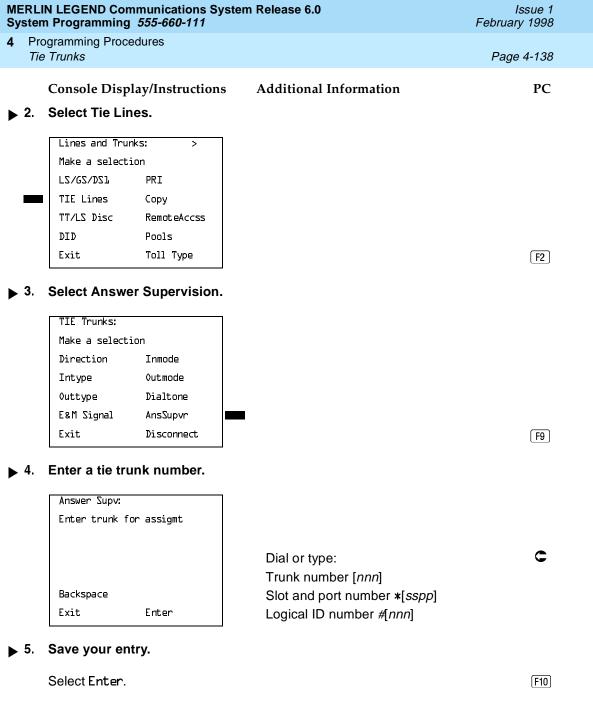
Procedure: Tie Trunk Answer Supervision Time

Console/Display Instructions Additional Information

PC

1. Select the Lines and Trunks menu.





MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111 Issue 1 February 1998					
4		ogramming Proc Trunks	cedures		Page 4-139
>	6.	-	play/Instructions arrent number of m	Additional Information illiseconds (<i>nnnn</i>).	PC
		Trunk xxxx: Enter AnsSupe (20-4800, inc		xxxx = trunk entered in Step 4	
		Backspace Exit	Next Enter	Press Drop .	Alt + P
>	7.	Enter the an	swer supervision t	time (<i>nnnn =</i> 0 to 4,800 ms, incremer	nts of 20).
Trunk xxxx: Enter AnsSupervisionTime (20-4800, increment 20)			xxxx = trunk entered in Step 4		
		Backspace Exit	Next Enter	Dial or type [<i>nnnn</i>].	C
>	8.	Continue to	assign the supervi	ision time to another trunk or go to s	Step 9.
		Select Next.			F9
				Return to Step 6. The next trunk is on Line 1.	displayed
>	9.	Save your er	ntry.		
		Select Enter.			F10
>	10.	Return to the	e System Program	ming menu.	
		Select Exit to	wice.		F5 F5

Programming Procedures

Tie Trunks

Page 4-140

Disconnect Time

Use this procedure to specify the tie trunk disconnect time limit in milliseconds.

Summary: Disconnect Time

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 3c, Incoming Trunks: Tie

Factory Setting 300 ms

Valid Entries 140 to 2,400 ms

Inspect No
Copy Option Yes

Console Procedure LinesTrunks→TIE Lines→Disconnect→Dial trunk no.→

Enter \rightarrow **Drop** \rightarrow Dial no. of ms \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F2 \rightarrow F10 \rightarrow Type \text{ trunk no.} \rightarrow F10 \rightarrow Alt + P \rightarrow$

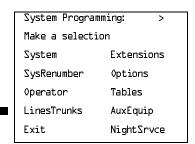
Type no. of ms \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

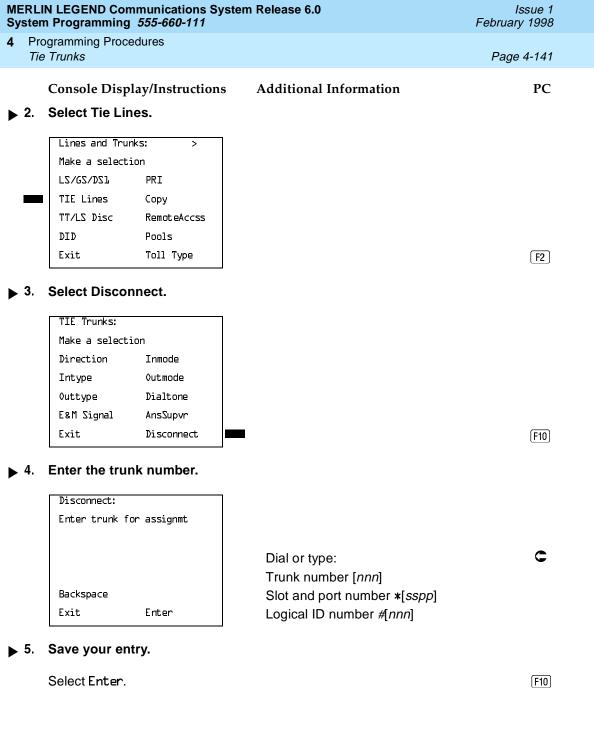
Procedure: Disconnect Time

Console/Display Instructions Additional Information

PC

■ 1. Select the Lines and Trunks menu.





				Issue 1 February 1998
4		ogramming Procedures Trunks	Page 4-142	
>	6.	Console Display/Instructions Erase the current disconnect	Additional Information time (<i>nnnn</i>).	PC
		Trunk xxxx: Enter Disconnect Time (140-2400) nnnn	xxxx = trunk entered in Step 4	
		Backspace Next Exit Enter	Press Drop .	Alt + P
>	7.	Enter the disconnect time (nn	<i>nn</i> = 140 to 2,400 ms).	
		Trunk xxxx: Enter Disconnect Time (140-2400)	xxxx = trunk entered in Step 4	
		Backspace Next Exit Enter	Dial or type [<i>nnnn</i>].	c
▶ 8. Continue to assign the disconnect time to another trunk or go to Step 9.				ер 9.
		Select Next.		F9
			Return to Step 6. The next trunk is displayed on Line 1.	
>	9.	Save your entry.		
		Select Enter.		F10
>	▶ 10. Return to the System Programming menu.			
		Select Exit twice.		F5 F5

Programming Procedures DID Trunks

Page 4-143

DID Trunks

This section covers programming DID trunks and includes procedures for the following:

- **Block Assignment**
- **DID Trunk Type**
- Disconnect Time
- **Expected Digits**
- **Delete Digits**
- Add Digits
- Signaling
- Invalid Destination



These procedures apply to Hybrid/PBX mode only.

Block Assignment

Use this procedure to assign each DID trunk connected to the system to either Block 1 or Block 2.

Summary: Block Assignment

Idle Condition

Programmable by System Manager

Mode Hybrid/PBX

Not required Planning Form Form 3d, Incoming Trunks: DID

Factory Setting Block 1

Valid Entries Block 1, Block 2

Inspect Yes Copy Option Yes

4 Programming Procedures DID Trunks

Page 4-144

Console Procedure To program a single line/trunk:

 $\texttt{LinesTrunks} \rightarrow \texttt{DID} \rightarrow \texttt{Block} \rightarrow \texttt{Dial trunk block no.} \rightarrow \texttt{Enter} \rightarrow$

Entry Mode \rightarrow Type the line/trunk no. \rightarrow Enter or Delete \rightarrow Exit \rightarrow Exit

To program a block of lines/trunks:

 $\verb|LinesTrunks-DID-Block-Dial| trunk block no. \rightarrow \verb|Enter-Dial| trunk block no. \rightarrow \verb|Enter-Dial$

Select trunk lines→Toggle LED On/Off→Enter→

 $Exit \rightarrow Exit \rightarrow Exit$

PC Procedure To program a single line/trunk:

 $F4 \rightarrow F4 \rightarrow F1 \rightarrow Type trunk block no. \rightarrow F10 \rightarrow Type trunk block no. \rightarrow F10 \rightarrow F10$

Type the line/trunk no. \rightarrow F10 or F8 \rightarrow F5 \rightarrow F5 \rightarrow F5

To program a block of lines/trunks:

 $F4 \rightarrow F4 \rightarrow F1 \rightarrow Type trunk block no. \rightarrow F10 \rightarrow Select trunk$

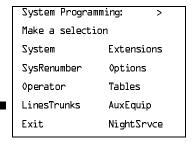
lines \rightarrow Toggle letter G On/Off \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

Procedure: Block Assignment

Console/Display Instructions Additional Information

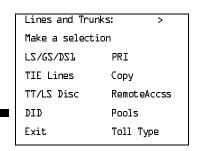
PC

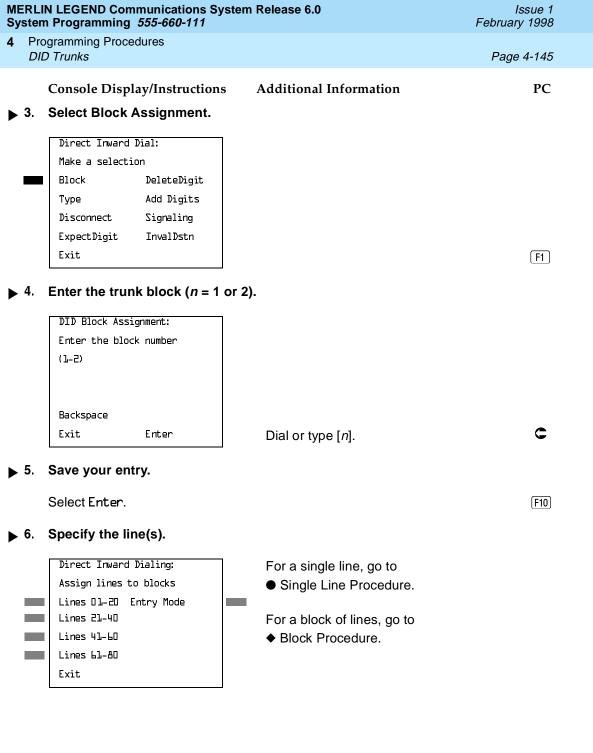
▶ 1. Select the Lines and Trunks menu.



F4

2. Select DID.





4 Programming Procedures DID Trunks

Page 4-147

♦ Block Procedure

Console Display/Instructions Additional Information

PC

■ 1. Specify the DID trunks associated with 20 buttons on the system programming console.

SelectLines 01-20 Lines 21-40 F1 F2

F3

F3

Lines 41-60 Lines 61-80

▶ 2. Assign or remove the trunk.

Toggle the green LED on or off as required.

On = assign DID trunk to block

Off = remove DID trunk from block

. Return to the System Programming menu.

Select Exit three times.

[F5](F5](F5]

DID Trunk Type

Use this procedure to specify the DID trunk type as either immediate-start or winkstart. Wink-start is more reliable if the local telephone company supports it.

Summary: DID Trunk Type

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition DID trunk idle

Planning Form Form 3d, Incoming Trunks: DID

Factory Setting Wink-start

Valid Entries Immediate-start, Wink-start

Inspect No Copy Option No

Console Procedure LinesTrunks $\rightarrow DID \rightarrow Type \rightarrow Dial$ trunk block no. \rightarrow

Enter→Immed or Wink→Enter→Exit→Exit

PC Procedure $\underbrace{\text{F4}} \rightarrow \underbrace{\text{F2}} \rightarrow \text{Type trunk block no.} \rightarrow \underbrace{\text{F10}} \rightarrow \underbrace{\text{F1}} \text{ or } \underbrace{\text{F2}} \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

Dial or type [n].

Exit

Enter

Factory Setting

Valid Entries

500 ms

10 to 2,400 ms, in increments of 10 ms

4 Programming Procedures DID Trunks

Page 4-150

Inspect No Copy Option Yes

 ${\tt Console\ Procedure\ LinesTrunks} {\to} {\tt DID} {\to} {\tt Disconnect} {\to} {\tt Dial\ trunk\ no.} {\to}$

 $Enter \rightarrow Drop \rightarrow Dial no. of ms \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F4 \rightarrow F4 \rightarrow F3 \rightarrow Type \text{ trunk no.} \rightarrow F10 \rightarrow Alt + P}$

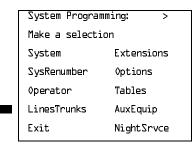
Type no. of ms \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Disconnect Time

Console/Display Instructions Additional Information

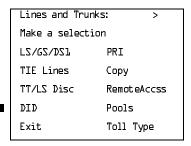
PC

1. Select the Lines and Trunks menu.



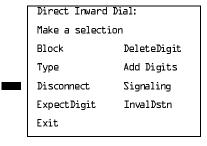
F4

2. Select DID.



[F4]

3. Select Disconnect.



[F3]

Programming Procedures DID Trunks

Page 4-152

Expected Digits

Use this procedure to tell the system how many digits are sent by the local telephone company.



NOTE:

In Release 6.0 and later systems, if the dialed digits received on a DID trunk correspond to a non-local extension number, the call is routed to that extension.



A SECURITY ALERT:

In Release 6.0 and later systems, do not assign a non-local remote ARS code to the non-local dial plan. Doing so would allow DID callers to use the private network to make outside calls. For more information, see "UDP" (Uniform Dial Plan) Routing" on page -401.

Summary: Expected Digits

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 3d, Incoming Trunks: DID

Factory Setting 3 digits

Valid Entries 1 to 4 digits

Inspect No Copy Option No

Console Procedure LinesTrunks→DID→ExpectDigit→Dial trunk block no.→

Enter \rightarrow **Drop** \rightarrow Dial no. of digits \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F4 \rightarrow F4 \rightarrow Type trunk block no. \rightarrow F10 \rightarrow Alt + P \rightarrow$

Type no. of digits $(F10) \rightarrow (F5) \rightarrow (F5)$

MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111 Issue 1 February 1998					
4		ogramming Proced O <i>Trunks</i>	lures		Page 4-154
•	5.	Console Displa	-	Additional Information	PC
		Select Enter.			(F10)
>	6.	Erase the curre	ent number of ex	pected digits (<i>n</i>).	
		DID Block x: Enter number of digits (1-4) n	expected	x = block entered in Step 4	
		Backspace	Next		
		Exit	Enter	Press Drop .	Alt + P
>	7.	Enter the number	per of expected d	igits (n = 1 to 4).	
		Dial or type [n].			C
>	8.	Continue to sp	ecify expected di	gits for the other trunk block or go	to Step 9.
		Select Next.			F9
				Return to Step 6. The next block is displayed on Line 1.	3
>	9.	Save your entr	y.		
		Select Enter.			(F10)
>	10.	Return to the S	System Programn	ning menu.	
		Select Exit twice	ce.		F5 F5

4 Programming Procedures DID Trunks

Page 4-155

Delete Digits

Use this procedure to specify the number of leading digits to be deleted from the digits sent by the local telephone company. Use this procedure when the number of digits sent by the telephone company is greater than the number in the system numbering plan.

Summary: Delete Digits

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 3d, Incoming Trunks: DID

Factory Setting 0 digits

Valid Entries 0 to 4 digits

Inspect No Copy Option No

Console Procedure LinesTrunks \rightarrow DID \rightarrow DeleteDigit \rightarrow Dial trunk block no. \rightarrow

Enter \rightarrow **Drop** \rightarrow Dial no. of digits \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F6 \rightarrow Type \text{ trunk block no.} \rightarrow F10 \rightarrow F1$

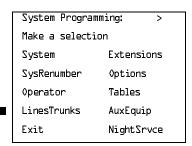
Type no. of digits \rightarrow F10 \rightarrow F5 \rightarrow F5

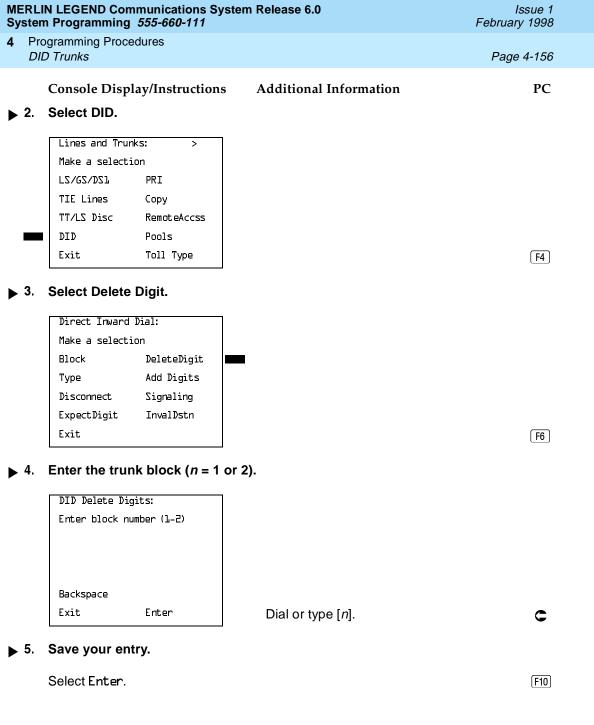
Procedure: Delete Digits

Console Display/Instructions Additional Information

PC

1. Select the Lines and Trunks menu.





MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111 Issue 1 February 1998			
	ogramming Procedures D Trunks		Page 4-157
	Console Display/Instructio	ons Additional Information	PC
▶ 6.	Erase the current number	of delete digits (n).	
	DID Block x: Enter number of digits to delete (D-4) n	x = block entered in Step 4	
	Backspace Next Exit Enter	Press Drop.	Alt + P
> 7.	Enter the number of digits	s to delete $(n = 0 \text{ to } 4)$.	
	Dial or type [n].		C
▶ 8. Continue to specify delete digits for the other trunk		e digits for the other trunk block or go to	Step 9.
	Select Next.		F9
		Return to Step 6. The next block is displayed on Line 1.	S
9 .	Save your entry.		
	Select Enter.		F10
1 0.	Return to the System Prog	gramming menu.	
	Select Exit twice.		F5 F5

Programming Procedures DID Trunks

Page 4-158

Add Digits

Use this procedure to specify the number of leading digits that must be added to the digits sent by the local telephone company. Use this procedure when the number of digits sent by the telephone company is fewer than the number in the system numbering plan.

Summary: Add Digits

Programmable by System Manager

Mode Hybrid/PBX

Not required Planning Form Form 3d, Incoming Trunks: DID

Factory Setting 0

Idle Condition

Valid Entries 1 to 9999

Inspect No Copy Option No

Console Procedure LinesTrunks→DID→Add Digits→Dial trunk block no.→

 $Enter \rightarrow Drop \rightarrow Dial added digits \rightarrow Enter \rightarrow Exit \rightarrow Exit$

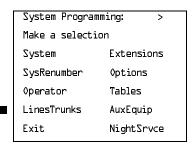
PC Procedure $F4 \rightarrow F4 \rightarrow F7 \rightarrow Type trunk block no. \rightarrow F10 \rightarrow Alt + P \rightarrow$

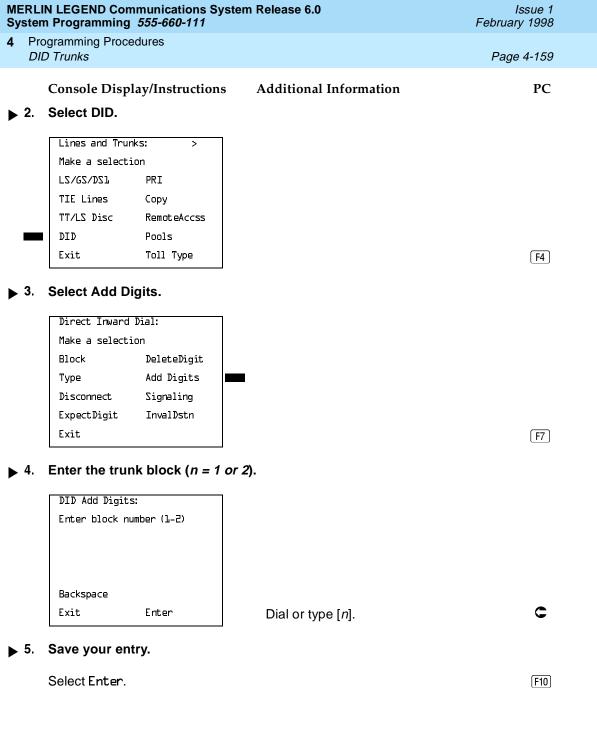
Type added digits \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Add Digits

Console Display/Instructions **Additional Information** PC

Select the Lines and Trunks menu.





	LIN LEGEND Communications Sysem Programming 555-660-111	tem Release 6.0	Issue 1 February 1998		
	Programming Procedures DID Trunks		Page 4-160		
	Console Display/Instructions	Additional Information	PC		
▶ 6	Erase the current number of	Erase the current number of added digits (nnn).			
	DID Block x:	x = block entered in Step 4			
	Enter digits to add	·			
	nnn				
	Backspace Next				
	Exit Enter	Press Drop .	Alt + P		
▶ 7	Enter the number of digits to	add ($n = 1$ to 9999).			
	Dial or type [n].		C		
▶ 8	Continue to specify added digits for the other trunk block or go to Step 9.				
	Select Next.		F9		
		Return to Step 6. The next block is displayed on Line 1.			
▶ 9	Save your entry.				
	Select Enter.		F10		
) 1	D. Return to the System Progra	mming menu.			
	Select Exit twice.		F5 F5		
c.	1.				

Signaling

Use this procedure to specify whether the type of dialing signal from the local telephone company is touch-tone or rotary. Touch-tone dial mode cannot be programmed for immediate-start DID trunks.

Touch-tone single-line telephone users cannot make calls by using individual trunks programmed for rotary operation. The touch-tone signals generated from the telephone while dialing are transmitted to the central office at the same time the rotary signals are sent to the system. The central office receives both signals and cannot process the call.

4 Programming Procedures DID Trunks

Page 4-161

Summary: Signaling

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not Required

Planning Form Form 3d, Incoming Trunks: DID

Factory Setting Rotary

Valid Entries Rotary, Touch-tone

Inspect No Copy Option No

 $\textbf{Console Procedure LinesTrunks} {\rightarrow} \textbf{DID} {\rightarrow} \textbf{Signaling} {\rightarrow} \textbf{Dial trunk block no.} {\rightarrow}$

Enter→Rotary or TouchTone→Enter→Exit→Exit

PC Procedure $F4 \rightarrow F4 \rightarrow F8 \rightarrow Type \text{ trunk block no.} \rightarrow F10 \rightarrow F1 \text{ or } F2 \rightarrow F10 \rightarrow$

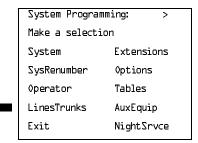
 $F10 \rightarrow F5 \rightarrow F5$

Procedure: Signaling

Console Display/Instructions Additional Information

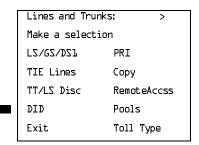
PC

1. Select the Lines and Trunks menu.



F4

2. Select DID.



Return to Step 6. The next block is

displayed on Line 1.

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4 Programming Procedures DID Trunks

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Console Display/Instructions Additional Information PC

▶ 8. Save your entry.

Select Enter. F10

▶ 9. Return to the System Programming menu.

Select Exit twice. F5 F5

Invalid Destination

Use this procedure to specify where to direct outside calls (received on DID trunks) for unassigned extension numbers. Calls can be either directed to a backup position (normally the primary system operator) or given a fast busy signal. See "QCC Operator to Receive Call Types" on page –294 for information on assigning a backup position.

Summary: Invalid Destination

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 3d, incoming Trunks: DID

Factory Setting Backup (calls are sent to the primary system operator)

Valid Entries Backup, Fast Busy

Inspect No Copy Option No

Console Procedure LinesTrunks \rightarrow DID \rightarrow InvalDstn \rightarrow Send to Backup

Extension or Return Fast Busy→Enter→Exit→Exit

PC Procedure $F4 \rightarrow F4 \rightarrow F9 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

Programming Procedures

DID Trunks

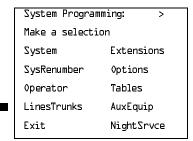
Page 4-164

Procedure: Invalid Destination

Console Display/Instructions Additional Information

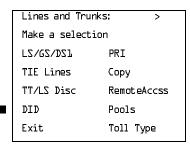
PC

▶ 1. Select the Lines and Trunks menu.



F4

▶ 2. Select DID.



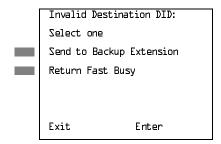
F4

3. Select Invalid Destination.

Direct Inward	Direct Inward Dial:		
Make a selecti	on		
Block	DeleteDigit		
Туре	Add Digits		
Disconnect	Signaling		
ExpectDigit	InvalDstn		
Exit			

F9

▶ 4. Specify how to handle calls directed to an invalid destination.



Select Send to Backup Extension or Return Fast Busy.

F1 F2

MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111 Issue 1 February 1998					
4 Programming F PRI Facilities	Procedures		Page 4-165		
Console D	Display/Instructions	Additional Information	PC PC		
▶ 5. Save you	r entry.				
Select Ent	er.		(F10)		
▶ 6. Return to the System Programming menu.					
Select Exi	t twice.		F5)F5		
PRI Facilitie	es				
The procedures in this section provide the steps for programming the following options for Primary Rate Interface (PRI) facilities connected to a 100D (DS1) module:					
•	Switch Type				
•	Telephone Number				
•	B-Channel Groups				
■ Network Service					
■ Copy Telephone Number to Send					
•	Incoming Routing				
-	Telephone Number to	Send			
-	Test Telephone Number	er			
-	■ Timers and Counters				
•	Terminal Equipment Id	entifier			

Dial Plan Routing
Outgoing Tables

Network Selection Tables Special Services Tables Call-by-Call Service Table

Programming Procedures PRI Facilities

Page 4-166



If you are adding PRI facilities to an existing system, certain values must be set correctly. To inspect or change these values, see "DS1 Facilities" on page 4–87. Do not start these procedures until you have checked the following:

- Type of DS1 Facility must be set to PRI.
- Frame format must be specified correctly.
- Zero code suppression must be specified correctly.
- Clock synchronization source must be set to loop (derived from the T1 line).

The settings for frame format and zero code suppression must be consistent with the options selected when the PRI connection was ordered.

If you are using ARS in connection with PRI, make sure you select voice, data, or voice and data, as appropriate, when you perform the ARS "Voice and/or Data Routing" procedure found in "Automatic Route Selection."

Switch Type

In Release 4.2 and later systems, use this procedure to specify the PRI connection through the following switch types:

- 4ESS
- 5ESS
- Nortel DMS-100 BCS 36 for local exchange carrier services
- Nortel DMS-250 serving the MCI network
- Digital Switch Corporation DEX600E serving the MCI network

In Release 6.0 and later systems, two additional switch types allow you to specify additional switch options in order to set up a PRI tandem trunk that connects two MERLIN LEGEND Communications Systems or a MERLIN LEGEND Communications System and a DEFINITY Communications System. The two additional options are the following:

- Legend-NTWK
- Legend-PBX

To set up a PRI tandem trunk, one system is specified as operating in PBX mode and the other as operating in network mode. When you program this switch type, you specify the type of switch at the *other* end of the PRI trunk, not the local switch. The slot number that you enter is the slot number on the local system.

4 Programming Procedures PRI Facilities

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The following rules apply to PRI tandem trunks in PBX or network mode:

- A single unused B-channel group number is automatically assigned to all 23 B-channels on the trunk; B-channels may be removed or added (for more information, see <u>"B-Channel Groups" on page 4–172</u>). The group can still exist, even if it includes no B-channels.
- PRI Dial Plan Routing does not apply for incoming calls on the trunk. Incoming routing is automatically set to Route Directly to UDP for B-channels in the automatically assigned group; this cannot be changed as long as the Legend-PBX or Legend-NTWK switch type is in effect (see "Incoming Routing" on page 4–188). However, local extensions need not be included in the UDP Routing table.
- PRI outgoing tables do not apply to outgoing calls on the trunk.
- The system automatically assigns Electronic Tandem Network (ETN) as the network service for the B-channel group that is automatically assigned to the PRI tandem trunk; this setting cannot be changed as long as the switch type is in effect (see "Network Service" on page 4–178).
- The Copy Telephone Number to Send setting is set to Do Not Copy for the PRI tandem trunk B-channel group; this setting cannot be changed as long as the switch type is in effect (see <u>"Copy Telephone Number to Send" on page 4–185</u>).

Summary: Switch Type

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting 4ESS

Valid Entries Not applicable

Inspect Yes
Copy Option No

Console Procedure LinesTrunks \rightarrow PRI \rightarrow SwitchType \rightarrow Dial slot no. \rightarrow

Enter \rightarrow Specify switch type \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $(F4) \rightarrow (F6) \rightarrow (F9) \rightarrow Type \text{ slot no.} \rightarrow (F10) \rightarrow (F10)$

Specify switch type \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

4 Programming Procedures PRI Facilities

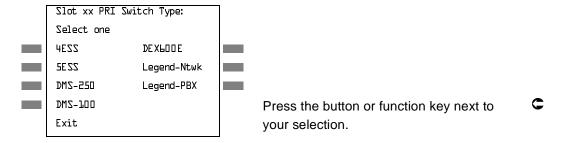
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Console Display/Instructions Additional Information PC

▶ 5. Save your entry.

Select Enter. F10

▶ 6. Specify the switch type.



▶ 7 Save your entry.

Select Enter. F10

8. Return to the System Programming menu.

Select Exit twice. F5 F5

Telephone Number

Use this procedure to assign a string of up to 12 digits to each PRI channel. This string must match the number sent by the network (that is, the number provided by the PRI service provider) to indicate the number dialed by an outside caller. The system uses this number to route the call to the correct destination, which means that the number assigned to each channel in the same B-channel group must be unique. Note also that the number cannot be the same as the associated test telephone number.

Summary: Telephone Number

Programmable by	System Manager
Mode	Hybrid/PBX, Key
Idle Condition	Not required
Planning Form	Form 3b, Incoming Trunks: DS1 Connectivity (100D module)
Factory Setting	No digits
Valid Entries	Up to 12 digits (any combination of 0 to 9)
Inspect	No

4 Programming Procedures PRI Facilities

Page 4-170

Copy Option No

Console Procedure LinesTrunks \rightarrow PRI \rightarrow PhoneNumber \rightarrow Dial trunk no. \rightarrow

 $Enter \rightarrow Drop \rightarrow Dial telephone no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow F6 \rightarrow F1 \rightarrow Type \text{ trunk no.} \rightarrow F10 \rightarrow Alt + P \rightarrow$

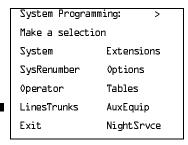
Type telephone no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Telephone Number

Console Display/Instructions Additional Information

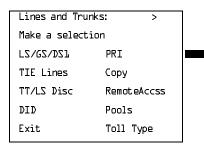
PC

1. Select the Lines and Trunks menu.



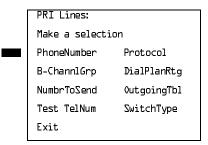
F4

▶ 2. Select PRI.



[F6]

3. Select Phone Number.



[F1]

MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111 Issue 1 February 1998				
4		gramming Procedures I Facilities		Page 4-171
>	4.	Console Display/Instructions Enter the line number. PRI Phone Number: Enter line number	Additional Information	PC
		Backspace Exit Enter	Dial or type: Trunk number [nnn] Slot and port number *[sspp] Logical ID number #[nnn]	C
•	5.	Save your entry.		
		Select Enter.		F10
•	6.	Erase the current telephone	number (N) if one is assigned.	
		Line xxxx: Enter phone number N	xxxx = line number entered in Step 4	
		Backspace Next		
		Exit Enter	Press Drop.	Alt + P
>	7.	Enter a telephone number of to the channel (<i>N</i> = any com	up to 12 digits to be assigned bination of 0 to 9).	
		Dial or type [N].		C
•	8.	Continue to assign the telep or go to Step 9.	hone number to another PRI channel	
		Select Next.		F9
			Return to Step 6. The next PRI Chanr is displayed on Line 1.	nel
•	9.	Save your entry.		
		Select Enter.		F10
>	10.	Return to the System Progra	mming menu.	
		Select Exit twice.		F5 F5

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Issue 1

B-Channel Groups

PRI Facilities

Programming Procedures

Use this procedure to perform the following:

- Assign B-channels to a group.
- Associate individual ISDN channels (that can place and receive calls) on the B-channels in each group.

B-channels are partitioned into trunk groups when PRI service is ordered. The trunk groups defined when service is ordered must match the B-channel groups defined when the MERLIN LEGEND Communications System is programmed.



NOTE:

In Release 6.0 and later systems, when the PRI switch type is set to Legend-PBX or Legend-NTWK, all B-channels for a PRI tandem trunk are automatically assigned to a single unused B-channel group. If your private network includes drop-and-insert hardware between the networked switches, use this procedure to remove a dropped B-channel from the group, after the switch type has been programmed and the B-channels automatically assigned. This equipment must never drop channel 24, which provides necessary signalling for the B-channels.

Each B-channel can be assigned to only one group, and each ISDN channel can be associated with only one group. Up to 80 B-channel groups can be established.

Each group can contain up to 23 channels; however, all channels assigned must signal through the same D-channel (that is, must be connected to the same 100D module).

B-channels must be assigned in the order of system search (through the group) for an available channel. To minimize call attempts on the same line or trunk, arrange B-channels in the opposite order of the hunting arrangement provided by the network service provider.

B-channels must be identified by control unit slot and port numbers since they are not associated with a line/trunk number or a logical ID.

PRI B-channel groups programmed for line routing perform similarly to loop-start trunks. PRI B-channel groups programmed for dial plan routing perform similarly to DID trunks.



NOTE:

If more lines than B-channels are assigned to a B-channel group, users may experience situations where a line that is idle is not able to seize a B-channel. The user receives a fast busy tone.

Programming Procedures
PRI Facilities
Page 4-173

Summary: B-Channel Groups

Programmable by System Manager Mode Hybrid/PBX, Key

Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting Not applicable

Valid Entries Group numbers (1 to 80)

Inspect Yes
Copy Option No

Console Procedure To program a single line/trunk:

 $LinesTrunks \rightarrow PRI \rightarrow B-ChannlGrp \rightarrow B Channels \rightarrow$

Dial group no. \rightarrow Enter \rightarrow Dial B-channel slot and port nos. \rightarrow Enter \rightarrow Lines \rightarrow Dial group no. \rightarrow Enter \rightarrow Entry Mode \rightarrow

Dial line/trunk no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

To program a block of lines/trunks:

 $LinesTrunks \rightarrow PRI \rightarrow B-ChannlGrp \rightarrow B Channels \rightarrow$

Dial group no. \rightarrow Enter \rightarrow Dial B-channel slot and port no. \rightarrow Enter \rightarrow Lines \rightarrow Dial group no. \rightarrow Enter \rightarrow Select specific lines/trunks \rightarrow Toggle LED On/Off \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure To program a single line/trunk:

F4 $\rightarrow F6$ $\rightarrow F2$ $\rightarrow F1$ \rightarrow Type group no. \rightarrow Type B-channel slot and port nos. $\rightarrow F5$ \rightarrow Type group no. $\rightarrow F10$ $\rightarrow F6$ \rightarrow

Type line/trunk no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

To program a block of lines/trunks:

 $F4 \rightarrow F6 \rightarrow F2 \rightarrow F1 \rightarrow Type group no. \rightarrow Type B-channel$

slot and port nos. \rightarrow [F5] \rightarrow Type group no. \rightarrow [F10] \rightarrow

Select specific lines/trunksightarrowToggle letter G On or Offightarrow

 $F5 \longrightarrow F5 \longrightarrow F5$

4 Programming Procedures PRI Facilities

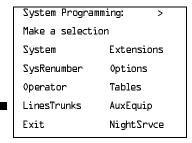
Page 4-174

Procedure: B-Channel Groups

Console Display/Instructions Additional Information

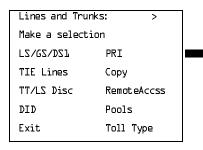
PC

■ 1. Select the Lines and Trunks menu.



F4

2. Select PRI.



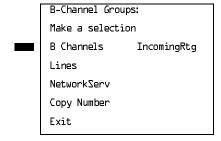
F6

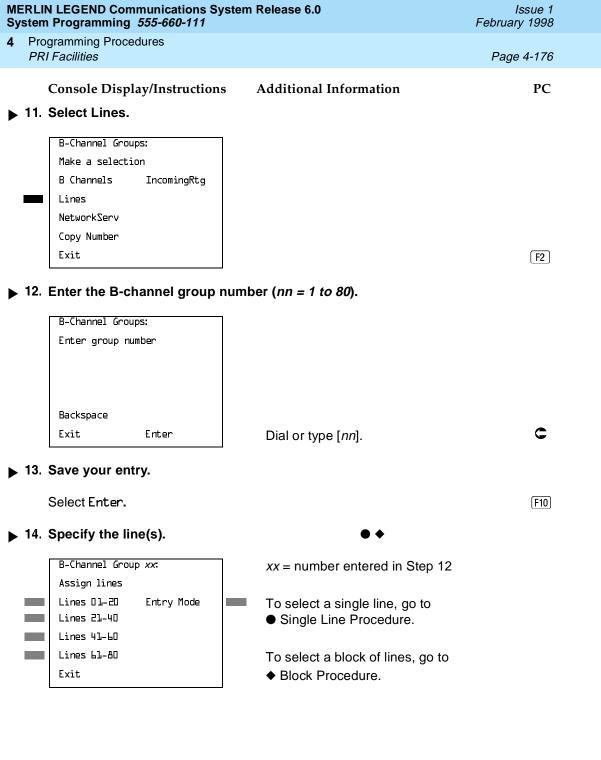
▶ 3. Select B-Channel Groups.

PRI Lines:		
Make a selection		
PhoneNumber	Protocol	
B-ChannlGrp	DialPlanRtg	
NumbrToSend	OutgoingTbl	
Test TelNum	SwitchType	
Exit		

F2

4. Select B-Channels.





F5 F5 F5

Select Exit three times.

4 Programming Procedures PRI Facilities

Page 4-178

♦ Block Procedure

Console Display/Instructions Additional Information

PC

▶ 1. Specify the block of 20 lines associated with 20 buttons on the system programming console.

SelectLines 01–20 Lines 21–40 Lines 41–60 Lines 61–80

F1

F2

F3

▶ 2. Assign the line(s) to the B-channel group.

Toggle the green LED on or off as required.

On = lines are assigned to B-channel

Off = lines are not assigned to B-channel

Return to the System Programming menu.

Select Exit three times.

[F5](F5](F5]

Network Service

Use this procedure to specify the type of outgoing service provided by each B-channel group.

NOTES:

- You can enter a service not shown on the Network Service screen by using the 5-digit binary code that represents the service in the Network Facilities Information Element of ISDN PRI signaling protocol. For information on these codes, contact your service provider. See "Miscellaneous Procedure" included in this network service procedure.
- 2. In Release 6.0 and later systems, setting the switch type to Legend-PBX or Legend-NTWK automatically assigns the B-channels for the specified PRI tandem trunk to a single unused B-channel group. This group is automatically assigned LEGEND UDP as the general type of network service and Electronic Tandem Network (ETN) as specific LEGEND UDP network service. As long as the switch type for the PRI trunk remains as Legend-PBX or Legend-NTWK, you cannot change the type of network service. For more information about switch types, see "Switch Type" on page 4–166.

Programming Procedures

PRI Facilities

Page 4-179

Summary: Network Service

Programmable by. System Manager Mode Hybrid/PBX, Key

Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting Not applicable

Valid Entries AT&T Toll, 5ESS Local, MCI Toll, Miscellaneous, DMS-100

Local, LEGEND UDP

Inspect Yes

Copy Option No

Console Procedure LinesTrunks \rightarrow PRI \rightarrow B-ChannlGrp \rightarrow NetworkServ \rightarrow

Dial group no. \rightarrow Enter \rightarrow Specify network service \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $f4 \rightarrow f6 \rightarrow f2 \rightarrow f3 \rightarrow Type group no. \rightarrow f10 \rightarrow$

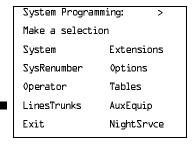
Specify network service \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

Procedure: Network Service

Console Display/Instructions Additional Information

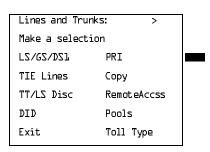
PC

1. Select the Lines and Trunks menu.

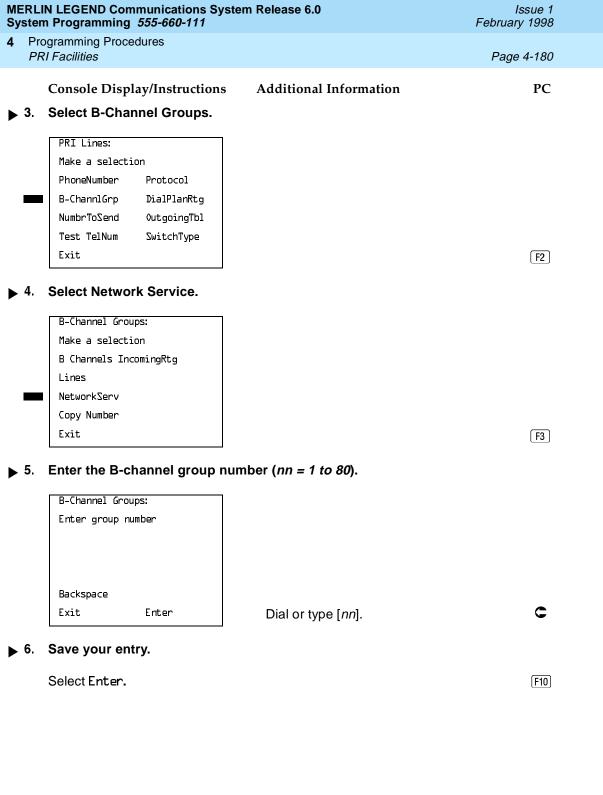


F4

2. Select PRI.



[F6]



Save your entry.

Exit

Press the button or function key next to your selection.

F5 F5 F5

Select Enter. F10

- Repeat Step 5 through 7 of the main procedure for each toll group number.
- Return to the System Programming menu.

Enter

Select Exit four times.

Programming Procedures
PRI Facilities

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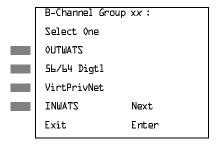


Console Display/Instructions

Additional Information

PC

▶ 1. Specify a 5ESS local service.



xx = number entered in Step 5

Select OUTWATS,

56/64 Digtl, VirtPrivNet, or

VirtPrivNet, or F3
INWATS. F4

2. Save your entry.

Select Enter.

F10

F1

F2

- 3. Repeat Steps 5 through 7 of the main procedure for each local group number.
- 4. Return to the System Programming menu.

Select Exit four times.

[F5][F5][F5][F5]

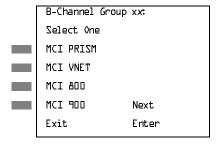
■ MCI Toll Procedure

Console Display/Instructions

Additional Information

PC

▶ 1. Specify an MCI Toll service.



xx = number entered in Step 5

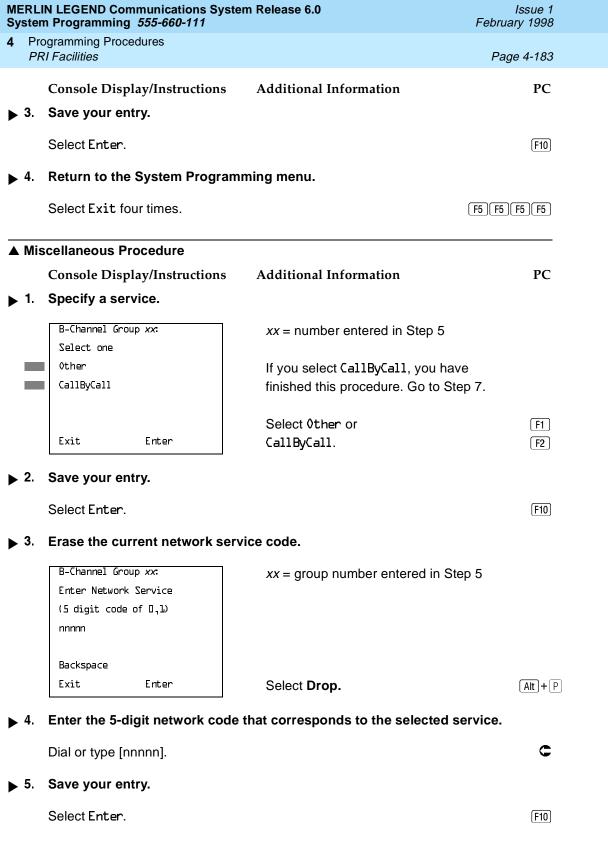
Press the button or function key next to your selection.

➤ 2. Continue to specify MCI Toll service for another B-channel group or go to Step 3.

Select Next.

F9

Return to Step 1. The next B-channel group number is displayed on Line 1.



F5 F5 F5

2. Return to the System Programming menu.

Select Exit four times.

1 Programming Procedures
PRI Facilities
Page 4-185

Copy Telephone Number to Send

Use this procedure to indicate whether or not the telephone number to send to the network (for calls going out over ISDN lines assigned to a B-channel group) is copied from the number assigned to that channel.



NOTE:

In Release 6.0 and later systems (Hybrid/PBX mode only), setting the switch type to Legend-PBX or Legend-Ntwk automatically assigns Copy Number as the option for the single B-channel group associated with PRI tandem trunk that you specified in the Switch Type setting. As long as the switch type for the slot is set this way, you cannot change the Copy programming. For more information about switch types, see "Switch Type" on page 4–166.

Select Do Not Copy Phone Number either when a telephone number to send is assigned to each channel in the B-channel group or when no telephone number is to be sent to the network. In the latter case, make sure that no telephone numbers are assigned to any channels in the B-channel group by using the "Telephone Number to Send" procedure.

Summary: Copy Telephone Number to Send

Programmable by System Manager

Mode Hybrid/PBX, Key

Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D Module)

Factory Setting Do Not Copy

Valid Entries Do Not Copy, Copy

Inspect No Copy Option No

 ${\it Console \ Procedure \ Lines Trunks} {\rightarrow} {\it PRI} {\rightarrow} {\it B \ Channl Grp} {\rightarrow} {\it Copy \ Number} {\rightarrow}$

Dial group no. \rightarrow Enter \rightarrow Specify copy or no copy \rightarrow

 ${\sf Enter} {\rightarrow} {\sf Exit} {\rightarrow} {\sf Exit} {\rightarrow} {\sf Exit}$

PC Procedure $F4 \rightarrow F6 \rightarrow F2 \rightarrow F4 \rightarrow Type group no. \rightarrow F10 \rightarrow$

Specify copy or no copy \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

4 Programming Procedures PRI Facilities

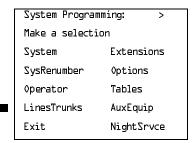
Page 4-186

Procedure: Copy Telephone Number to Send

Console Display/Instructions Additional Information

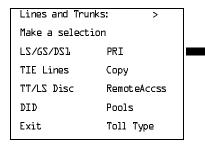
PC

▶ 1. Select the Lines and Trunks menu.



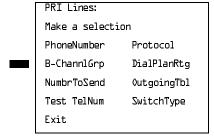
F4

2. Select PRI.



F6

▶ 3. Select B-Channel Groups.



F2

▶ 4. Select Copy Number.

	B-Channel Groups:			
	Make a selection			
	B Channels IncomingRtg			
	Lines			
	NetworkServ			
•	Copy Number			
	Exit			

[F4]

F5 F5 F5

Select Exit three times.

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PRI Facilities
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Incoming Routing

Use this procedure to specify whether incoming routing is either by line appearance or according to dial plan. Dial Plan Routing is available in Hybrid/PBX mode only.

In Release 6.0 and later systems, the Incoming Routing screen displays an option, Route Directly to UDP (Uniform Dial Plan). In Release 6.0 and later systems, setting the switch type to Legend-PBX or Legend-NTWK automatically assigns Route Directly to UDP as the Incoming Routing option for the single B-channel group associated with the Switch Type setting. As long as the switch type for the slot of the PRI tandem trunk is set this way, you cannot change the incoming routing for the group. This routing option cannot be selected for any other switch type. For more information about switch types, see "Switch Type" on page 4–166.

Summary: Incoming Routing

Programmable by System Manager

Mode Line appearance: Hybrid/PBX, Key; Dial Plan Routing or

Route Directly to UDP: Hybrid/PBX only

Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting Line appearance

Valid Entries Dial Plan Routing, Routing by Line Appearance,

Route Directly to UDP

Inspect No Copy Option No

Console Procedure LinesTrunks→PRI→B-ChannlGrp→Incoming Rtq→ Dial

B-channel group no.→Enter→Specify routing

 $method \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F4} \rightarrow \boxed{F6} \rightarrow \boxed{F2} \rightarrow \boxed{F6} \rightarrow \boxed{Type B-channel group no.} \rightarrow$

 $F10 \rightarrow Specify routing method \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Programming Procedures PRI Facilities

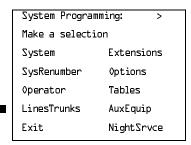
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Procedure: Incoming Routing

Console Display/Instructions Additional Information

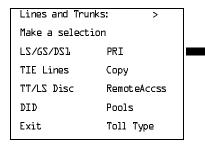
PC

■ 1. Select the Lines and Trunks menu.



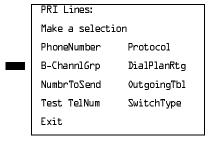
F4

▶ 2. Select PRI.



F6

▶ 3. Select B-Channel Groups.



F2

▶ 4. Select Incoming Routing.

B-Channel Groups:		
Make a selection		
B Channels 1	IncomingRtg	
Lines		
NetworkServ		
Copy Number		
Exit		

[F6]

F5 F5 F5

Select Exit three times.

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Issue 1

Telephone Number to Send

Programming Procedures

PRI Facilities

Use this procedure to assign the telephone number to send to the network when outgoing calls are made on an ISDN line. If the person being called subscribes to an automatic number identification service, the number indicates who is calling.

The number assigned to each channel does not have to be unique because it is not used for routing.

The telephone number sent to the network can be the one of the following:

- The extension number assigned to the calling telephone (Select Extension Only in Step 4)
- The extension number substituted into the lower order digits of a systemwide base number (Select Base Number with Ext in Step 4)
- The facility-based line telephone number (Select Line Telephone Number in Step 4)



Only one base number is supported per system. In systems having nonuniform extension numbers, for example, where there are some 3-digit extension numbers and some 4-digit extension numbers, one base number may not be sufficient to represent all the outside telephone numbers of all extensions.

Summary: Telephone Number to Send

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting No digits are assigned

Valid Entries Up to 12 digits (any combination of 0 to 9)

Inspect No Copy Option No

Console Procedure LinesTrunks→PRI→NumbrToSend→Specify type of no.→

Enter \rightarrow Drop \rightarrow Dial base no. \rightarrow Enter \rightarrow Dial line no. \rightarrow

 $Enter \rightarrow Drop \rightarrow Dial telephone no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow F6 \rightarrow F3 \rightarrow Specify type of no. \rightarrow F10 \rightarrow Alt + P \rightarrow$

Type base no. \rightarrow F10 \rightarrow Alt+P \rightarrow Type telephone no. \rightarrow

 $[F10] \rightarrow [F5] \rightarrow [F5]$

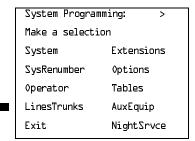
Programming Procedures PRI Facilities

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Procedure: Telephone Number to Send

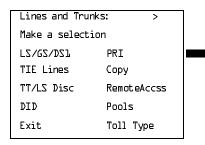
Console Display/Instructions **Additional Information** PC

Select the Lines and Trunks menu.



F4

Select PRI.



F6

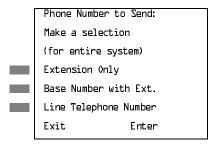
Select Number to Send.

PRI Lines: Make a selection PhoneNumber Protocol B-ChannlGrp DialPlanRtq NumbrToSend OutgoingTbl Test TelNum SwitchType Exit

F3

F3

Specify the type of number to send.



If you select Extension Only, continue with Step 5. F1 If you select Base Number with Ext., go to ● Base Number with Extension F2 Procedure. If you select Line Telephone Number, go to ◆ Line Telephone Number

Procedure.

MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111		lssue 1 February 1998	
	rogramming Procedures RI Facilities		Page 4-193
■ Ba	se Number with Extension Pr	ocedure	
	Console Display/Instructions	s Additional Information	PC
) 1.	Erase the current base num		
	Base Number with Ext.: Enter max of 12 digit base telephone number N		
	Backspace Exit Enter	Press Drop .	Alt + P
▶ 2.	Enter a base telephone num (N = any combination of 0 to	· •	
	Dial or type [N].		C
▶ 3.	Save your entry.		
	Select Enter.		F10
4 .	Return to the System Progr	amming menu.	
	Select Exit twice.		F5 F5

F5 F5

Select Exit twice.

4 Programming Procedures PRI Facilities

Page 4-195

Test Telephone Number

Use this procedure to assign a test line or trunk telephone number for each 100D module installed in the control unit.

The number assigned to the test line/trunk must be different from the numbers assigned to other channels in the same B-channel group. It must be identical to the number provided by the PRI service provider.

Summary: Test Telephone Number

Programmable by System Manager

Mode Hybrid/PBX, Key

Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting Not applicable

Valid Entries Telephone number of up to 12 digits

Inspect No Copy Option No

Console Procedure LinesTrunks \rightarrow PRI \rightarrow Test TelNum \rightarrow Dial slot no. \rightarrow

Enter \rightarrow **Drop** \rightarrow Dial telephone no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F6 \rightarrow F4 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow Alt + P \rightarrow$

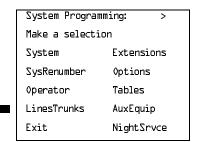
Type telephone no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Test Telephone Number

Console Display/Instructions Additional Information

PC

▶ 1. Select the Lines and Trunks menu.



F4

4 Programming Procedures PRI Facilities

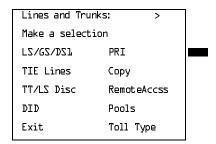
Page 4-196

Console Display/Instructions

Additional Information

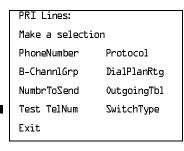
PC

▶ 2. Select PRI.



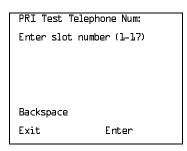
F6

■ 3. Select Test Telephone Number.



[F4]

▶ 4. Enter the slot number in the control unit that contains the 100D module (nn = 1 to 17).



Dial or type [nn].

C

▶ 5. Save your entry.

Select Enter.

(F10)

ME Sy	ERLI sten	N LEGEND Cor n Programming	mmunications S 555-660-111	ystem Release 6.0	Issue 1 February 1998
4		ogramming Proc PI Facilities	edures		Page 4-197
>	6.	-	play/Instruction	s Additional Information hone number (<i>N</i>).	PC
		Slot xx Test Enter test nu N		xx = number entered in Step 4	
		Backspace Exit	Next Enter	Press Drop .	Alt + P
>	7.			of up to 12 digits to be assigned as O module (<i>N</i> = any combination of 0 to 9)).
		Dial or type [/	V].		C
>	8.		assign the test e or go to Step	telephone number to another 9.	
		Select Next.			F9
				Return to Step 6. The next slot is displayed on Line 1.	
>	9.	Save your er	ntry.		
		Select Enter.			F10
>	10.	Return to the	System Progr	ramming menu.	
		Select Exit tv	vice.		F5 F5

Timers and Counters

Use this procedure to set timer and counter thresholds.



A CAUTION:

The factory settings for these thresholds are standard and rarely need to be changed. If you are not sure of the correct timer and threshold settings for your PRI lines and trunks, check with your Lucent Technologies representative before you make a change. Incorrect settings can cause your PRI lines and trunks to malfunction.

Programming Procedures

PRI Facilities

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If the network does not respond before the programmed time or count, the system takes the appropriate corrective action.

The timers and counters are listed below.

- **T200 Timer.** Times the delay in the link layer acknowledgment of a message sent from the system to the network over a D-channel.
- **T203 Timer.** Times the interval between each exchange of messages between the system and the network on the D-channel.
- **N200 Counter.** Counts the number of times the system has transmitted a message on a D-channel because no link layer acknowledgment is received from the network.
- **N201 Counter.** Counts the maximum number of layer three octets the system can send or receive in a single D-channel message.
- **K Counter.** Counts the number of layer three unacknowledged messages sent from the system to the network on a D-channel.
- **T303 Timer.** Times the delay in network response when the system sends a setup message to initiate an outgoing call.
- **T305 Timer.** Times the delay in network response when the system sends a disconnect message to clear a call.
- **T308 Timer.** Times the delay in network response when the system sends a release message to clear a call.
- **T309 Timer.** Times the duration of a D-channel data link failure (a loss of signaling for the entire PRI connection).
- **T310 Timer.** Times the network delay following the receipt of a call preceding message on an outgoing call.
- **T313 Timer.** Times the delay in network response when the system sends a connect message that indicates the completion of an incoming call.
- **T316 Timer.** Times the delay in network response when the system sends a restart message to clear a B-channel.



If you enter an invalid timer value, the number you enter is truncated to the closest valid value. For example, if you enter 45 for a counter that ranges from 0 to 30, 4 is recorded as the counter value.

Table 4–2 shows the factory setting for each timer and counter and the valid range for each threshold.

Programming Procedures
PRI Facilities
Page 4-199

Summary: Timers and Counters

Programmable by	System Manager
Mode	All
Idle Condition	Not required
Planning Form	Form 3b, Incoming Trunks: DS1 Connectivity (100D module)
Factory Setting	See <u>Table 4–2</u>
Valid Entries	See <u>Table 4–2</u>
Inspect	No
Copy Option	No
Console Procedure	$\label{linesTrunks} $$\operatorname{PRI} \to \operatorname{Protocol} \to \operatorname{Timers} \to \operatorname{Dial} \ \operatorname{slot} \ \operatorname{no.} \to \\ \operatorname{Enter} \to \operatorname{Select} \ \operatorname{timer/counter} \to \operatorname{Drop} \to \operatorname{Dial} \ \operatorname{no.} \ \operatorname{of} \ \operatorname{ms/octets/} \\ \operatorname{and} \ \operatorname{so} \ \operatorname{on} \to \operatorname{Enter} \to \operatorname{Exit} \to \operatorname{Exit} \to \operatorname{Exit} \\$
PC Procedure	

Table 4–2. Timers and Counters

Timer/Counter	Purpose	Factory Setting	Valid Range
T200 Timer	Maximum response time	1 second	1,000 to 3,000 ms
T203 Timer	Maximum time	30 seconds	1 to 60 seconds
N200 Counter	Maximum transmissions	3 transmissions	1 to 5 transmissions
N201 Counter	Maximum octets	260 octets	16 to 260 octets
K Counter	Maximum outstanding	7 frames	1 to 15 frames
	I-frames		
T303 Timer	Set up timeout	4 seconds	4 to 12 seconds
T305 Timer	Disconnect timeout	4 seconds	4 to 30 seconds
T308 Timer	Release timeout	4 seconds	4 to 12 seconds
T309 Timer	Signal loss	90 seconds	30 to 120 seconds
T310 Timer	Call Proc. timeout	60 seconds	2 to 120 seconds
T313 Timer	Connect timeout	4 seconds	4 to 60 seconds
T316 Timer	Restart timeout	120 seconds	30 to 120 seconds

Programming Procedures

PRI Facilities

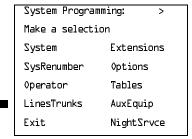
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Procedure: Timers and Counters

Console Display/Instructions Additional Information

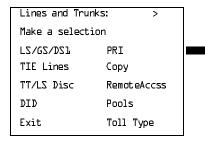
PC

■ 1. Select the Lines and Trunks menu.



F4

2. Select PRI.



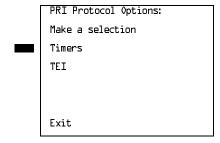
F6

➤ 3. Select Protocol.

PRI Lines:		
Make a selecti	on	
PhoneNumber	Protocol	
B-ChannlGrp	DialPlanRtg	
NumbrToSend	OutgoingTbl	
Test TelNum	SwitchType	
Exit		

F6

4. Select Timers.



F1

Programming Procedures

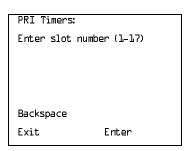
PRI Facilities

Page 4-201

Console Display/Instructions Additional Information

PC

▶ 5. Enter the number of the slot in the control unit that contains the 100D module (nn = 1 to 17).



Dial or type [nn].

C

▶ 6. Save your entry.

Select Enter.

F10

→ 7. Select the timer/counter to change.

xx = number entered in Step 5

To select other timers, press **More** to go to the second PRI Settings screen.

PgDn

Slot xx PRI Settings:

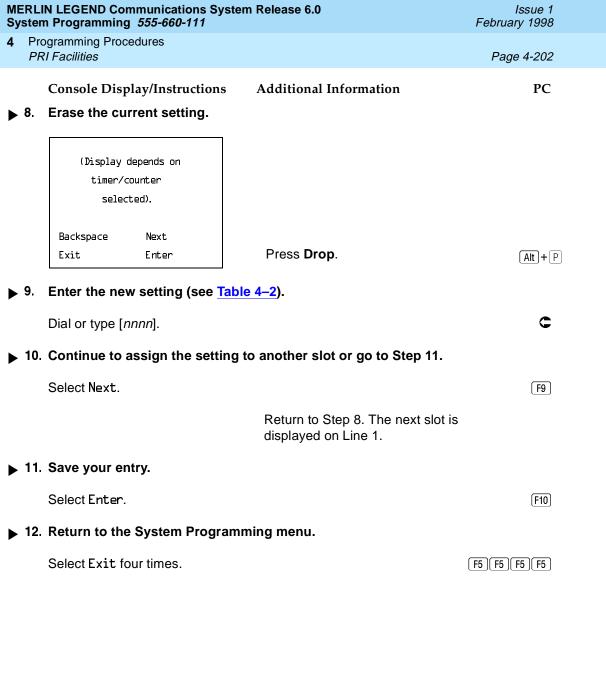
Make a selection

T310 Timer

T313 Timer

T316 Timer

Press the button or function key next to your selection.



1 Programming Procedures
PRI Facilities
Page 4-203

Terminal Equipment Identifier

Use this procedure to assign the link layer address of a piece of equipment connected to each D-channel. Normally, only one piece is connected and the system assumes that the Terminal Equipment Identifier (TEI) is 0.



CAUTION:

The value of the TEI rarely has to be changed. Check with your Lucent Technologies representative before changing this value.

Summary: Terminal Equipment Identifier

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting 0

Valid Entries 0 to 63

Inspect No Copy Option No

Console Procedure LinesTrunks \rightarrow PRI \rightarrow Protocol \rightarrow TEI \rightarrow Dial slot no. \rightarrow

Enter \rightarrow Drop \rightarrow Dial new ID no. \rightarrow Enter \rightarrow Exit \rightarrow

 $Exit \rightarrow Exit$

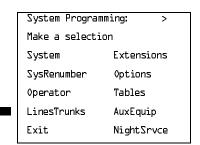
Type new ID no. \rightarrow F10] \rightarrow F5] \rightarrow F5] \rightarrow F5]

Procedure: Terminal Equipment Identifier

Console Display/Instructions Additional Information

PC

▶ 1. Select the Lines and Trunks menu.



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4		gramming Procedures I Facilities		Page 4-205
		Console Display/Instructions	Additional Information	PC
>	6.	Save your entry.		
		Select Enter.		(F10)
>	7.	Erase the current identification	on number (<i>nn</i>).	
		Slot xx TEI: Enter terminal equipment id number (D-63) nn	xx = number entered in Step 5	
		Backspace Next Exit Enter	Press Drop .	Alt + P
>	8.	Enter the new identification n	umber ($n = 0$ to 63).	
		Dial or type [nn].		C
>	9.	Continue to assign the identif or go to Step 10.	ication number to another slot	
		Select Next.		F9
			Return to Step 7. The next slot is displayed on Line 1.	
>	10.	Save your entry.		
		Select Enter.		F10
>	11.	Return to the System Program	nming menu.	
		Select Exit three times.		F5 F5 F5

Programming Procedures
PRI Facilities

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Dial Plan Routing

Dial plan routing provides a way to route incoming calls on a "per B-channel group" basis. An incoming call is routed by matching the incoming number (by service, number of digits, and pattern) and then optionally deleting and/or adding digits to direct the call to a specific endpoint. A service must be specified; the number of digits and pattern are optional. For example, you can specify that calls received from a particular area code should be routed to the specific individual or group responsible for accounts in that area.

Dial plan routing is available in Hybrid/PBX mode only. Key systems route incoming calls on a per-line basis.

In Release 4.2 and later, you can specify the following additional services:

- MCI Toll Services available for a DMS-250 or DEX600E switch type:
 - MCI PRISM
 - MCI Vnet
 - MCI 800
 - MCI 900
- Local exchange carrier services available for a DMS-100 switch type:
 - DMS Private
 - DMS INWATS
 - DMS OUTWATS
 - DMS FX (foreign exchange)
 - DMS Tie Trunk

NOTES:

- You can enter a service not shown on the Network Service screen by using the 5-digit binary code that represents the service in the Network Facilities Information Element of ISDN PRI layer 3 signaling protocol. Contact your service provider for more information about the codes and see "Miscellaneous Procedure" within the following procedure.
- Dial plan routing does not affect PRI tandem trunks connected to slots with switch types of LEGEND-Network or LEGEND-PBX. See <u>"Switch Type"</u> on page 4–166 for details.
- You must program a service before you program any other Dial Plan Routing function. If you have not programmed a service, complete the procedure below for the Service option and then repeat the procedure for each optional function that you want to program.

4 Programming Procedures PRI Facilities

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Summary: Dial Plan Routing

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting Service: empty; Patterns: blank; Total Digits: 0;

Delete Digits: 0; Add Digits: 0

Valid Entries Service: Toll, Local, Miscellaneous

Entries: 0-15

Digits per Pattern: 0–8 Total Digits: 1–14

Delete Digits: 0–14, 0=wildcard Add Digits: 0–4 (valid digits: 0–9)

Inspect No Copy Option No

Console Procedure To specify Service:

LinesTrunks—PRI—DialPlanRtg—Service—Dial entry no.—Enter—Select service—Exit—Exit

To specify Patterns:

LinesTrunks \rightarrow PRI \rightarrow DialPlanRtg \rightarrow Patterns \rightarrow Dial entry no. \rightarrow Enter \rightarrow Drop \rightarrow Dial pattern \rightarrow Enter \rightarrow

Exit→Exit→Exit

To specify Total Digits:

 $\label{linesTrunks} $\operatorname{PRI} \to \operatorname{DialPlanRtg} \to \operatorname{Total} \ \operatorname{Digits} \to \\ \operatorname{Dial} \ \operatorname{entry} \ \operatorname{no.} \to \operatorname{Enter} \to \operatorname{Drop} \to \operatorname{Dial} \ \operatorname{digits} \to \operatorname{Enter} \to \\ \\ \operatorname{Dial} \ \operatorname{entry} \ \operatorname{no.} \to \operatorname{Enter} \to \operatorname{Ente$

Elicitity no. 7 Enect 7 Drop 7 Dianaigns 7 Enect 7

 $Exit \rightarrow Exit \rightarrow Exit$

To specify Delete Digits:

 ${\tt LinesTrunks} {\to} {\tt PRI} {\to} {\tt DialPlanRtg} {\to} {\tt Delete} \ {\tt Digits} {\to} \ {\tt Dial}$

entry no. \rightarrow Enter \rightarrow Drop \rightarrow Dial delete digits \rightarrow

Enter→Exit→Exit→Exit

To specify Add Digits:

 ${\tt LinesTrunks} {\rightarrow} {\tt PRI} {\rightarrow} {\tt DialPlanRtg} {\rightarrow} {\tt Add} \ {\tt Digits} {\rightarrow}$

 ${\sf Dial\ entry\ no.} {\rightarrow} {\sf Enter} {\rightarrow} {\sf Drop} {\rightarrow} {\sf Dial\ add\ digits} {\rightarrow} \ {\sf Enter} {\rightarrow}$

 $Exit \rightarrow Exit \rightarrow Exit$

PC Procedure To specify Service:

 $F4 \rightarrow F6 \rightarrow F7 \rightarrow F2 \rightarrow Type entry no. \rightarrow F10 \rightarrow$

Select service \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

To specify Patterns:

 $F4 \rightarrow F6 \rightarrow F7 \rightarrow F2$ Type entry no. $\rightarrow F10 \rightarrow Alt + P \rightarrow$

Type pattern \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

4 Programming Procedures PRI Facilities

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To specify Total Digits:

F4
$$\rightarrow$$
 F6 \rightarrow F7 \rightarrow F3 Type entry no. \rightarrow F10 \rightarrow Alt + P \rightarrow Type digits \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

To specify Delete Digits:

F4
$$\rightarrow$$
 F6 \rightarrow F7 \rightarrow F4 Type entry no. \rightarrow F10 \rightarrow Alt + P \rightarrow Type delete digits \rightarrow F5 \rightarrow F5 \rightarrow F5

To specify Add Digits:

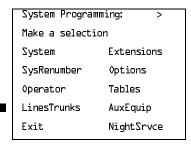
$$F4 \rightarrow F6 \rightarrow F7 \rightarrow F5$$
 Type entry no. $\rightarrow F10 \rightarrow Alt + P \rightarrow$ Type add digits $\rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Dial Plan Routing

Console Display/Instructions Additional Information

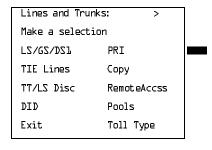
PC

1. Select the Lines and Trunks menu.



F4

▶ 2. Select PRI.



F6

■ 3. Select Dial Plan Routing.

PRI Lines:		
Make a selecti	.on	
PhoneNumber	Protocol	
B-ChannlGrp	DialPlanRtg	
NumbrToSend	OutgoingTbl	
Test TelNum	SwitchType	
Exit		

[F7]

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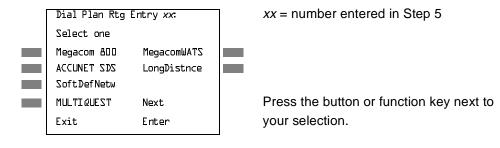
4 Programming Procedures
PRI Facilities

+ AT&T Toll Procedure

Console Display/Instructions Additional Information

PC

1. Select an AT&T service for the B-channel group.



2. Continue to assign the service to another routing entry or go to Step 3.

Select Next.

Return to Step 1. The next dial plan routing entry is displayed on Line 1.

3. Save your entry.

Select Enter. F10

- ▶ 4. Program additional options by returning to Step 4 of the main procedure or go to Step 5.
- ▶ 5. Return to the System Programming menu.

Select Exit three times. F5 F5 F5

4 Programming Procedures PRI Facilities

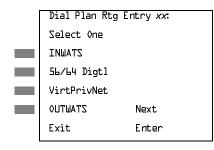
Page 4-211

X Local Procedure

Console Display/Instructions Additional Information

PC

1. Select a service for the B-channel group.



xx = number entered in Step 5

Press the button or function key next to your selection.

C

Continue to assign the service to another routing entry or go to Step 3.

Select Next.

F9

Return to Step 1. The next dial plan routing entry is displayed on Line 1.

3. Save your entry.

Select Enter.

[F10]

- ▶ 4. Program additional options by returning to Step 4 of the main procedure or go to Step 5.
- ▶ 5. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

4 Programming Procedures PRI Facilities

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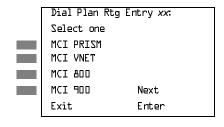
★ MCI Toll Procedure

Console Display/Instructions

Additional Information

PC

1. Select a miscellaneous service.



xx = number entered in Step 5

Select MCI PRISM,

MCI VNET, MCI 800, or

MCI 900

F1

F2 F3

F4

▶ 2. Continue to assign the service to another routing entry or go to Step 3.

Select Next.

F9

Return to Step 1. The next dial plan routing entry is displayed on Line 1.

3. Save your entry.

Select Enter.

F10

- ▶ 4. Program additional options by returning to Step 4 of the main procedure or go to Step 5.
- ▶ 5. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Backspace Exit Enter

Dial or type [nnnnn].

Enter the 5-digit code that corresponds to the service selected.

Continue to assign the code to another routing entry or go to Step 7.

Select Next. F9

Select **Drop**.

Return to Step 4. The next dial plan routing entry is displayed on Line 1.

(Alt)+(P)

C

[F10]

Save your entry.

Select Enter.

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4		ogramming Procedures Il Facilities		Page 4-216
		Console Display/Instructions	Additional Information	PC
>	7.	Program additional options b procedure or go to Step 8.	y returning to Step 4 of the main	
>	8.	Return to the System Program	nming menu.	
		Select Exit three times.		F5 F5 F5
*	Tota	al Digits Procedure		
		Console Display/Instructions	Additional Information	PC
	1.	Enter the entry number (nn =	0 to 15).	
		DialPlanRtg TotalDigits: Enter entry no. (0-15)	Use 0 to match any number of digit	S.
		Backspace Exit Enter	Dial or type [<i>nn</i>].	c
	2.	Save your entry.		
		Select Enter.		F10
>	3.	Erase the current number of	total digits (<i>nn</i>).	
		Dial Plan Rtg Entry xx: Enter number of digits in dialed number (0-14) nn	xx = number entered in Step 1	
		Backspace Next		
		Exit Enter	Press Drop .	Alt + P
>	4.	Enter the new total number o	f digits (<i>nn</i> = 0 to 14).	
		Dial or type [nn].		C

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4		gramming Procedures I Facilities		Page 4-217
>	5.	Console Display/Instructions Continue to assign the digits	Additional Information s to another routing entry or go to Step	PC 6.
		Select Next.	Return to Step 3. The next dial plan	F9
			routing entry is displayed on Line 1.	
>	6.	Save your entry.		
		Select Enter.		(F10)
>	7.	Program additional options be main procedure or go to Step	• •	
>	8.	Return to the System Progra	mming menu.	
		Select Exit three times.		F5 F5 F5
	Del	ete Digit Procedure		
		Console Display/Instructions	Additional Information	PC
>	1.	Enter the entry number (nn =	e 0 to 15).	
		DialPlanRtg DeleteDigits: Enter entry no. (0-15)		
		Backspace Exit Enter	Dial or type [<i>nn</i>].	C
>	2.	Save your entry.		
		Select Enter.		(F10)

	N LEGEND Communications System Programming 555-660-111		Issue 1 February 1998
	ogramming Procedures El Facilities		Page 4-218
3.	Console Display/Instructions Erase the current number of d	Additional Information lelete digits (nn).	PC
	Dial Plan Rtg Entry xx: Enter number of digits to delete (D-14) nn	xx = number entered in Step 1	
	Backspace Next Exit Enter	Press Drop .	Alt + P
4.	Enter the new number of digit	s to delete ($n = 0$ to 14).	
	Dial or type [nn].		C
5.	5. Continue to assign the delete digits to another routing entry or go to Step 6.		
	Select Next.		F9
		Return to Step 3. The next dial plan routing entry is displayed on Line 1.	
		routing entry is displayed on Line 1.	
6.	Save your entry.	routing chity is displayed on Line 1.	
6.	Save your entry. Select Enter.	routing entry is displayed on Line 1.	F10
7.	Select Enter.	y returning to Step 4 of the main	F10
	Select Enter. Program additional options by	y returning to Step 4 of the main	F10

M Sy

[F5][F5][F5]

▶ 8.

Select Exit three times.

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Programming Procedures *PRI Facilities*

Outgoing Tables

PRI provides tables that work in conjunction with personal lines, pools, and ARS tables to route calls. The following tables specify services for outgoing calls:

- Call-by-Call. Selects an outgoing service, based on routing digits and the bearer capability (voice, data, or both) of the calling extension. It allows a single group of B-channels to carry a variety of services, such as ACCUNET, SDN, and Megacom WATS.
- Network Selection. Selects a long-distance carrier. Calls that match Network Selection tables can be routed to a specific service by the Call-by-Call tables.
- **Special Services.** Selects services such as international dialing and operator assistance. Calls that match these tables are *not* routed by the Call-by-Call tables.

NOTES:

- PRI tables that work with pools and ARS apply to Hybrid/PBX mode only.
- In Release 6.0 and later systems, when the PRI switch type is set for Legend-PBX or Legend-NTWK to support a PRI tandem trunk, outgoing tables do not affect outgoing calls for the PRI facility connected to the slot specified by the Switch Type setting.

Network Selection Tables

Dialed prefixes for selecting long-distance carriers are matched to entries in the four Network Selection tables. Eight default tables are provided, specifying 10*** and 101***. The asterisks are wildcards that represent the various long-distance carrier codes. (10*** is the current U.S. standard for specifying long-distance carriers; 101**** is provided for future use.)

NOTES:

- 1. U.S. customers rarely need to program additional Network Selection tables because long-distance carrier codes match 10*** or 101****.
- 2. In Release 6.0 and later systems (Hybrid/PBX mode only), when routing private network trunks for ARS 10*** and 101**** (Interexchange or IXC) calls from a networked switch that is not connected to the public switched network and only has private trunks, the private network trunks must be assigned to the main pool on the switch where ARS is dialed. The ARS access code for the local and remote systems must be identical. The procedure described here does not affect these PRI tandem trunks.

4 Programming Procedures PRI Facilities

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Summary: Network Selection Tables

Programmable by System Manager

Mode Key and Hybrid/PBX

Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1Connectivity (100D module)

Factory Setting Not applicable

Valid Entries Prefix for long distance carrier

Inspect No Copy Option No

Console Procedure LinesTrunks \rightarrow PRI \rightarrow OutgoingTbl \rightarrow NetwkSelect \rightarrow

Dial entry no. \rightarrow Enter \rightarrow Drop \rightarrow Dial prefix \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow F6 \rightarrow F8 \rightarrow F1 \rightarrow Type \text{ entry no.} \rightarrow F10 \rightarrow Alt + P \rightarrow$

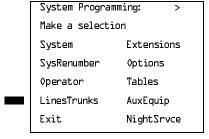
Type prefix \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

Procedure: Network Selection Tables

Console Display/Instructions Additional Information

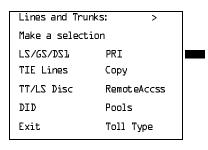
PC

▶ 1. Select the Lines and Trunks menu.

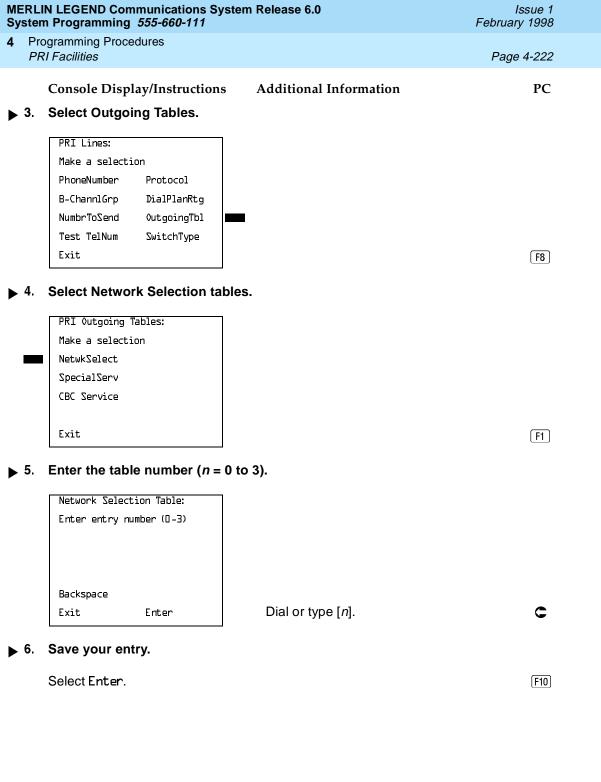


F4

▶ 2. Select PRI.



F6



		N LEGEND Com n Programming		stem Release 6.0	Issue 1 February 1998
1		ogramming Proc RI Facilities	edures		Page 4-223
>	7.	•	play/Instructions		PC
		Netwk SelectT Enter dial pr (use * for wi	refix	x = number entered in Step 5	
		Backspace Exit	Next Enter	Press Drop .	Alt + P
>	8.	Enter the dia	ıl prefix.		
		Dial or type [r	n].		C
>	9. Continue to assign the dial prefix to another table or go to Step 10.				
		Select Next.			F9
				Return to Step 7. The next tabl Line 1.	e is displayed on
>	10.	Save your er	ntry.		
		Select Enter.			F10
>	11.	Return to the	e System Progr	amming menu.	
		Select Exit th	nree times.		F5 F5 F5
Sj	peci	al Services T	ables		

Eight tables provide for international calling and for operator-assisted calls. Default tables include the special prefixes 0 and 00 for operator-assisted calls. Dialed numbers are matched against entries in these tables for patterns (011, 010, 01, 00, 0, and 1); for operator assistance (operator-assisted, presubscribed common carrier operator, and none); and for type of number (national or international). Up to four digits can be deleted.

4 Programming Procedures
PRI Facilities

I Facilities Page 4-224

Summary: Special Services Tables

Programmable by System Manager

Mode Key and Hybrid/PBX

Idle Condition Not required

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity (100D module)

Factory Setting See Table 4–3

Valid Entries Prefix for international or operator-assisted calls

Inspect No Copy Option No

Console Procedure To specify Pattern:

LinesTrunks—PRI—OutgoingTbl—SpecialServ—

 $\textbf{Pattern} {\rightarrow} \textbf{Dial entry no.} {\rightarrow} \textbf{Enter} {\rightarrow} \textbf{Drop} {\rightarrow} \textbf{Dial pattern} {\rightarrow}$

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To specify Operator:

LinesTrunks—PRI—OutgoingTbl—SpecialServ—Operator—Dial entry no.—Enter—Select type of operator—Enter—Exit—Exit—Exit

To specify Type of Number:

LinesTrunks→PRI→OutgoingTbl→SpecialServ→
TypeOfNumbr→Dial entry no.→Enter→Select type→

Enter→Exit→Exit→Exit

To specify Delete Digits:

LinesTrunks—PRI—OutgoingTbl—SpecialServ—
DeleteDigit—Dial entry no.—Enter—Drop—
Dial pattern—Enter—Exit—Exit—Exit

PC Procedure To specify Pattern:

 $F4 \rightarrow F6 \rightarrow F8 \rightarrow F2 \rightarrow F1 \rightarrow Type entry no. \rightarrow F10 \rightarrow Alt + P \rightarrow Type pattern \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$

To specify Operator:

 $F4 \longrightarrow F6 \longrightarrow F8 \longrightarrow F2 \longrightarrow F2 \longrightarrow Type entry no. \longrightarrow F10 \longrightarrow Select type of operator \longrightarrow F10 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

To specify Type of Number:

 $\begin{array}{c} \hline {\text{F4}} \longrightarrow \hline {\text{F6}} \longrightarrow \hline {\text{F8}} \longrightarrow \hline {\text{F2}} \longrightarrow \hline {\text{F3}} \longrightarrow \overline{\text{Type entry no.}} \longrightarrow \overline{\text{F10}} \longrightarrow \overline{\text{F5}} \longrightarrow \overline{\text{F5}} \longrightarrow \overline{\text{F5}} \longrightarrow \overline{\text{F5}} \\ \hline \end{array}$

To specify Delete Digits:

F4 \rightarrow F6 \rightarrow F8 \rightarrow F2 \rightarrow F4 \rightarrow Type entry no. \rightarrow F10 \rightarrow Alt + P \rightarrow Type digits to be deleted \rightarrow F10 \rightarrow F5 \rightarrow

 $F5 \rightarrow F5 \rightarrow F5$

4 Programming Procedures PRI Facilities

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Table 4-3. Special Services Table

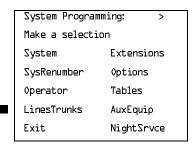
Table	Pattern (up to 4 digits)	Operator	Delete Digits (0 to 4)
0	011	none	3
1	010	Local Operator	3
2	01	Local Operator	2
3	00	Local Operator/ Presubscribed Carrier	2
4	0	Local Operator	1
5	1	none	1

Procedure: Special Services Tables

Console Display/Instructions Additional Information

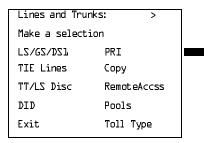
PC

1. Select the Lines and Trunks menu.



F4

▶ 2. Select PRI.



[F6]

If you select DeleteDigit, go to

▲ Delete Digits Procedure.

your selection.

Press the button or function key next to

[F4]

C

Programming Procedures

PRI Facilities

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Console Display/Instructions Additional Information

PC

■ 1. Enter the table number (n = 0 to 7).

Special Services Table:
Enter entry number (0-7)

Backspace
Exit Enter

Dial or type [n].

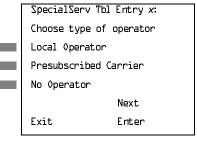
C

2. Save your entry.

Select Enter.

F10

■ 3. Specify the type of operator.



x = number entered in Step 1

Select Local Operator, Presubscribed Carrier, or

No Operator.

F1 F2

F3

▶ 4. Continue to assign the operator type to another table or go to Step 5.

Select Next.

F9

Return to Step 3. The next table is displayed on Line 1.

▶ 5. Save your entry.

Select Enter. F10

▶ 6. Return to the System Programming menu.

Select Exit four times.

F5 F5 F5 F5

F10

F5 F5 F5 F5

Select Enter.

Select Exit four times.

Return to the System Programming menu.

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Call-by-Call Service Table

Programming Procedures

PRI Facilities

When a call is placed on a Call-by-Call B-channel group, a specific service is selected. The selected service depends on the match between the dialed digits and the table entries. A service must be specified; otherwise the entry is ignored.

The Call-by-Call table can contain up to 10 entries. Each entry can contain up to 10 patterns, each with a maximum of eight digits. If a dialed number matches two patterns, the longer pattern takes precedence. For example, 212555 matches both 212555 and 212, but the system will match the longer pattern. In addition to patterns, the Call-by-Call table can be used to specify from 0 through 8 digits to be deleted (the default is 0).

If the last entry in the table is empty (that is, if no pattern is specified), this entry is used as a default and matches any pattern and type of call.

If ARS (Hybrid/PBX only) is used, ARS selects the route. If the route points to a Call-by-Call B-Channel group, Call-by-Call service selects the network service. ARS Call-by-Call service is integrated according to the specified bearer capability (voice, data, or both) for each feature. In addition, ARS digit deletion/addition may help specify the service selected by the Call-by-Call feature. See "Automatic Route Selection" on page -363 for more information.

Beginning with Release 4.2, the following additional services are available:

- MCI Toll Services for a DMS-250 or DEX600E switch type
 - MCI PRISM
 - MCI VNET
- Local exchange carrier services available for a DMS-100 switch type:
 - DMS Private
 - DMS OUTWATS
 - DMS FX (foreign exchange)
 - DMS Tie Trunk

Summary: Call-by-Call Service Table

Programmable by System Manager

Mode Key and Hybrid/PBX

Idle Condition Not required

Form 3b, Incoming Trunks: DS1 Connectivity (100D module) Planning Form

Factory Setting Not applicable

Programming Procedures PRI Facilities

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Valid Entries Pattern: up to eight digits

Call Type: voice, data, both

Service: AT&T Toll, 5ESS Local, MCI Toll, DMS-100 Local,

Miscellaneous Delete Digits: 0 to 8

Inspect No

Copy Option No

Console Procedure To specify Patterns:

 $\label{linesTrunks} $$\operatorname{PRI} \to 0 = 0 = 0 .$$ LinesTrunks \to PRI \to 0 = 0 .$$ The restriction of the proposition of the proposit$

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To specify Voice/Data:

 $\label{linesTrunks} $$\operatorname{PRI} \to \operatorname{OutgoingTb1} \to \operatorname{CBC} \ \operatorname{Service} \to \operatorname{Voice}/$$ $$\operatorname{Data} \to \operatorname{Dial} \ \operatorname{list} \ \operatorname{no.} \to \operatorname{Enter} \to \operatorname{Select} \ \operatorname{voice}, \ \operatorname{data}, \ \operatorname{or} \ \operatorname{both} \to \operatorname{CBC} \ \operatorname{Service} \to \operatorname{Voice}/$$ $$\operatorname{Ada}, \ \operatorname{OutgoingTb1} \to \operatorname{CBC} \ \operatorname{Service} \to \operatorname{Voice}/$$ $$\operatorname{Ada}, \ \operatorname{OutgoingTb1} \to \operatorname{CBC} \ \operatorname{Service} \to \operatorname{Voice}/$$ $$\operatorname{Ada}, \ \operatorname{OutgoingTb1} \to \operatorname{CBC} \ \operatorname{Service} \to \operatorname{Voice}/$$ $$\operatorname{Ada}, \ \operatorname{OutgoingTb1} \to \operatorname{CBC} \ \operatorname{Service} \to \operatorname{Voice}/$$ $$\operatorname{Ada}, \ \operatorname{OutgoingTb1} \to \operatorname{CBC} \ \operatorname{Ada}, \ \operatorname{A$

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To specify Network Service:

 $\label{linesTrunks} $$\operatorname{PRI} \to \operatorname{OutgoingTbl} \to \operatorname{CBC} \ \operatorname{Service} \to \operatorname{NetwkServ} \to \operatorname{Dial} \ \operatorname{list} \ \operatorname{no.} \to \operatorname{Enter} \to \operatorname{Select} \ \operatorname{service} \to \operatorname{NetwkServ} \to \operatorname{Dial} \ \operatorname{Inst} \ \operatorname{NetwkServ} \to \operatorname{Dial} \ \operatorname{Inst} \ \operatorname{NetwkServ} \to \operatorname{Dial} \ \operatorname{Inst} \ \operatorname{NetwkServ} \to \operatorname{OutgoingTbl} \to \operatorname{CBC} \ \operatorname{Service} \to \operatorname{NetwkServ} \to \operatorname{OutgoingTbl} \to \operatorname{OutgoingT$

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To specify Delete Digits:

LinesTrunks—PRI—OutgoingTbl—CBC Service—

DeleteDigit—Dial list no.—Enter—Drop—Dial no. of

 $digits \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure To specify Patterns:

To specify Voice/Data:

To specify Network Service:

Select service \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

To specify Delete Digits:

 $F4 \rightarrow F6 \rightarrow F8 \rightarrow F3 \rightarrow F4 \rightarrow Dial list no. \rightarrow F10 \rightarrow$

Alt + P \rightarrow Dial no. of digits \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5

4 Programming Procedures PRI Facilities

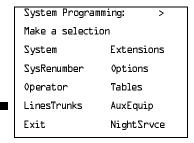
Page 4-233

Procedure: Call-by-Call Service

Console Display/Instructions Additional Information

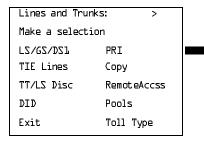
PC

▶ 1. Select the Lines and Trunks menu.



F4

▶ 2. Select PRI.



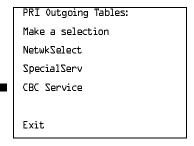
F6

3. Select Outgoing Tables.

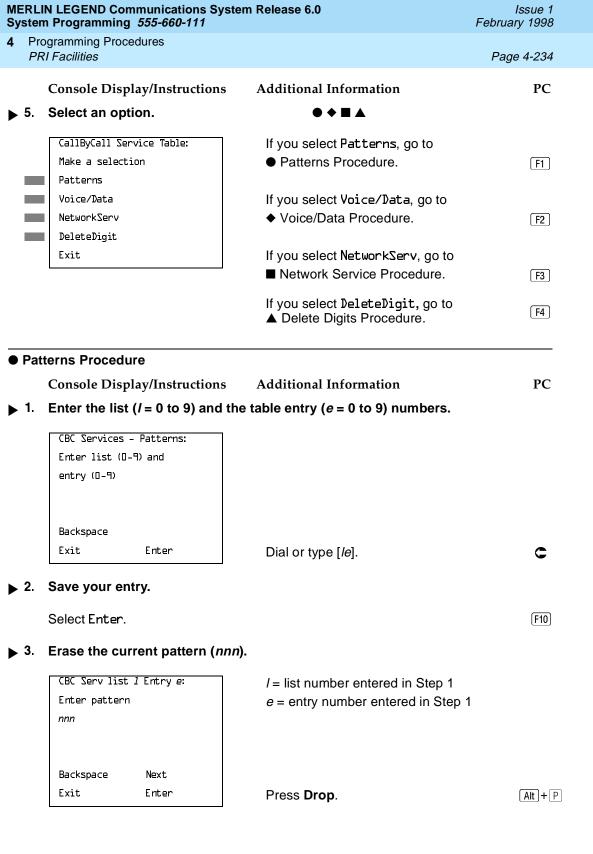
PRI Lines:		
Make a selectio	n	
PhoneNumber	Protocol	
B-ChannlGrp	DialPlanRtg	
NumbrToSend	OutgoingTbl	
Test TelNum	SwitchType	
Exit		

F8

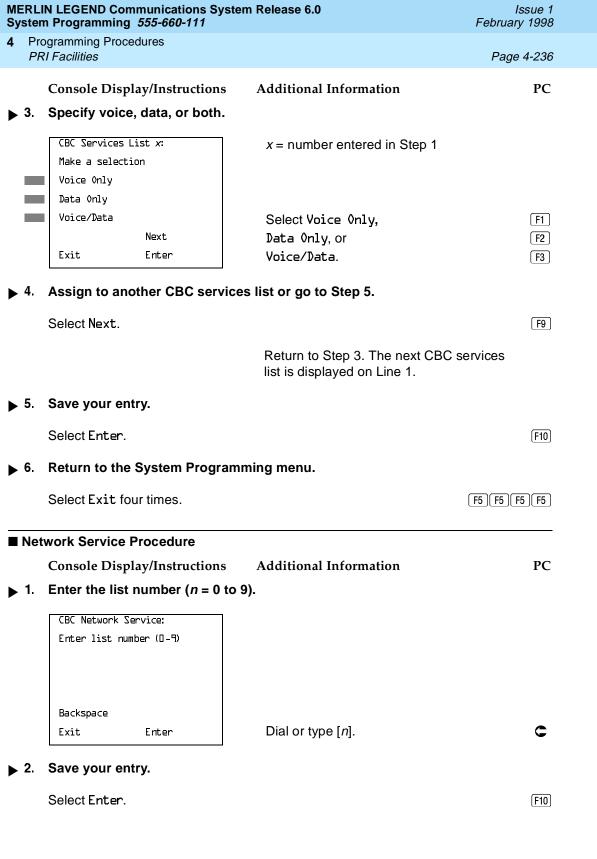
▶ 4. Select Call-by-Call Service.



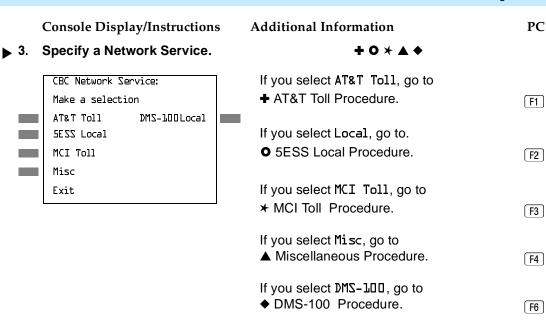
F3



		N LEGEND Communications System Programming 555-660-111	em Release 6.0	Issue 1 February 1998
4		gramming Procedures Il Facilities		Page 4-235
>	4.	Console Display/Instructions Enter a pattern of up to eight of		PC
		Dial or type [n].		C
>	5.	Assign a pattern to the next ta	ble or go to Step 6.	
		Select Next.		F9
			Return to Step 3. The next table i Line 1.	s displayed on
>	6.	Save your entry.		
		Select Enter.		(F10)
>	7.	Return to the System Program	ming menu.	
		Select Exit four times.		F5 F5 F5 F5
•	Voi	ce/Data Procedure		
		Console Display/Instructions	Additional Information	PC
	1.	CBC Services Voice/Data: Enter list number (D-9)	9).	
	2.	Backspace Exit Enter Save your entry.	Dial or type [<i>n</i>].	c
	۷.	Select Enter.		(F10)



4 Programming Procedures
PRI Facilities
Page 4-237



+ AT&T Toll Procedure

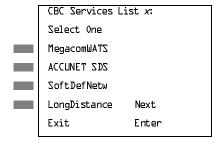
Console Display/Instructions

Additional Information

PC

F5 F5 F5 F5

▶ 1. Specify an AT&T Toll service.



x = number entered in Step 1 of the

■ Network Service Procedure.

Press the button or function key next to your selection.

arvice for another list number or go to Ston 2

▶ 2. Continue to specify AT&T Toll service for another list number or go to Step 3.

Select Next.

Return to Step 1. The next CBC services list is displayed on Line 1.

3. Save your entry.

Select Enter. F10

▶ 4. Return to the System Programming menu.

Select Exit four times.

4 Programming Procedures PRI Facilities

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O 5ESS Local Procedure

Console Display/Instructions

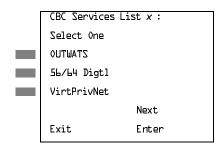
Additional Information

PC

[F1]

[F2]

Specify a local service.



x = number entered in Step 1 of the

■ Network Service Procedure.

Select OUTWATS,

56/64 Digtl, or

VirtPrivNet. F3

▶ 2. Continue to specify local service for another list number or return to Step 3.

Select Next. F9

Return to Step 1. The next CBC services list is displayed on Line 1.

■ 3. Save your entry.

Select Enter. F10

▶ 4. Return to the System Programming menu.

Select Exit four times. F5 F5 F5 F5

4 Programming Procedures
PRI Facilities
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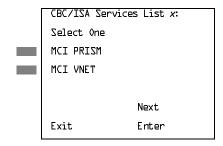
▲ MCI Toll Procedure

Console Display/Instructions

Additional Information

PC

▶ 1. Specify an MCI Toll service.



x = number entered in Step 1 of the

■ Network Service Procedure.

Press the button or function key next to your selection.

C

▶ 2. Continue to specify MCI Toll service for another list number or go to Step 3.

Select Next. F9

Return to Step 1. The next CBC/ISA services list is displayed on Line 1.

■ 3. Save your entry.

Select Enter. F10

▶ 4. Return to the System Programming menu.

Select Exit four times. F5 F5 F5 F5

4 Programming Procedures PRI Facilities

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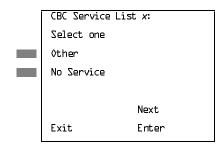
★ Miscellaneous Procedure

Console Display/Instructions

Additional Information

PC

▶ 1. Specify a service.



x = number entered in Step 1 of the

■ Network Service Procedure.

Select Other or

F1 F2

No Service.

If you select **No Service**, you have completed this procedure. Return to Step 6 of the main procedure.

▶ 2. Continue to specify the service for another service list number or go to Step 3.

Select Next.

F9

Return to Step 3. The next CBC services list is displayed on Line 1.

3. Save your entry.

Select Enter.

(F10)

▶ 4. Erase the current code (nnnnn).

CBC Services List x:
Enter Network Service
(5 digit code of 0, 1)
nnnnn

Backspace Next
Exit Enter

x = number entered in Step 1 of the

■ Network Service Procedure.

Press **Drop**.

(Alt)+(P)

▶ 5. Enter the 5-digit code for the other service.

Dial or type [nnnnn].

Select Next.

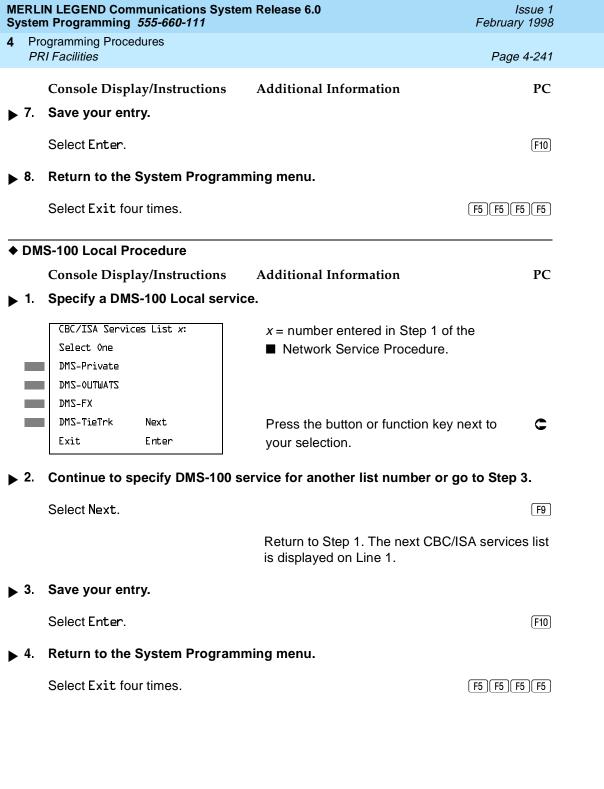


6. Continue to assign the code to another service list or return to Step 7.

.

F9

Return to Step 4. The next CBC services list is displayed on Line 1.



[F5][F5][F5][F5]

Select Exit four times.

4 Programming Procedures

BRI Facilities

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BRI Facilities

The procedures in this section provide the steps for programming the following options for Basic Rate Interface (BRI) facilities connected to an 800 NI-BRI module:

- Service Profile Identifier (SPID) and Directory Number (DN)
- Timers

\Longrightarrow NOTES:

- 1. The 800 NI-BRI module is only available in Release 4.0 and later.
- If you are adding BRI facilities to an existing system, clock synchronization must be set correctly. To inspect or change these values, see "Clock Synchronization" on page 4–66.

Service Profile Identifier (SPID) and Directory Number (DN)

Use this procedure to program the Service Profile Identifier (SPID) and Directory Number (DN) for each BRI line in the system. Until these values are programmed for each line, the system considers the BRI line inactive and the line will not initialize.



The system will not be forced idle when SPIDs are entered. However, if for some reason a SPID changes, the line must be idle (no active call on the line) in order to change the SPID.

Summary: Service Profile Identifier (SPID) and Directory Number (DN)

Programmable by System Manager
Mode Key, Hybrid/PBX
Idle Condition Not required

Planning Form Form 3i, Incoming Trunks: BRI Options (800 NI-BRI module)

Factory Setting none

Valid Entries SPID: up to 20 digits (any combination of 0 to 9)

DN: up to 10 digits (any combination of 0 to 9)

Inspect No Copy Option No

Programming Procedures

BRI Facilities

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 $Console\ Procedure\ Lines Trunks {\longrightarrow} More {\longrightarrow} BRI {\longrightarrow} SPID/DN. {\longrightarrow} Dial\ line/trunk$

no. \rightarrow Enter \rightarrow Dial SPID \rightarrow Enter \rightarrow Dial DN \rightarrow Enter \rightarrow

 $Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow PgUp \rightarrow F8 \rightarrow F1 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow$

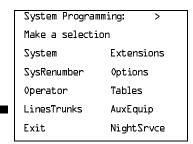
Type SPID \rightarrow (F10) \rightarrow Type DN \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)

Procedure: Service Profile Identifier (SPID) and Directory Number (DN)

Console Display/Instructions Additional Information

PC

▶ 1. Select the Lines and Trunks menu.



F4

▶ 2. Go to the second screen of the Lines and Trunks menu.

Lines and Trunks: >

Make a selection

LS/GS/DS1 PRI

TIE Lines Copy

TT/LS Disc RemoteAccss

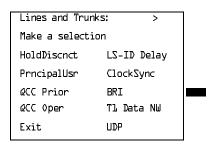
DID Pools

Exit Toll Type

Press More.

PgUp

3. Select BRI.



[F8]

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Programming Procedures

BRI Facilities

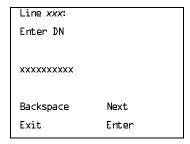
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Console Display/Instructions

Additional Information

PC

9. Erase the current DN.



xxx = line number selected in Step x.

Press Drop.

Alt + P

▶ 10 Enter the new DN.

Dial or type [xxxxxxxxxxx].



▶ 11. Save your entry.

Select Enter.

F10

▶ 12. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Timers

Use this procedure to set timer thresholds.



CAUTION:

The factory settings for these thresholds are standard and rarely need to be changed. If you are not sure of the correct timer and threshold settings for your BRI lines and trunks, check with your Lucent Technologies representative before you make a change. Incorrect settings can cause your BRI lines and trunks to malfunction.

If the network does not respond before the programmed time, the system takes the appropriate corrective action.

The timers are listed below.

- **T200 Timer.** Minimum time that the link layer waits for an acknowledgment of a message sent from the communications system to the network.
- **T203 Timer.** Maximum time that the link layer can remain inactive.

4 Programming Procedures

BRI Facilities Page 4-247

- **T303 Timer.** Times the delay in network response when the communications system sends a setup message to initiate an outgoing call.
- **T305 Timer.** Times the delay in network response when the communications system sends a disconnect message to clear a call.
- **T308 Timer.** Times the delay in network response when the communications system sends a release message to clear a call.

NOTE:

If you enter an invalid timer value, you hear an error beep and the value that was previously stored is displayed on the screen.

Table 4–4 shows the factory setting for each timer and the valid range for each threshold.

Table 4–4. Timers

Timer/ Counter	Purpose	Factory Setting	Valid Range	Increments
T200 Timer	maximum response time	1,000 ms	500 to 5,000 ms	500 ms
T203 Timer	maximum time	33 seconds	10 to 255 sec	1 sec
T303 Timer	Set up timeout	4 seconds	2 to 10 sec	1 sec
T305 Timer	Disconnect timeout	30 seconds	2 to 60 sec	1 sec
T308 Timer	Release timeout	4 seconds	2 to 10 sec	1 sec

Summary: Timers

Programmable by	System Manager
Mode	Key, Hybrid/PBX
Idle Condition	Not required
Planning Form	Form 3i, Incoming Trunks: BRI Options (800 NI-BRI module)
Factory Setting	See <u>Table 4–4</u>
Valid Entries	See <u>Table 4–4</u>
Inspect	No
Copy Option	No

4 Programming Procedures BRI Facilities

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 $\textbf{Console Procedure LinesTrunks} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{BRI} {\longrightarrow} \textbf{Timers} {\longrightarrow} \textbf{Select timer} {\longrightarrow}$

Drop \rightarrow Dial no. of seconds or ms \rightarrow Enter \rightarrow Exit \rightarrow Exit

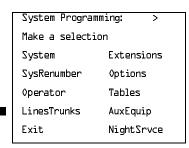
PC Procedure $F4 \rightarrow PgUp \rightarrow F8 \rightarrow F2 \rightarrow Select timer \rightarrow Alt + P \rightarrow Type no. of seconds or ms \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Timers

Console Display/Instructions Additional Information

PC

▶ 1. Select the Lines and Trunks menu.



F4

▶ 2. Go to the second screen of the Lines and Trunks menu.

Lines and Trunks: >

Make a selection

LS/GS/DS1 PRI

TIE Lines Copy

TT/LS Disc RemoteAccss

DID Pools

Exit Toll Type

Press More.

PgUp

3. Select BRI.

Lines and Trunks: >

Make a selection

HoldDiscnct LS-ID Delay

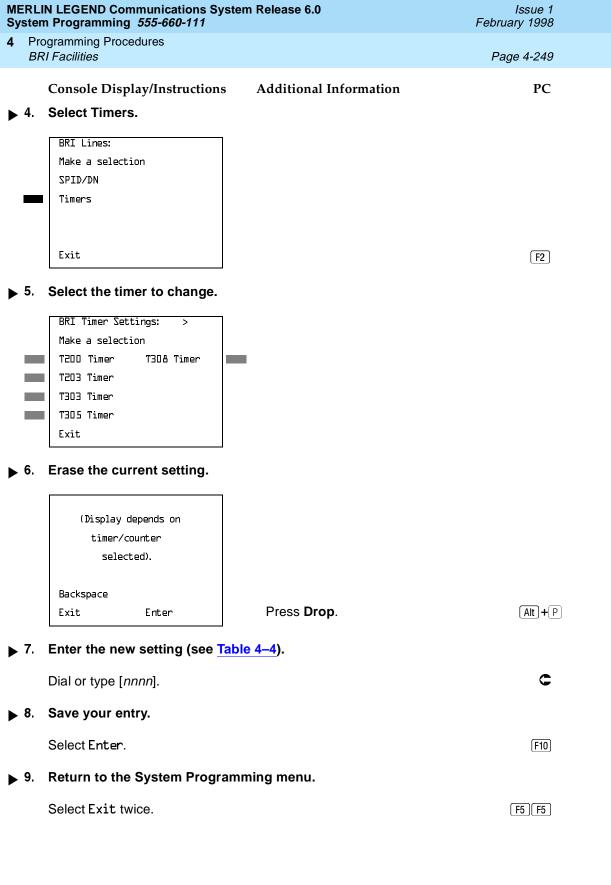
PrncipalUsr ClockSync

QCC Prior BRI

QCC Oper

Exit

F8



4 Common Administrative Procedures

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Issue 1

Extensions

Extensions

This section contains the following summaries:

- Assigning outside lines or trunks to the buttons on a telephone (including lines and trunks used for loudspeaker paging).
- Copying line button assignments from one extension to either an individual extension or a block of extensions.
- Assigning the following buttons on telephones (for Hybrid/PBX systems only):
 - System Access or Intercom Voice
 - System Access or Intercom Ring
 - System Access or Intercom Originate Only
 - Shared System or Intercom Access
- Identifying analog multiline telephones that do not have built-in speakerphones (BIS) or Hands Free Answer on Intercom (HFAI) capability.
- Identifying analog multiline telephone extensions that require pairing of extension jacks to provide either the Voice Announce to Busy or voice and data features.

See Chapter 3, "Common Administrative Procedures" for detailed information.

Assign Trunks or Pools to Extensions

Use this procedure to assign outside lines/trunks (connected to the control unit) to specific buttons on each telephone. The lines/trunks assigned to a button on a telephone are called personal lines.

This procedure is used only to change or add personal lines, Loudspeaker Paging, or **Pool** buttons (Hybrid/PBX only) to telephones. See "Assign Intercom or System Access Buttons" on page -255 to add or change Intercom (ICOM) or System Access (SA) buttons.



SECURITY ALERT:

In Release 6.0 and later systems (Hybrid/PBX mode only), do not assign private networked lines as personal lines on telephone buttons. Do not assign pools of private network trunks (tandem PRI or tandem tie) to telephones. Do not provide dial access to these pools. Use ARS to provide access to a remote networked system's trunks for making outside calls. System users can reach extensions on the remote system by using normal inside calling procedures.

4 Common Administrative Procedures *Extensions*

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Individual lines/trunks can be assigned to a maximum of 64 extensions. Individual pools can be assigned as a **Pool** button on a maximum of 64 extensions.

The following lines/trunks cannot be assigned to a button on a telephone:

- Lines/trunks used for Music On Hold
- Lines/trunks used for maintenance alarms.

NOTE:

If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a copyright license from and pay license fees to a third party (such as the American Society of Composers, Artists, and Producers or Broadcast Music Incorporated). Magic on Hold® requires no such license and can be purchased from Lucent Technologies.

Pool buttons cannot be assigned to or removed from extensions unless the pool has trunks assigned. If all trunks are to be removed from a pool, all **Pool** button assignments must first be removed from extensions. Another way of handling this situation is to program another trunk into the pool and then remove the **Pool** button assignments from the extensions.

- Hybrid/PBX only. Individual lines/trunks assigned to a pool can be assigned to a button only on a DLC operator position. If one of the lines/trunks in a pool is assigned to a button on a non-DLC telephone, the result is a Pool button assignment.
- **Key only.** The system assigns the first eight line numbers to buttons on multiline telephones whether or not an outside line is physically connected. If a line is not connected, the button assignment must be removed so the user can assign a feature to the button.
- For the MDC 9000 and MLC-5 cordless multiline telephones and the MDW 9000 wireless multiline telephone, the system assigns the first eight lines connected to the control unit even though the telephone has fewer than eight buttons available. Remove the extra lines in system programming so that the appropriate number of lines is assigned to buttons on these telephones.

Lines and trunks are assigned to buttons in the order in which you press each line button on the system programming console or keyboard. Existing line assignments can be rearranged by removing all current assignments and then pressing the line buttons on the console or keyboard in the order in which they should appear on the buttons. For information on the order of the programmed buttons, refer to the button numbers on the applicable planning form for each telephone.

If you want to reserve some blank buttons for features between line buttons, a line must be assigned as a placeholder for each blank button. After all lines are assigned, remove the lines used as placeholders on the buttons reserved for features.

4 Common Administrative Procedures

Extensions

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Summary: Assign Trunks or Pools to Extensions

Programmable by System Manager

Mode All, but note differences in factory settings

Idle Condition Extension idle

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting

Key Mode. An Intercom Ring (ICOM Ring) button, an Intercom Voice (ICOM Voice) button, and the first eight lines connected to the control unit are assigned to all analog multiline telephones, MLX telephones (excluding operator positions), and MFMs connected to MLX telephones. Two Intercom Ring buttons are assigned to single-line telephones; no outside lines are assigned.

Behind Switch Mode. Intercom Ring, Intercom Voice, and prime line buttons are assigned to all analog multiline telephones, MLX telephones (excluding operator positions), and MFMs connected to MLX telephones. Two Intercom Ring buttons are assigned to single-line telephones; no outside lines are assigned. When prime lines are assigned to MLX extensions, lines are not assigned to MFMs used to connect adjuncts. Lines for MFMs must be assigned separately.

Hybrid/PBX Mode. System Access Ring (SA Ring), System Access Voice (SA Voice), and System Access Originate Only (SA Orig Only) buttons are assigned to all analog multiline telephones and MLX telephones (excluding operator positions). Five Call buttons are assigned to QCC operator positions. Two System Access Ring buttons and one System Access Originate Only button are assigned to single-line telephones. No personal line or Pool buttons are assigned.

Valid Entries Extension numbers

Inspect Yes
Copy Option Yes

4 Common Administrative Procedures

Extensions

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Console Procedure To program a single line/trunk:

Extensions \rightarrow Lines/Trunks \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Entry

 $Mode \rightarrow Dial line/trunk no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

To program a block of lines/trunks:

Extensions \rightarrow Lines/Trunks \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Select trunk range \rightarrow Toggle LED On/Off \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure To program a single line/trunk:

 $F6 \rightarrow F1 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow F6 \rightarrow Type \text{ line/trunk no.} \rightarrow F10 \rightarrow F5 \rightarrow F5$

To program a block of lines/trunks:

 $F6 \rightarrow F1 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Select trunk range \rightarrow$

Toggle letter G On/Off \rightarrow F10 \rightarrow F5 \rightarrow F5

Copy Line/Trunk Assignments

Use this procedure to copy outside line/trunk button assignments, pool dial-out code restrictions (Hybrid/PBX only), and (for operator positions only) Night Service information from one extension to another extension or block of extensions with identical requirements.

If you are copying assignments to a block of extensions and one of the extensions in the block is in use, the display shows the Station Busy - Pls Wait message. Copying for the rest of the extensions in the block is delayed until the busy extension becomes idle. The number of the busy extension is not shown. If a DSS is attached, the LED associated with the busy extension is on. If you exit instead of waiting for the busy extension to become idle, copying for the rest of the extensions is canceled; however, the assignments that have already been copied are not canceled.

If you are copying assignments from an operator position to a block of extensions that includes both operator and nonoperator extensions, the information is copied to only the operator positions; the nonoperator positions are not affected. Similarly, if you are copying assignments from a nonoperator position to a block of extensions that includes both operator and nonoperator extensions, the information is copied to only the nonoperator positions; the operator positions are not affected. The system does not provide an error tone to signal that the copy did not work for all of the extensions in the block.

4 Common Administrative Procedures Extensions Page 4-254

Summary: Copy Line/Trunk Assignments

Programmable by System Manager

Mode ΑII

Idle Condition Extension idle

Planning Form 4a, Extension Copy: Analog Multiline Telephone Template

4c, Extension Copy: MLX Telephone Template

Not applicable Factory Setting Valid Entries Not applicable

Inspect Yes: lines/pools assigned to an extension

Copy Option Not applicable

Console Procedure To copy to a single extension:

Extensions \rightarrow Line Copy \rightarrow Single \rightarrow Dial copy from ext. no. \rightarrow Enter \rightarrow Dial copy to ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

To copy to a block of extensions:

Extensions \rightarrow Line Copy \rightarrow Block \rightarrow Dial copy from ext. no.→Enter→Dial no of first extension in block→ Enter→Dial ext. no of last extension in block→

 $Enter \rightarrow Exit \rightarrow Exit$

PC Procedure To copy to a single extension:

 $F6 \rightarrow F2 \rightarrow F1 \rightarrow Type copy from ext. no. \rightarrow F10 \rightarrow$

Type copy to ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

To copy to a block of extensions:

 $F6 \rightarrow F2 \rightarrow F2 \rightarrow Type copy from ext. no. \rightarrow F10 \rightarrow Type no.$ of first extension in block→F10→Type ext. no. of last

extension in block \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

4 Common Administrative Procedures Extensions

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Assign Intercom or System Access Buttons

Use this procedure to assign or change the assignments for Intercom (ICOM) buttons used to make and receive inside calls. This includes the following types of Intercom buttons:

- Ring
- Voice
- Originate Only (Ring or Voice)

In Hybrid/PBX mode only, use this procedure to assign or change assignments for System Access (SA) buttons used to make or receive inside and outside calls. This procedure includes the following types of System Access buttons:

- Ring
- Voice
- Originate Only (Ring or Voice)
- Shared (Ring or Voice)

NOTE:

You cannot change the factory setting for **Call** buttons assigned to QCC operator positions, and you cannot assign Ring, Voice, Originate Only, or **Shared** buttons to QCC operator positions. However, in Release 4.0 and later, the Call 5 (Ring/Voice) button on a QCC can be programmed for Voice Announce. See "Voice Announce" on page 62.

System Access or Intercom buttons can be assigned to only the first 10 buttons on a telephone.

You can assign a combination of up to 10 System Access or Intercom buttons to each telephone (excluding QCC operator positions).

You can remove System Access or Intercom buttons, but at least one must remain on the extension.

NOTE:

When single-line sets are programmed with only one System Access or Intercom button, the Transfer, Conference and Drop features are disabled. Other features that require a second dial tone, such as Account Code/Number Entry, After Call Work States, Call Pickup, Call Waiting, and Privacy, are also affected. For more information, see the Feature Reference.

4 Common Administrative Procedures

Extensions

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Each System Access Ring or Voice on an individual telephone can be assigned as a Shared System Access (**SSA**) button on up to 16 other extensions.

Shared SA buttons cannot be assigned to single-line telephones or other tip/ring equipment connected to an 016, 012, or 008 OPT module. Shared **SA** buttons can be assigned to a tip/ring or external alert device connected to an MFM in an MLX telephone or a GPA connect to an analog multiline telephone. **Shared SA** buttons cannot be assigned when the corresponding **SA** button is on a single-line set.

Release 3.0 and later

Each **System Access Ring** or **Voice** on an individual extension can be assigned as a Shared System Access (**SSA**) button on up to 27 other extensions.

System Access and Intercom buttons are centrally programmed and cannot be programmed by individual extension users.

Summary: Assign Intercom or System Access Buttons

Programmable by System Manager

Mode All, but note differences in factory settings

Idle Condition Extension idle

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjuncts: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct (DLC)

Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Key Mode. An Intercom Ring (ICOM Ring), an Intercom

Voice (ICOM Voice), and the first eight lines connected to the

system are assigned to all analog multiline and MLX

telephones, excluding operator positions. Two Intercom Ring buttons are assigned to tip/ring equipment connected on an 012 or 016 module. An Intercom Ring and an Intercom Originate Only (ICOM Orig Only) button are assigned to tip/ring equipment connected by an MFM. No outside lines

are assigned.

Common Administrative Procedures Extensions

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Behind Switch Mode. An Intercom Ring, an Intercom Voice, and a prime line button are assigned to all analog multiline and MLX telephones, excluding operator positions. Two Intercom Ring buttons and a prime line button are assigned to tip/ring equipment connected to an 012 module. An Intercom Ring and an Intercom Originate Only Ring button are assigned to tip/ring equipment connected by an MFM. No outside lines are assigned.

Hybrid/PBX Mode. System Access Ring (SA Ring), System Access Voice (SA Voice), and System Access Originate Only Ring (SA Orig Only) buttons are assigned to all analog multiline and MLX telephones, excluding operator positions. Two System Access Ring buttons and a System Access Originate Only Ring button are assigned to tip/ring equipment (for example, single-line telephones or fax machines connected to an 012 module). No personal line or pool buttons are assigned.

All Modes. System Access Ring (Hybrid/PBX mode) or Intercom Ring (Key and Behind Switch modes), System Access Voice (Hybrid/PBX mode) or Intercom Voice (Key and Behind Switch modes), and the first 18 through 29 lines connected to the control unit are assigned to all DLC operator positions. The number of lines assigned depends on the type of telephone used as a DLC operator position. Refer to the appropriate telephone planning form for details.

Valid Entries

Not applicable

Inspect

Yes: specific button options

Copy Option

Yes. (You can copy additional **SA** buttons to another extension, but you cannot overwrite SA buttons that are already assigned.)

Console Procedure To program extension:

More → Cntr-Prg → Program Ext. → Dial ext. no. →

Enter→Start→Program extension→Enter→Exit→Exit

To copy extension programming:

More \rightarrow Cntr-Prg \rightarrow Copy ext. \rightarrow Dial copy from ext. no. \rightarrow

Enter \rightarrow Dial copy to ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure

To program extension:

 $PgUp \rightarrow F4 \rightarrow F1 \rightarrow Type ext. no. \rightarrow F10 \rightarrow$

Program extension \rightarrow F10 \rightarrow F5 \rightarrow F5

To copy extension programming:

 $PgUp \rightarrow F4 \rightarrow F2 \rightarrow Type copy from ext. no. \rightarrow F10 \rightarrow$

Type copy to ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

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4 Common Administrative Procedures

Extensions

Analog Multiline Telephone without Built-in Speakerphone (BIS) or Hands Free Answer on Intercom (HFAI) Capability

Use this procedure to identify analog multiline telephones with flat membrane buttons that do not have built-in speakerphones (BIS) or Hands Free Answer on Intercom (HFAI) capability. The models that must be identified are 5-button, 10-button, 34-button, and 34-button deluxe analog multiline models with flat membrane buttons.

Keep the factory setting for analog multiline models with raised plastic buttons, including the following models: 10-button HFAI, 34-button with speakerphone (SP-34), 34-button with speakerphone and display (SP-34D), BIS-10, BIS-22, BIS-34, BIS-22D, and BIS-34D.

This procedure is not necessary for MLX or single-line telephones.

Summary: Analog Multiline Telephones without BIS or HFAI Capability

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 5a, Direct-Line Console (DLC): Analog Data Form 1a, Modem Data Workstations

Factory Setting All models of analog multiline telephones (except the

analog multiline display console) have BIS/HFAI capability.

Valid Entries Extension numbers

Inspect Yes
Copy Option No

Console Procedure Extensions→BIS/HFAI→Dial ext. no.→Enter→

Exit→Exit

PC Procedure $F6 \rightarrow F8 \rightarrow Type \text{ ext. no.} \rightarrow F5 \rightarrow F5 \rightarrow F5$

4 Common Administrative Procedures Extensions

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Analog Multiline Telephones with Voice Announce to Busy

Use this procedure to dedicate a voice or voice pair to provide the Voice Announce to Busy feature on an analog multiline telephone.

The extension number associated with the first (odd-numbered) extension jack in the pair is the telephone's extension number. The extension number for the second (even-numbered) extension jack is dedicated to the Voice Announce to Busy feature. Calls cannot be placed to the extension jack reserved for the Voice Announce to Busy feature.

Voice Announce to Busy must be disabled at data workstations.



This procedure does not apply to MLX telephones (Voice Announce to Busy is automatically provided) and cannot be programmed for single-line telephones.

Summary: Analog Multiline Telephones with **Voice Announce to Busy**

Programmable by System Manager

ΑII Mode

Idle Condition System idle

Planning Form Form 4b, Analog Multiline Telephone

Form 5a, Direct-Line Console (DLC)

Analog Data Form 1a, Modem Data Workstation

Factory Setting Not applicable

Valid Entries Extension numbers

Inspect Yes Copy Option Yes

Console Procedure Extensions \rightarrow VoiceSignl \rightarrow Dial ext. no. \rightarrow Enter \rightarrow

Exit→Exit

 $F6 \rightarrow F10 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5$ PC Procedure



"Data Features" on page -431 provides information about analog multiline telephones in data workstations.

4 Common Administrative Procedures

Extensions

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Auxiliary Equipment

The procedures in this section describe the steps needed to perform the following:

- Identify the line/trunk jacks used for Music on Hold, loudspeaker paging, and maintenance alarms
- Identify the extension jacks used for fax, MERLIN MAIL, Voice Messaging System, Automated Attendant, and AUDIX Voice Power

Music On Hold

Use this procedure to identify the line/trunk jack reserved for connection of a music source, such as a radio, tape player, or stereo system.

If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a copyright license from and pay license fees to a third party [such as the American Society of Composers, Artists, and Producers (ASCAP) or Broadcast Music Incorporated (BMI)]. Magic on Hold requires no such license and can be purchased from your Lucent Technologies dealer.

Only one Music on Hold line/trunk jack is allowed per system.

You cannot assign the line/trunk identified for Music on Hold to a line/trunk pool. If the line/trunk is currently assigned to a pool, you must remove it before you program this option.

You cannot assign the line/trunk identified for use with Music on Hold to a button on any extension or as a Remote Access trunk, and you cannot use the line/trunk jack identified for Music on Hold for a loudspeaker paging system or maintenance alarm.

In Release 6.0 and later systems, each system in a network must have its own music source. A music source connected to a networked switch cannot be used by the local system.

Summary: Music on Hold

Programmable by System Manager

Mode All, but in Hybrid/PBX mode the line/trunk designated for

Music on Hold cannot be assigned to a line/trunk pool.

Idle Condition System idle

Planning Form Cc., System Numbering: Line/Trunk Jacks

Factory Setting Not Applicable

Valid Entries Line/trunk number

Common Administrative Procedures Extensions

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Inspect No Copy Option No

 $\textbf{Console Procedure ~AuxEquip} {\longrightarrow} \textbf{MusicOnHold} {\longrightarrow} \textbf{Dial line/trunk no.} {\longrightarrow}$

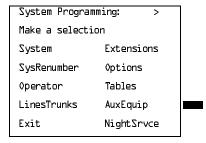
Enter→Exit

PC Procedure $\boxed{F9} \rightarrow \boxed{F1} \rightarrow \boxed{Type line/trunk no.} \rightarrow \boxed{F10} \rightarrow \boxed{F5}$

Procedure: Music on Hold

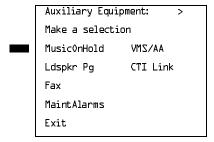
Console Display/Instructions Additional Information PC

■ 1. Select the Auxiliary Equipment menu.



[F9]

2. Select Music on Hold.



F1

C

3. Enter the line/trunk.

Music on Hold

Enter music on hold line

Delete

Backspace

Exit Enter

If the line/trunk appears on the screen and you want to remove the Music on Hold assignment, go to Step 4.

Dial or type: Trunk number [nnn]

Slot and port number *[sspp] Logical ID number #[nnn]

4 Common Administrative Procedures *Extensions*

Page 4-262

Console Display/Instructions Additional Information

PC

4. Assign or remove the line/trunk assignment.

Select Enter or Delete.

F10 F8

Return to the System Programming menu.

Select Exit.

F5

Loudspeaker Paging

Use this procedure to identify the line/trunk jack reserved for connection of loudspeaker paging equipment.

If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a copyright license from and pay license fees to a third party (such as ASCAP or BMI). Magic on Hold requires no such license and can be purchased from your Lucent Technologies dealer.

A maximum of three single-zone or multizone loudspeaker paging systems can be connected to the system.

You cannot assign the line/trunk identified for loudspeaker paging equipment use to a line/trunk pool. If the line/trunk is currently assigned to a pool, you must remove it before you program this option.

You cannot assign the line/trunk identified for loudspeaker paging equipment use as a Remote Access line/trunk, and you cannot use its jack for Music on Hold or maintenance alarm.

Summary: Loudspeaker Paging

Programmable by System Manager

Mode. All, but in Hybrid/PBX mode the line/trunk designated for

loudspeaker paging cannot be assigned to a line/trunk pool.

Idle Condition. Line/trunk idle

Planning Form. Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting. Not Applicable

Valid Entries. Line/trunk numbers

Inspect. Yes

Copy Option. No

Console Procedure. AuxEquip→Ldspkr Pg→Dial line/trunk no.→Enter→Exit

PC Procedure. $\boxed{F9 \rightarrow F2} \rightarrow \text{Type line/trunk no.} \rightarrow \boxed{F10} \rightarrow \boxed{F5}$

4 Common Administrative Procedures Extensions

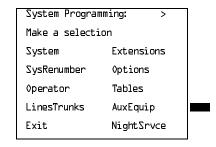
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Procedure: Loudspeaker Paging

Console Display/Instructions Additional Information

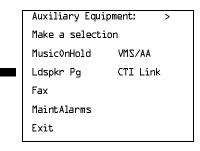
PC

▶ 1. Select the Auxiliary Equipment menu.



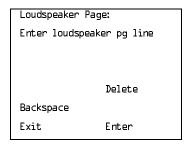
F9

▶ 2. Select Loudspeaker Page.



F2

■ 3. Enter the line/trunk.



If the line/trunk appears on the screen and you want to remove the loudspeaker assignment, go to Step 4.

Dial or type:
Trunk number [nnn]

Slot and port number *[sspp]
Logical ID number #[nnn]

Logical ID Hullibel #[///

◆ 4. Assign or remove the line/trunk assignment.

Select Enter or Delete.

[F10]

C

F8

▶ 5. Return to the System Programming menu.

Select Exit.

F5

4 Common Administrative Procedures

Extensions Page 4-264

Fax Machines

Use this procedure to identify the extension jacks used to connect fax machines. In addition, you can specify the extensions to receive a message-waiting indication (MWI) when a fax transmission is received, and specify the length of time before the system registers that a fax has arrived and sends the message-waiting indication.



NOTE:

Do not use this procedure for fax machines connected to analog multiline telephones with a General Purpose Adapter (GPA). In a GPA configuration, features cannot be assigned to the fax independently of the telephone.

See Chapter 3, "Common Administrative Procedures," for detailed programming procedures.

Summary: Fax

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Factory Setting 10 seconds

Valid Entries 0 to 30 seconds

Inspect Yes
Copy Option No

Console Procedure AuxEquip \rightarrow Fax \rightarrow Extension \rightarrow Dial ext. no. \rightarrow Enter \rightarrow

Exit \rightarrow Msg Waiting \rightarrow Dial fax machine ext. no. \rightarrow Enter \rightarrow

 $\begin{array}{c} \textbf{Dial MWI ext. no.} \rightarrow \textbf{Enter} \rightarrow \textbf{Threshold} \rightarrow \textbf{Drop} \rightarrow \\ \\ \end{array}$

Dial no. of seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit

Type fax machine ext. no. \rightarrow F10 \rightarrow Type MWI ext. no. \rightarrow

 $F10 \rightarrow F3 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

4 Common Administrative Procedures *Extensions*Page 4-265

Maintenance Alarms

Use this procedure to identify the line/trunk jack that connects an external alerting device that sounds or flashes when major maintenance problems occur.

You cannot assign the line/trunk identified for the maintenance alarm to a button on any telephone or as a Remote Access trunk, and you cannot use its line/trunk jack to connect a loudspeaker paging system or Music on Hold.

Summary: Maintenance Alarms

Programmable by System Manager

Mode All, but in Hybrid/PBX mode, the line/trunk designated for the

maintenance alarm cannot be assigned to a line/trunk pool.

Idle ConditionSystem idle

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting Not Applicable

Valid Entries Line/trunk number

Inspect No Copy Option No

Console Procedure AuxEquip→MaintAlarms→Dial line/trunk no.→Enter→

 $Exit \rightarrow Exit$

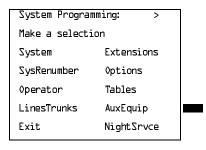
PC Procedure $F9 \rightarrow F4 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Maintenance Alarms

Console Display/Instructions Additional Information

PC

1. Select the Auxiliary Equipment menu.



F9

4 Common Administrative Procedures Extensions

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Console Display/Instructions Select Maintenance Alarms.

Additional Information

PC

Auxiliary Equipment:

Make a selection

MusicOnHold VMS/AA

Ldspkr Pg CTI Link

Fax

MaintAlarms

Exit

F4

3. Enter the line/trunk jack to which the maintenance alarm is connected.

Maintenance Alarms:
Enter maintenance alarm
line number

Delete
Backspace
Exit Enter

Dial or type:

Trunk number [nnn]

Slot and port number *[sspp]

Logical ID number #[nnn]

▶ 4. Assign or remove the line/trunk.

Select Enter or Delete.

[F10]

C

F8

▶ 5. Return to the System Programming menu.

Select Exit twice.

F5 F5

Voice Messaging System and Automated Attendant

Use this procedure to specify the touch-tone duration and the interval between digits in codes sent between a voice messaging system and the communications system. The touch-tone duration and interval between digit assignment must be the same as those programmed on the voice messaging system.

This procedure specifies the integrated voice messaging ports (line/trunk jacks) used to connect voice messaging systems such as MERLIN MAIL Voice Messaging System or the AUDIX Voice Power-Integrated Solution II/III application. It also specifies the generic VMI ports (line/trunk jacks) used for automated attendants, such as Integrated Voice Power Automated Attendant IS II/III.

4 Common Administrative Procedures Extensions

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In addition, this procedure can be used to specify the number of rings before a call transferred by the voice messaging system is sent to the backup position for both integrated and generic VMI ports. The number of rings cannot be programmed for individual voice messaging systems; the single setting applies for all. Use the Group Type procedure in "Optional Group Features" to assign VMI ports as either integrated or generic.



A SECURITY ALERT:

See "Security Risks Associated with the Automated Attendant Feature of Voice Messaging Systems" on page A-14 and "Security Risks Associated with Transferring through Voice Messaging Systems" on page A-12 in Appendix A, "Customer Support Information" for details on preventing toll fraud.

Summary: Voice Messaging System and Automated Attendant

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form See forms packaged with application

Factory Setting Touch-tone duration: 100 ms

> Interval between digits: 50 ms Number of rings before transfer: 4

Valid Entries Touch-tone duration: 50 to 200 ms, in increments of 25 ms

Interval between digits: 50 to 200 ms, in increments of 25 ms

Number of rings before transfer: 0 to 9

No Inspect

No Copy Option

Console Procedure AuxEquip \rightarrow VMS/AA \rightarrow TransferRtn \rightarrow Drop \rightarrow Dial no. of

rings \rightarrow Enter \rightarrow TT Duration \rightarrow Drop \rightarrow Dial no. of ms \rightarrow

Enter \rightarrow TT Interval \rightarrow Drop \rightarrow Dial no. of ms \rightarrow

Enter→Exit→Exit

PC Procedure $F9 \rightarrow F6 \rightarrow F1 \rightarrow Alt + P \rightarrow Type no. of rings \rightarrow F10 \rightarrow$

 $F2 \rightarrow Alt + P \rightarrow Type no. of ms \rightarrow F10 \rightarrow F3 \rightarrow Alt + P \rightarrow$

Type no. of ms \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

4 Common Administrative Procedures Extensions

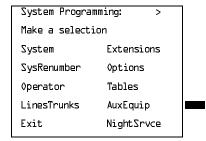
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Procedure: Voice Messaging System and Automated Attendant

Console Display/Instructions Additional Information

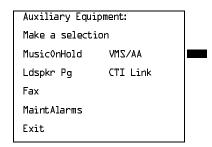
PC

▶ 1. Select the Auxiliary Equipment menu.



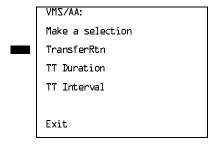
F9

▶ 2. Select Voice Messaging/Automated Attendant.



[F6]

3. Select Transfer Return.



If you do not want to change the current setting for number of rings before transfer, go to Step 7.

[F1]

◆ 4. Erase the current interval setting (x).

VMS TransferRtn Inverv1:
Enter return interval
(0-9)
x

Backspace
Exit Enter

Press **Drop**.

Alt + P

F10

Select Enter.

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February 1998

Issue 1

Computer Telephony Integration (CTI) Link

4 Common Administrative Procedures

Extensions

Release 5.0 and later supports the use of an MLX port as a Computer Telephony Integration (CTI) link. The CTI link allows applications residing on client PCs on a LAN to communicate more easily with the MERLIN LEGEND Communications System over a network that has a PassageWay Telephony Server for NetWare. Before programming a CTI link, you should read the Feature Reference and the PassageWay Telephony Services Network Manager's Guide.

The following constraints apply to programming an MLX port as a CTI link:

- CTI links cannot be used with communications systems operating in Key mode or Behind Switch mode.
- CTI link extensions cannot be programmed on tip/ring or analog multiline extension module ports. You must chose an extension that is on an MLX port module (008 MLX or 408 MLX).
- You cannot use a port reserved for an operator extension as the CTI link extension.
- You cannot use a system programming port as the CTI link extension.
- You cannot program a port as a CTI link if it has a telephone or other equipment connected to it.
- MLX modules with firmware vintage 29 do not work correctly with the CTI link. You must either choose a port on a board with firmware vintage that is not 29 or replace the module with a module that has a firmware vintage other than 29.

NOTES:

- 1. You should choose a module other than the one that has the system programming port so that you can still perform maintenance and system programming when the board with the CTI link extension is busied-out.
- 2. Be sure to busy-out the board with the CTI link before starting any programming activities.

When you add a CTI link, the system performs the following actions:

- The programmed buttons for that extension revert to the default for a nonoperator MLX telephone.
- Forwarding is deactivated to the extension.
- The extension is removed form membership in calling groups.
- The extension is removed from membership in coverage groups.
- The Extension Directory label for the extension is changed to CTILINK.
- The default for alarms is active on this link.
- Dial access to pools is removed from the station.

Common Administrative Procedures Extensions Page 4-272

NOTES:

- 1. Be sure to restore the board after finishing any programming activities.
- 2. If the primary and secondary cover buttons are not removed, the following message appears on the programming device (SPM or MLX-20L).

CTI Link Extension xxxx added, but it has primary or secondary cover buttons at other extensions. Please remove them. Exit

Summary: CTI Link

Programmable by System Manager

Mode Hybrid/PBX Idle Condition Not required

Planning Form Form 2b, System Numbering: Digital Adjuncts

Factory Setting No port programmed as CTI link

Valid Entries Any extension on an MLX port board except the System

Programming console port and the first and fifth ports.

Inspect Yes No

Copy Option

Console Procedure Busy out the board first. This is a Maintenance step. Start the

procedure from the main menu, not the System Programming

screen.

Menu \rightarrow Maintenance \rightarrow Slot \rightarrow Dial the slot no. \rightarrow Enter \rightarrow

Busy-Out→Yes

Program the CTI link:

AuxEquip→CTI Link→Dial extension no.→Enter→

Exit→Exit

Restore the slot. This is a Maintenance step. Start the procedure from the main menu, not the System Programming

screen.

Menu \rightarrow Maintenance \rightarrow Slot \rightarrow Dial the slot no. \rightarrow Enter \rightarrow

Restore→Yes

Common Administrative Procedures Extensions

Page 4-273

PC Procedure

Busy out the board first:

 $F6 \rightarrow F2 \rightarrow Type \text{ the slot no.} \rightarrow F10 \rightarrow F2 \rightarrow F1$

Program the CTI link:

 $F9 \rightarrow F7 \rightarrow Type extension number \rightarrow F10 \rightarrow F5 \rightarrow F5$

Restore the slot. This is a Maintenance step. Start the procedure from the main menu, not the System Programming screen.

 $F6 \longrightarrow F2 \longrightarrow Dial \text{ the slot no.} \longrightarrow F10 \longrightarrow F3 \longrightarrow F1$

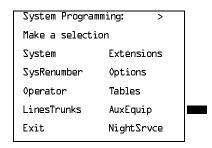
Procedure: CTI Link

Console Display/Instructions

Additional Information

PC

1. Select the Auxiliary Equipment menu.



F9

2. Select CTI Link.

Auxiliary Equipment:

Make a selection

MusicOnHold VMS/AA

Ldspkr Pg CTI Link

Fax

MaintAlarms

Exit

[F7]

▶ 3. Enter the extension number.

CTI Link:
Enter extension number

nnnn
Delete
Backspace
Exit Enter

If you enter an invalid extension number you see an error screen as shown in

"CTI Link Programming Errors" on page –274.

SP: "Entering an Extension"

Dial or type [nnnn].

•

Console Display/Instructions

Additional Information

PC

4 Common Administrative Procedures Extensions

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▶ 4. Save your entry.

Select Enter. F10

▶ 5. Return to the System Programming menu.

Select Exit twice. F5 F5

CTI Link Programming Errors

Exit

During the programming of the CTI link, entering an inappropriate extension number can give you an error message. This section contains displays of each screen and information about what to do if the screen appears.

System Not in Hybrid/PBX Mode

CTI Link Extensions:
Extension xxxx Failed.

System Not in
Hybrid/PBX Mode.

This message appears if the communications system is not in Hybrid/PBX mode. CTI links cannot be used with communications systems operating in Key mode or Behind Switch mode.

Not on MLX Port Module

CTI Link Extensions:
Extension xxxx Failed.

Not on MLX Port Module.

Exit

This message appears if you have chosen an extension that is not on an MLX Port Module. CTI link extensions cannot be programmed on tip/ring or analog multiline extension module ports. You must chose an extension that is on an MLX port module (008 MLX or 408 MLX).

4 Common Administrative Procedures Extensions

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Extension Selected Is System Programming Port

CTI Link Extensions:

Extension xxxx Failed.

Extension Selected is System Programming Port.

Exit

This message appears if you have chosen an extension that has been programmed as a system programming port, which is not permitted as the CTI link port. You must choose another port for the CTI link extension.



NOTE:

You should choose a module other than the one that has the system programming port so that you can still perform maintenance and system programming when the board with the CTI link extension is busied-out.

MLX Port Module Contains Firmware Vintage 29

CTI Link Extensions:

Extension xxxx Failed.

MLX Port Module Contains Firmware Vintage 29.

Exit

This message appears when the port that you are programming as the CTI link is on an MLX module with firmware vintage 29. Modules with this firmware vintage do not work correctly with the CTI link. You must either choose a port on a board with firmware vintage other than 29 or replace the module with a module that has a firmware vintage other than 29.

4 Common Administrative Procedures *Extensions*Page 4-276

Port Reserved for Operator Positions

CTI Link Extensions:
Extension xxxx Failed.
This Port is Reserved
For Operator Positions.

Exit

This message appears when the port that you are programming as the CTI link is on the Operator Position list (as a QCC or DLC). Check your printout of the Operator Information Report for programmed operator positions.

Extensions Covered by Extension

CTI Link Extension: xxxx

added, but it has

primary or secondary

cover buttons at other

extensions.

Please remove them.

Exit

This message appears when the port that you are programming as the CTI link is covered by other extensions. You should remove the Cover buttons on these extensions.

Slot Not Busied-Out

CTI Link Extension: xxxx not added. Please busy out slot xx first.

If this is the only MLX port module, use SPM for CTI link administration Exit

This message appears when the port that you are programming as the CTI link is on a board that has not been busied-out. Busy-out the board.

Common Administrative Procedures
Optional Extension Features

Page 4-277

Optional Extension Features

The summaries in this section detail the steps in programming the following optional features:

- Extension Language
- Pool Dial-Out Code
- Calling Restrictions
- Copy Calling Restrictions
- ARS Restriction Level for Extensions
- Forced Account Code Entry
- Microphone Operation
- Authorization Code
- Remote Call Forwarding
- Delayed Call Forwarding
- Trunk-to-Trunk Transfer

See Chapter 3, "Common Administrative Procedures," for detailed information.

Extension Language

Use this procedure to change the language for an MLX telephone. It applies to Releases 1.1 and later only.

Summary: Extension Language

Programmable by Users and system manager

Mode All

Idle Condition Not required

Planning Form Form 4d, MLX Telephone

Form 5b, Direct-Line Console (DLC): Digital Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting English

Valid Entries English, French, Spanish

Inspect No Copy Option No Common Administrative Procedures Optional Extension Features

Page 4-278

Console Procedure To program a single extension:

 $More \rightarrow Language \rightarrow Extensions \rightarrow Single \rightarrow Dial ext. no. \rightarrow$

Enter \rightarrow Select a language \rightarrow Enter \rightarrow Exit \rightarrow Exit

To program a block of extensions:

More \rightarrow Language \rightarrow Extensions \rightarrow Block \rightarrow Dial starting ext.

no.→Enter→Dial ending ext. no.→Enter→Select a

 $language \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure To program a single extension:

 $PgUp \rightarrow F6 \rightarrow F2 \rightarrow F1 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Select a$

 $language \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

To program a block of extensions:

 $PgUp \rightarrow F6 \rightarrow F2 \rightarrow F2 \rightarrow Type starting ext. no. \rightarrow F10 \rightarrow$ Type ending ext. no. \rightarrow Select a language \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)

Pool Dial-Out Code

Use this procedure to allow or restrict dialing pool dial-out codes and to allow or restrict placing calls on specific line/trunk pools. Entering a pool dial-out code and then deleting that code restricts the user from using the pool associated with the entered code.



≡> NOTE:

Prior to Release 3.1, the default settings allow all extensions to dial any line/trunk pool dial-out code. Entering a pool dial-out code and then deleting that code restricts the user from using the pool associated with the entered code.



SECURITY ALERT:

In Release 6.0 and later systems (Hybrid/PBX mode only), do not allow dial access to pools of non-local tie or PRI tandem trunks. When callers in your system need to use these pools for outside calls, use ARS to direct the calls to these pools. Callers in your system use normal inside calling procedures to reach extensions on networked systems.

Summary: Pool Dial-Out Code

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Extension idle

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

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Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital Form 5c, MFM Adjunct (DLC): Digital Form 5d, Queued Call Console (QCC) Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Main pool: 70; All other pools: 890 to 899. All telephones can

dial any line/trunk pool dial-out code.

Valid Entries Pool numbers

Inspect Yes Copy Option No

Console Procedure Extensions \rightarrow Dial OutCd \rightarrow Dial ext. no. \rightarrow Enter \rightarrow

Dial pool dial-out code \rightarrow Enter \rightarrow Exit \rightarrow Exit

 $F6 \rightarrow F3 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Type pool dial-out code \rightarrow$ PC Procedure

 $F10 \rightarrow F5 \rightarrow F5$

Calling Restrictions

Use this procedure to change individual extension calling restrictions to one of the following:

- Unrestricted
- Restricted from making all outgoing calls
- Restricted from making toll calls



SECURITY ALERT:

Toll fraud can occur if extensions are not properly restricted. See "Security of Your System: Preventing Toll Fraud" on page A-9 in Appendix A for more information and security procedures.



In Release 6.0 and later systems, outward and toll calling restrictions are automatically removed when a caller dials an extension in the non-local dial plan. FRL restrictions still apply. For details, see "UDP (Uniform Dial Plan) Routing" on page -401.

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4 Common Administrative Procedures
Optional Extension Features

Summary: Calling Restrictions

Programmable by System Manager

Mode All

Idle Condition Extension idle

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC)
Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Unrestricted

Valid Entries Unrestricted, Outward restricted, Toll restricted

Inspect No
Copy Option Yes

Console Procedure Extensions \rightarrow Restriction \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Select

restriction→Enter→Exit

PC Procedure $F6 \rightarrow F4 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow Select \text{ restriction} \rightarrow$

 $F10 \rightarrow F5$

Copy Calling Restrictions

Use this procedure to copy calling restrictions, Allowed lists, and Disallowed lists. Feature assignment must be completed for the "copy from" extension. These features can then be copied to an individual extension or block of extensions with identical calling restriction requirements.

If you are copying restrictions to a block of extensions and one of the extensions in the block is in use, the display shows the Station Busy - Pls Wait message. Copying for the rest of the extensions in the block is delayed until the busy extension becomes idle. The number of the busy extension is not shown. If a DSS is attached, the LED associated with the busy extension is on. If you exit instead of waiting for the busy extension to become idle, copying for the rest of the extensions in the block is canceled; however, the restrictions that have already been copied are not canceled.

If you are copying restrictions to a block of extensions, they must be sequentially numbered.

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Optional Extension Features

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The extensions you are copying to and from can be both operator and nonoperator positions.



Dial-out code restrictions are not copied.

Summary: Copy Calling Restrictions

Programmable by System Manager

Mode All

Idle Condition "Copy to" extension(s) idle

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC)
Data Form 1a, Modem Data Workstation
Data Form 1b, Digital Data/Video Workstation

Factory Setting Not applicable Valid Entries Not applicable

Inspect No

Copy Option Not applicable

Console Procedure To copy to a single extension:

Extensions \rightarrow RestrctCopy \rightarrow Single \rightarrow

Dial copy from ext. no. \rightarrow Enter \rightarrow Dial copy to ext. no. \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To copy to a block of extensions:

Extensions→RestrctCopy→Block→Dial copy from ext. no.→Enter→Dial first no. in copy to block→Enter→Dial last no.in copy to block→Enter→Exit→Exit

PC Procedure To copy to a single extension:

 $F6 \rightarrow F6 \rightarrow F1 \rightarrow Type copy from ext. no. \rightarrow F10 \rightarrow Type copy to ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

To copy to a block of extensions:

 $F6 \rightarrow F6 \rightarrow F2 \rightarrow Type copy from ext. no. \rightarrow F10 \rightarrow$

Type first copy no. in copy to block \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

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4 Common Administrative Procedures Optional Extension Features

ARS Restriction Level For Extensions

Use this procedure to assign an ARS restriction level to an extension. Only outgoing calls are affected; users can receive inside, local, and toll calls on restricted extensions and can join any type of call in progress. In order to use a route, a caller at an extension must have a Restriction Level that is equal to or greater than the Facility Restriction Level (FRL) for the route. The restriction level assigned to extensions is opposite to the FRL assigned to routes, where 0 is the most and 6 is the least restrictive.

In Release 6.0 and later systems, FRLs assigned to extensions apply not only to ARS calls but also to calls for non-local dial plan extensions connected by private trunks to your local system. For this reason, use care in assigning FRLs both to extensions and to UDP routes. For example, if a user must be restricted from toll calls on your local system, you may need to plan UDP routes' FRLs to allow the user to reach necessary non-local dial plan extensions. For details, see "UDP (Uniform Dial Plan) Routing" on page –401.

Summary: Assigning ARS Restriction Level for an Extension

Programmable by System Manager

Mode Hybrid/PBX only

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 6g, Call Restriction Assignments and Lists

Factory Setting 3 (ports assigned as VMI Generic or VMI Integrated are

maximally restricted with an FRL of 0)

Valid Entries 0-6, (0 is most restrictive and 6 is least restrictive)

Inspect No Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow ARS Restrict \rightarrow Dial ext. no. \rightarrow

Enter→**Drop**→Dial restriction level→Enter→Exit

PC Procedure $(F6) \rightarrow (PgUp) \rightarrow (F6) \rightarrow Type \text{ ext. no.} \rightarrow (F10) \rightarrow (Alt) + (P) \rightarrow (F10) \rightarrow (F10)$

Type restriction level \rightarrow F10 \rightarrow F5

4 Common Administrative Procedures
Optional Extension Features

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Forced Account Code Entry

Use this procedure to assign or remove Forced Account Code Entry. When this feature is programmed on individual extensions, the user must enter a 1- to 16-digit account code before making an outside call.

Summary: Forced Account Code Entry

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC)
Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Not assigned

Valid Entries Assigned, not assigned

Inspect Yes

Copy Option No

Console Procedure Extensions→Account→Toggle LED On/Off or

Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $\overline{F6} \rightarrow \overline{F7} \rightarrow \overline{Toggle}$ letter R On/Off or type ext. no. \rightarrow

 $F10 \rightarrow F5 \rightarrow F5$

4 Common Administrative Procedures
Optional Extension Features

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Microphone Operation

Use this procedure to enable or disable microphones on MLX telephones (except QCC operator positions). When the microphone is disabled, users cannot use the speakerphone to conduct conversations.



The microphone cannot be disabled on analog multiline telephones or on MLX telephones used as QCC operator positions.

Summary: Microphone Operation

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4d, MLX Telephone

Form 5b, Direct-Line Console (DLC): Digital

Factory Setting Enabled

Valid Entries Enabled, Disabled

Inspect Yes
Copy Option No

Console Procedure Extensions→More→Mic Disable→Toggle LED On/Off or

dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F7 \rightarrow Toggle letter R On/Off or type ext. no. \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

4 Common Administrative Procedures Optional Extension Features

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Authorization Codes

Use this procedure to assign an authorization code to an extension. The authorization code can range from 2 to 11 characters (0 - 9, *) and must be unique for each extension. An authorization code cannot begin with an "*."



NOTE:

In Release 6.0 and later systems, a user can activate Call Forwarding and Remote Call Forwarding by entering his or her home extension authorization code while at any telephone in the system; this is useful when activating Call Forwarding or Remote Call Forwarding at phantom stations. It is also useful when a single-line telephone extension needs a PAUSE character in the Remote Call Forwarding digit string.

If you are assigning authorization codes for a group of sequential extensions, begin programming the lowest extension number to take advantage of the Next screen key (see "Standard Procedures").

Summary: Authorization Codes

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6h, Authorization Codes

Factory Setting Not assigned

Valid Entries 2 - 11 characters (0–9, *)

Inspect Yes
Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Auth Code \rightarrow Dial ext. no. \rightarrow Enter \rightarrow

Dial authorization code→Enter→Exit→Exit

PC Procedure $\boxed{F6} \rightarrow \boxed{PgUp} \rightarrow \boxed{F9} \rightarrow \boxed{Type ext. no.} \rightarrow \boxed{F10} \rightarrow$

Type authorization code \rightarrow F10 \rightarrow F5 \rightarrow F5

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Remote Call Forwarding

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> Use this procedure to allow or disallow the Remote Call Forwarding capability, which permits users to forward calls to an outside number. In Release 6.0 and later systems, Remote Call Forwarding must be enabled in order for an extension user to activate Centrex Transfer via Remote Call Forwarding. In a Release 6.0 or later private network, Remote Call Forwarding may be used to forward calls across the network.

> If an extension with Remote Call Forwarding has one or more personal lines assigned, that extension can be assigned as the principal user, and calls received on that line are forwarded to outside numbers. See "Principal User for Personal Line" on page 51.



NOTE:

This feature is not recommended unless you have ground-start trunks. See "Disconnect Signaling Reliability" on page 4-42 and "Hold Disconnect Interval" on page 4-47.



A SECURITY ALERT:

See "Security of Your System: Preventing Toll Fraud" on page A-9 in Appendix A for more information and security procedures on preventing toll fraud with Remote Call Forwarding.

Summary: Remote Call Forwarding

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC) Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Disallowed Factory Setting

Valid Entries Disallowed, allowed

Inspect Yes

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Optional Extension Features

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Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Remote Frwd \rightarrow Toggle LED On/Off or

Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F8 \rightarrow Toggle letter R On/Off or type ext. no. \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

Delayed Call Forwarding

Delayed Call Forwarding allows users to answer or screen a call arriving at their extension before the call is forwarded by the Forwarding, Remote Call Forwarding, or Follow Me features. The forwarding delay is the amount of time between the arrival of the call at an extension and the time the call is forwarded. This delay is measured in rings and can range from 0 to 9 rings. With the delay ring set to 0, the call is forwarded immediately. Delayed Call Forwarding is only available in Release 4.0 and later.



When Do Not Disturb is activated at an extension it overrides Delayed Call Forwarding and the call is forwarded immediately.

Use this procedure to assign or remove Delayed Call Forwarding from an extension. If you are assigning Delayed Call Forwarding to a group of sequential extensions, begin programming the lowest extension number to take advantage of the Next screen key (see "Standard Procedures").

Summary: Delayed Call Forwarding

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC)
Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting 0 rings
Valid Entries 0 - 9 rings

Inspect Yes

Common Administrative Procedures Optional Extension Features

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Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Delay Frwd \rightarrow Dial ext. no. \rightarrow

Enter \rightarrow Dial no. of delay rings \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F10 \rightarrow Type ext. no. \rightarrow F10 \rightarrow$

Type no. of delay rings \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Trunk-to-Trunk Transfer

Use this procedure to enable or disable trunk-to-trunk transfer at an extension. When trunk-to-trunk transfer is disabled, users cannot transfer an outside call to an outside line.



NOTE:

In Release 6.0 and later systems (Hybrid/PBX mode only), calls can be transferred to members in the non-local dial plan tables, even if trunk-totrunk transfer is not allowed. This allows users of single-line telephones to transfer incoming calls from the PSTN to non-local dial plan extensions.

Summary: Trunk-to-Trunk Transfer

System Manager Programmable by

ΑII Mode

Idle Condition Not required

Planning Form Form 4b, Analog Multiline Telephone

Form 4d, MLX Telephone

Form 4e, MFM Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

Form 5c, MFM Adjunct: DLC

Form 5d, Queued Call Console (QCC) Data Form 1a, Modem Data Workstation

Data Form 1b, ISDN Terminal Adapter Data Workstation

Factory Setting Disabled

Valid Entries Enabled, Disabled

Inspect Yes Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow More \rightarrow TrkTransfer \rightarrow

Toggle LED On/Off or dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F7 \rightarrow Toggle letter R On/Off or type ext. no. \rightarrow$

 $[F10] \rightarrow [F5] \rightarrow [F5]$

4 Common Administrative Procedures
Optional Operator Features

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Optional Operator Features

The summaries in this section affect feature programming for both DLC and QCC operator positions and include the following:

- Operator Hold Timer
- DLC Operator Automatic Hold

QCC operator features are covered in the next section.

See Chapter 3, "Common Administrative Procedures," for detailed programming information.

Operator Hold Timer

Use this procedure to set the length of the operator hold timer for all DLCs and QCCs. If the system operator does not pick up the call within the time programmed, an abbreviated ring reminds the operator that a call is being held.

This option cannot be programmed for individual operator positions.

Summary: Operator Hold Timer

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 60 seconds

Valid Entries 10 to 255 seconds

Inspect No Copy Option No

Console Procedure $\Diamond perator \rightarrow Hold Timer \rightarrow Drop \rightarrow Dial no. of seconds \rightarrow$

 $Enter \rightarrow Exit$

PC Procedure $F3 \rightarrow F3 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow F10 \rightarrow F5$

4 Common Administrative Procedures
Optional Operator Features
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DLC Operator Automatic Hold

Use this procedure to enable or disable the DLC Operator Automatic Hold feature for DLC operator positions. When this feature is enabled, it prevents accidental call disconnection.

Summary: DLC Operator Automatic Hold

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Disabled

Valid Entries Disabled, Enabled

Inspect No Copy Option No

Console Procedure Operator→DLC Hold→Automatic Hold Enable or

Automatic Hold Disable→Enter→Exit

PC Procedure $[F3] \rightarrow [F4] \rightarrow [F1]$ or $[F2] \rightarrow [F10] \rightarrow [F5]$

4 Common Administrative Procedures *QCC Optional Features*

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QCC Optional Features

This section contains programming summaries for the following options for QCC operator positions:

- Hold Return
- Automatic Hold or Release
- Queue over Threshold
- Elevate Priority
- Calls-in-Queue Alert
- QCC Operator to Receive Call Types
- Call Type Queue Priority Level
- Message Center Operation
- Automatic or Manual Extended Call Completion
- Return Ring
- Position Busy Backup
- Voice Announce

NOTE:

These options are available in Hybrid/PBX mode only.

See Chapter 3, "Common Administrative Procedures," for detailed programming information.

Hold Return

Use this procedure to determine whether calls on hold are returned to the QCC queue or remain on hold, on the QCC operator console, after the hold timer has expired twice. After the hold timer expires the first time, the operator hears an abbreviated ring as a call-on-hold reminder. If another call is received at the same time that the hold timer expires, 10 seconds are added to the programmed operator hold timer interval for the first call. If the QCC operator does not pick up a call by the time the hold timer expires twice, the call can be programmed to either remain on hold or return to the QCC queue.

This option cannot be programmed for individual QCC operator positions. The single setting applies to all QCC operator positions.

4 Common Administrative Procedures

QCC Optional Features

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Summary: Hold Return

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Calls remain on hold

Valid Entries Remain on hold, Return to QCC queue

Inspect No Copy Option No

Console Procedure Operator \rightarrow Queued Call \rightarrow Hold Rtrn \rightarrow Return to Queue or

Remain on $Hold \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F3 \rightarrow F2 \rightarrow F1 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

Automatic Hold or Release

Use this procedure to specify whether a call in progress (on a call button) is automatically put on hold (Automatic Hold) or disconnected (Automatic Release) when the operator presses another button.

This option cannot be programmed for individual QCC operator positions. The single setting applies to all QCC operator positions.

Summary: Automatic Hold or Release

Programmable by System Manager

Mode Hybrid/PBX Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Automatic Release

Valid Entries Auto Hold, Auto Release

Inspect No Copy Option No

Console Procedure Operator \rightarrow Queued Call \rightarrow HoldRelease \rightarrow

Auto Hold or Auto Release \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $\boxed{F3 \rightarrow F2 \rightarrow F1}$ or $\boxed{F2 \rightarrow F10 \rightarrow F5} \rightarrow \boxed{F5}$

4 Common Administrative Procedures

QCC Optional Features

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Queue over Threshold

Use this procedure to specify the maximum number of calls (threshold) in the QCC queue before system operators are notified with a tone that the threshold has been reached or exceeded. If the threshold is set to 0, operators are not notified.

Summary: Queue over Threshold

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 0

Valid Entries 0 to 99

Inspect No Copy Option No

Console Procedure Operator \rightarrow Queued Call \rightarrow Threshold \rightarrow **Drop** \rightarrow

Dial no. of calls→Enter→Exit→Exit

PC Procedure $F3 \rightarrow F2 \rightarrow F3 \rightarrow Alt + P \rightarrow Type no. of calls \rightarrow$

 $[F10] \rightarrow [F5] \rightarrow [F5]$

Elevate Priority

Use this procedure to specify the length of time before calls waiting in the QCC queue are automatically reprioritized to a higher level. If priority is set to 0, calls are not prioritized.

Summary: Elevate Priority

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 0 seconds

Valid Entries 0 and 5 to 30 seconds

Inspect No Copy Option No

4 Common Administrative Procedures QCC Optional Features

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Console Procedure Operator—Queued Call—ElvatePrior—Drop—

Dial no. of seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F3 \rightarrow F2 \rightarrow F4 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

Calls-In-Queue Alert

Use this procedure to specify whether each QCC operator is notified (with a single beep) when a new call enters the QCC gueue.

Summary: Calls-In-Queue Alert

Programmable by System Manager

Mode Hybrid/PBX Idle Condition

Planning Form Form 6a, Optional Operator Features

Not required

Factory Setting Disable

Valid Entries Enable, Disable

Inspect Yes Copy Option Nο

Console Procedure Operator \rightarrow Queued Call \rightarrow InQue Alert \rightarrow Dial ext. no. \rightarrow

EnterightarrowInQue Alert Enable or InQue Alert Disableightarrow

Enter→Exit→Exit

PC Procedure $F3 \rightarrow F2 \rightarrow F6 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F1 or F2 \rightarrow F3 \rightarrow F1$

 $F10 \rightarrow F5 \rightarrow F5$

QCC Operator to Receive Call Types

Use this procedure to specify which QCC operators receive the following types of calls:

- Dial 0 calls (internal calls to the system operator)
- DID calls to invalid destinations (unassigned extension numbers)
- Calls to the Listed Directory Number (extension for the QCC queue)
- Calls programmed to return to the QCC queue (returning from directing, camped-on, held calls, and operator parked calls)
- Group Coverage calls
- Forward/Follow Me calls

The QCC queue can be a receiver for the maximum number of coverage groups (30).

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QCC Optional Features

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Summary: QCC Operator to Receive Call Types

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting QCC operator receives the following calls:

Dial 0

Unassigned DID

Listed Directory Number

Returning

Valid Entries Not applicable

Inspect Yes
Copy Option No

Console Procedure Operator \rightarrow Queued Call \rightarrow Call Types \rightarrow Select a call

type→0perator→Dial coverage group no.→Enter→
Dial ext. no.→Enter→Exit→Exit→Exit→Exit→Exit

PC Procedure $[F3] \rightarrow [F2] \rightarrow [F7] \rightarrow Select a call type \rightarrow [F2] \rightarrow Type coverage$

group no. \rightarrow [F10] \rightarrow Type ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow

 $F5 \rightarrow F5 \rightarrow F5$

Call Type Queue Priority Level

Use this procedure to assign a priority value (1 to 7) that determines the order in which calls programmed to ring into the QCC queue are sent to QCC system operator positions. A value of 1 is the highest priority.

Summary: Call Type Queue Priority Level

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 4

Valid Entries 1 to 7

Inspect No

Copy Option No

4 Common Administrative Procedures *QCC Optional Features*

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Console Procedure Operator \rightarrow Queued Call \rightarrow Call Types \rightarrow Select call type \rightarrow

 $Priority \rightarrow Drop \rightarrow Dial priority level \rightarrow Enter \rightarrow Exit \rightarrow$

 $Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F3 \rightarrow F2 \rightarrow F7 \rightarrow Select call type \rightarrow F1 \rightarrow Alt + P \rightarrow$

Type priority level \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

Message Center Operation

Use this procedure to designate one or more QCC operator positions to operate as a message center. The following options are automatically set for the message center position:

- Incoming calls are not directed to this position.
- Returning calls are directed to this position (return from extending and operator parked calls).
- All group coverage calls are directed to this position.
- All DID calls to invalid destinations are directed to this position.

Designating message center operation does not change any call type option programming, except that the call types mentioned above are added to the calls received at the QCC Message Center.

Summary: Message Center Operation

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Not applicable

Valid Entries QCC extension numbers

Inspect Yes
Copy Option No

Console Procedure Operator \rightarrow Queued Call \rightarrow Msg Center \rightarrow Dial ext. no. \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F3 \rightarrow F2 \rightarrow F8 \rightarrow Type \text{ ext. no.} \rightarrow F5 \rightarrow F5 \rightarrow F5$

4 Common Administrative Procedures

QCC Optional Features

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Extended (Directed) Call Completion

Use this procedure to specify one of the two basic options shown below for QCC operator positions with a DSS only:

- Automatic Completion. Allows one-touch call transfer; that is, calls are transferred by touching only an extension button on the DSS. The operator does not have to press the Release button.
- Manual Completion. QCC operators must press the Release button to direct a call using a DSS.

This option cannot be programmed for individual QCC operator positions. The setting applies to all QCC operator positions.

Summary: Extended Call Completion

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Automatic Extended Completion

Valid Entries Automatic, Manual

Inspect No Copy Option No

 $\textbf{Console Procedure Operator} {\rightarrow} \textbf{Queued Call} {\rightarrow} \textbf{ExtndComplt} {\rightarrow} \textbf{Automatic}$

Complete or Manual Complete \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F3 \rightarrow F2 \rightarrow F9 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

Return Ring

Use this procedure to specify the number of rings before an unanswered directed call is returned to the QCC queue or QCC Message Center position.

This option cannot be programmed for individual QCC operator positions. The setting applies to all QCC operator positions.



If you want unanswered calls to proceed to voice mail, lengthen the return ring setting.

4 Common Administrative Procedures

QCC Optional Features

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Summary: Return Ring

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 4 rings

Valid Entries 1 to 15 rings

Inspect No Copy Option No

Dial no. of rings \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $\boxed{F3} \rightarrow \boxed{F2} \rightarrow \boxed{F10} \rightarrow \boxed{Alt} + \boxed{P} \rightarrow \boxed{Type no. of rings} \rightarrow \boxed{F10} \rightarrow \boxed{F10$

 $F5 \rightarrow F5$

Position Busy Backup

Use this procedure to designate the calling group to provide the backup position for the QCC queue. The specified calling group receives incoming calls when all QCC operator positions are in position-busy mode.

Position Busy Backup is programmed for the QCC queue rather than for individual QCC operator positions. The calling group designated as the QCC queue backup serves as the backup for the Remote Access feature and as backup when the QCC is being used as the system programming console.

Only one Position Busy Backup can be programmed per system.

Summary: Position Busy Backup

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting No backup

Valid Entries Calling group number

Inspect No Copy Option No

4 Common Administrative Procedures *QCC Optional Features*

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Console Procedure \emptyset perator \rightarrow Queued $Call \rightarrow$ More \rightarrow QCC $Backup \rightarrow$ Drop \rightarrow

Dial ext. number \rightarrow Enter \rightarrow Exit \rightarrow Exit

 $F5 \longrightarrow F5$

Voice Announce

Use this procedure to enable or disable Voice Announce for the QCC. Voice Announce is available only on a QCC in Release 4.0 and later.

When Voice Announce is enabled, every QCC in the system has one Voice Announce **Call** button, the **Call 5** (Ring/Voice) button. All Intercom calls that originate from a QCC **Call 5** (Ring/Voice) button are delivered as Voice Announce calls.

When Voice Announce is disabled, all Intercom calls originating at the QCC **Call** buttons are Intercom Ringing calls.

Summary: Voice Announce

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Disabled

Valid Entries Disabled, Enabled

Inspect No Copy Option No

Console Procedure Operator \rightarrow Queued Call \rightarrow More \rightarrow Voice Annc \rightarrow

Enabled or Disabled \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $\boxed{F3 \rightarrow F2 \rightarrow PgUp \rightarrow F2 \rightarrow F1}$ or $\boxed{F2 \rightarrow F10 \rightarrow F5 \rightarrow F5}$

Common Administrative Procedures
Optional Group Features

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Optional Group Features

This section contains programming summaries for the following optional features:

- Pickup Groups
- Group Paging
- Group Coverage Member Assignments
- Group Coverage Delay Interval (Release 4.0 and earlier)
- Group Calling Member Assignments
- Group Calling Line/Trunk or Pool Assignments

See Chapter 3, "Common Administrative Procedures," for detailed programming information.

Pickup Groups

Use this procedure to assign or remove an extension from a call pickup group. A pickup group consists of telephone users who can answer each other's calls either by pressing a button or by dialing a code.



- A maximum of 30 pickup groups, with a maximum of 15 extensions per group, is allowed.
- 2. An extension can belong to only one group.
- 3. Before reassigning an extension to a new group, you must remove it from its current group.

Summary: Pickup Groups

Programmable by. System Manager

Mode All

Idle Condition Not required

Planning Form Form 7a, Pickup Groups

Factory Setting Not applicable

Valid Entries Pickup group number, extension number

Inspect Yes
Copy Option No

4 Common Administrative Procedures Optional Group Features

Page 4-301

Console Procedure Extensions—Call Pickup—Dial pickup group no. \rightarrow

Enter \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow F9 \rightarrow Type$ pickup group no. $\rightarrow F10 \rightarrow Type$ ext. no. \rightarrow

 $F10 \rightarrow F5 \rightarrow F5$

Group Paging

Use this procedure to assign or remove an extension from a paging group. A paging group consists of telephone users who hear common announcements over the telephone speakerphone. Only MLX telephones and analog multiline telephones with speakerphones can be members of a paging group.

A maximum of six paging groups with a maximum of 10 extensions per group is allowed. A seventh paging group, called the Page All group, is not limited and includes all telephones connected to the system. Extensions cannot be added to or removed from the Page All group.

To reassign an extension to a new paging group, just assign it; the extension is automatically removed from its old paging group.

Summary: Group Paging

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7b, Group Paging

Factory Setting Not applicable

Valid Entries Extension number

Inspect Yes

Copy Option No

Console Procedure Extensions→More→Group Page→Dial paging group

 $no. \rightarrow Enter \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F2 \rightarrow Type paging group no. \rightarrow F10 \rightarrow$

Type ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

4 Common Administrative Procedures Optional Group Features

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Group Coverage Member Assignments

Use this procedure to assign or remove an extension from a coverage group. A coverage group is a group of senders. Coverage is an arrangement in which calls from a group of senders are redirected to one or more receivers.



NOTE:

This procedure assigns *senders*. Before you begin, make certain that the *receivers* for the coverage group are also programmed. Receivers can be assigned through individual or centralized telephone programming. You can also use the Integrated Solution III/IV feature, Integrated Administration, to assign coverage receivers. See Chapter 5, "Centralized Telephone Programming," for information about the appropriate centralized programming procedure.

A maximum of 30 coverage groups are allowed, each with an unlimited number of members. Up to eight receivers can be assigned per coverage group.

An extension can be a sender in only one group; it can be a receiver for more than one coverage group. A calling group can be assigned as a receiver for a coverage group (see "Group Coverage Receiver" on page –309). In Hybrid/PBX mode only, the QCC queue can be a receiver for up to 30 coverage groups. See "QCC Operator to Receive Calls" on page 4–58.

If the sender's extension has one or more personal lines assigned, the sender can be assigned as the principal user so that calls received on the personal line are sent to receivers programmed for Individual or Group Coverage. See (Principal User for Personal Line" on page 51.

To reassign an extension to a new coverage group, just make the assignment; the extension is automatically removed from its old group.

Summary: Group Coverage Member Assignments

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7c, Group Coverage

Factory Setting Not applicable

Valid Entries Extension numbers

Inspect Yes
Copy Option No

4 Common Administrative Procedures
Optional Group Features

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 ${\tt Console\ Procedure\ Extensions} {\color{red} \color{red} \color{black} \color{bla$

Enter \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $\underbrace{\text{F6}} \rightarrow \underbrace{\text{PgUp}} \rightarrow \underbrace{\text{F3}} \rightarrow \text{Type group no.} \rightarrow \underbrace{\text{F10}} \rightarrow \text{Type ext. no.} \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

Group Coverage Delay Interval

Use this procedure to specify the number of rings before a call is sent to group coverage receivers.



This setting is for Release 4.0 and earlier systems. Use Group Coverage Ring Delay for Release 4.1 and later systems.

Summary: Group Coverage Delay Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7c, Group Coverage

Factory Setting Not applicable

Valid Entries Extension numbers

Inspect Yes
Copy Option No

Console Procedure Options \rightarrow More \rightarrow Cover Delay \rightarrow Drop \rightarrow Enter \rightarrow

Dial no. of rings \rightarrow Enter \rightarrow Exit

PC Procedure $(F7) \rightarrow (F6) \rightarrow (Alt) + (P) \rightarrow Type \text{ no. of rings} \rightarrow (F10) \rightarrow (F5)$

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Group Calling Member Assignments

4 Common Administrative Procedures Optional Group Features

> Use this procedure to assign or remove an extension from a calling group. A calling group is used to direct calls to a group of people who all handle the same type of call. A single extension number is assigned to the group and is used by both inside and outside callers to reach the group.

> To reassign an extension to a new calling group, you must remove it from its old group before programming the new assignment.

NOTES:

- 1. If a linear hunting pattern is indicated on the back of the system planning form (6d), be sure to assign extensions to the group in the exact order that they are shown on the form. The system searches for an available member in the order in which you assign the extensions to the group.
- 2. A maximum of 32 calling groups with a maximum of 20 extensions per group is allowed.
- 3. An extension can belong to only one calling group. A QCC cannot be a member of a calling group. The delay announcement device should not be programmed as a calling group member.
- 4. The extension status feature must be set to the Calling Group or CMS mode before you assign members to the group. See "Extension Status" on page 324.

Summary: Group Calling Member Assignments

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 7c, Group Coverage

Factory Setting Not applicable

Valid Entries Extension numbers

Inspect Yes Copy Option No

Console Procedure Extensions→More→Grp Calling→Members→

Dial calling group ext. no. \rightarrow Enter \rightarrow Dial ext. no. \rightarrow Enter \rightarrow

 $Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F9 \rightarrow Type calling group ext. no. \rightarrow$

 $F10 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

4 Common Administrative Procedures
Optional Group Features
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Group Calling Line/Trunk or Pool Assignments

Use this procedure to assign or remove lines, trunks, or pools (Hybrid/PBX only) that ring directly into a calling group.

Incoming calls on each line/trunk or pool can be directed to only one calling group.

To reassign a line/trunk or pool to a new calling group, you must remove it from its old group before making the new assignment.

Summary: Group Calling Line/Trunk or Pool Assignments

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting Not applicable

Valid Entries Line, trunk, or pool number

Inspect Yes
Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow Line/Pool \rightarrow

Dial calling group ext. no. \rightarrow Enter \rightarrow Dial line/trunk no. \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F10 \rightarrow Type$ calling group ext. no. \rightarrow

 $F10 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Common Administrative Procedures
Optional Group Calling Features

Page 4-306

Optional Group Calling Features

This section includes programming summaries for the following optional group calling features:

- Hunt Type
- Group Calling Delay Announcement
- Group Calling Announcement Interval
- Group Calling Repeat Announcement
- Group Coverage Receiver
- Group Calling Overflow and Thresholds
- Group Calling Message-Waiting Indicator
- Group Calling Calls-in-Queue Alarm Threshold
- Group Calling External Alert for Calls-in-Queue Alarm
- Group Type
- Queue Control (Release 6.0 and later systems only)

See Chapter 3, "Common Administrative Procedures," for detailed programming information.

Hunt Type

Use this procedure to assign one of the following hunt-type patterns to calling groups:

- **Circular Hunting Pattern**. The system distributes calls to group members by hunting in a circular pattern for the first available extension after the one that received the last call to the group.
- Linear Hunting Pattern. The system searches for an available group member in the order in which the extensions were assigned to the calling group.
- Most Idle Hunting Pattern. The system searches for the available member that is "most idle." This distribution scheme can be more equitable than the circular hunting pattern.

4 Common Administrative Procedures Optional Group Calling Features

Page 4-307

Summary: Hunt Type

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting Circular hunting pattern

Valid Entries Circular, Linear

Inspect No

Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow Hunt Type \rightarrow

Dial calling group ext. no.→Enter→Circular, Linear, or

Most $Idle \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F1 \rightarrow Type$ calling group ext. no. \rightarrow

 $F10 \rightarrow F1$ or F2 or $F3 \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Group Calling Delay Announcements

Use this procedure to designate the announcement devices used to play messages to callers while they are waiting in the queue.

Two announcement devices can be designated for each calling group; however, more than one calling group can use the same announcement device. The extensions to which the delay announcement devices are connected should not be programmed as a calling group member.

If the extension jack or MFM was previously programmed as a regular extension, you must remove all line/trunk button assignments before you designate the extension jack as a delay announcement device.



In Release 6.0 and later systems (Hybrid/PBX mode only), a delay announcement device must be in the local system, not in a remote networked system.

4 Common Administrative Procedures
Optional Group Calling Features

Page 4-308

Summary: Group Calling Delay Announcement

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting No delay announcement devices are assigned

Valid Entries Primary Announcement, Secondary Announcement

Inspect No Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow DelayAnnce \rightarrow

Dial calling group ext. no. \rightarrow Enter \rightarrow Primary Announcement or Secondary Announcement \rightarrow Enter Extension number of Announcement device \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F2 \rightarrow Type$ calling group ext. no. \rightarrow

 $F10 \rightarrow F1$ or $F2 \rightarrow Type$ ext. no. of announcement device \rightarrow

 $[F10] \rightarrow [F5] \rightarrow [F5]$

Group Calling Announcement Interval

Use this procedure to set the delay before the secondary announcement is played and/or repeated.

Summary: Group Calling Announcement Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting 0 (disabled)

Valid Entries 0-900 seconds

Inspect No Copy Option No

Console Procedure Extensions→More→Grp Calling→DelayAnnce→

Dial calling group ext. no.→Announcement Interval→ Enter

the Announcement Interval \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F2 \rightarrow Type$ calling group ext. no. \rightarrow

 $F3 \rightarrow Type \text{ the Announcement Interval} \rightarrow F10 \rightarrow F5 \rightarrow F5$

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Group Calling Repeat Announcement

4 Common Administrative Procedures Optional Group Calling Features

> Use this procedure to set the secondary announcement to repeat after the Announcement Interval.

Summary: Group Calling Repeat Announcement

System Manager Programmable by

Mode ΑII

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting No repeat

Valid Entries Yes, No

Inspect Nο

Copy Option Nο

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow DelayAnnce \rightarrow Dial

calling group ext. no.→Enter→Repeat Announcement→Yes

or $No \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F2 \rightarrow F4 \rightarrow Type calling group ext.$

no. \rightarrow F2 or F3 \rightarrow F10 \rightarrow F5 \rightarrow F5

Group Coverage Receiver

Use this procedure to assign or remove a calling group as a receiver for a coverage group.

Calling group member assignments must be made before you assign the group as a receiver for a coverage group.



Integrated Administration uses calling group 30 as the default group to cover AUDIX Voice Power.

Summary: Group Coverage Receiver

Programmable by System Manager, Integrated Administration

Mode ΑII

Idle Condition Not required

Planning Form Form 7c, Group Coverage

Factory Setting Not applicable

4 Common Administrative Procedures Optional Group Calling Features

Page 4-310

Valid Entries Group numbers

Inspect Yes
Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow Grp Coverage \rightarrow Dial

calling group ext. no. \rightarrow Enter \rightarrow Dial coverage group no. \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $[F6] \rightarrow [PgUp] \rightarrow [F4] \rightarrow [F3] \rightarrow Type calling group ext. no. \rightarrow$

Type coverage group no. \rightarrow F10] \rightarrow F5] \rightarrow F5] \rightarrow F5]

Group Calling Overflow and Thresholds

Use this procedure to designate either another calling group or the QCC queue (Hybrid/PBX only) to receive overflow calls. This procedure also specifies overflow threshold and methods.

Call overflow occurs in one of the three following ways:

- The number of calls waiting in the queue for a calling group is equal to or greater than the programmed threshold (overflow threshold).
- The time that a call has spent in the queue exceeds the programmed timeout value (overflow threshold time).
- In Release 6.0 and later systems, a caller responds to a voice prompt by pressing the # key to indicate that his or her call should be handled as an overflow call. For example, a delay announcement may specify that a caller can press # to leave a message with voice mail or an operator.

If the overflow threshold time is set to 0 seconds (factory setting), then overflow by time is turned off. Prompt-based overflow distribution can co-exist with either or both of the other methods. Overflow distribution based on the number of calls in the queue or the time spent in the queue takes precedence over calls that go to overflow because of the caller's prompt.

Overflow coverage can be provided only by calling groups or the QCC queue (Hybrid/PBX only), not by individual extensions.

A calling group or the QCC queue (Hybrid/PBX only) can provide overflow coverage for more than one calling group; however, which group's calls go to an available member in the overflow calling group is unpredictable.

The factory-set extension number for the QCC Listed Directory Number is 800.

4 Common Administrative Procedures Optional Group Calling Features

Page 4-311

Summary: Group Calling Overflow and Thresholds

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting Overflow coverage: none

Threshold: 1 call

Timeout: 0 sec

Prompt-based overflow: Disabled

Valid Entries Overflow coverage: Backup extension number

Threshold: 1 to 99 calls Timeout: 0 to 900 seconds

Prompt-based overflow: Enabled, Disabled

Inspect No

Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow Overflow \rightarrow

Dial calling group ext. no. \rightarrow Enter \rightarrow Dial overflow ext. no. \rightarrow Enter \rightarrow Number Based 0verflow \rightarrow Drop \rightarrow Dial no. of

calls→Enter→Time Based Overflow→**Drop**→

Dial no. of seconds→ Enter→Prompt Based Overflow→

Yes or No \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure $[F6] \rightarrow [PgUp] \rightarrow [F4] \rightarrow [F8] \rightarrow Type calling group ext. no. \rightarrow$

no. of calls \rightarrow [F10] \rightarrow [F2] \rightarrow [Alt] + [P] \rightarrow Type no. of seconds \rightarrow

 $(F10) \rightarrow (F3) \rightarrow (F2) \text{ or } (F3) \rightarrow (F10) \rightarrow (F5) \rightarrow (F5) \rightarrow (F5)$

Group Calling Message-Waiting Indicator

Use this procedure to designate the extension to receive message-waiting indications (MWIs) for the calling group.

Only one extension can be designated as a message-waiting receiver for each calling group; however, more than one calling group can use the same message-waiting receiver. The extension assigned as a message-waiting receiver does not have to be a member of the calling group.

Message-waiting indications cannot be sent to the extension assigned to the group unless this option is programmed. The message-waiting receiver cannot distinguish between messages left for the calling group and personal messages.

4 Common Administrative Procedures
Optional Group Calling Features

Page 4-312

Summary: Group Calling Message-Waiting Indicator

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting No message-waiting receiver assigned

Valid Entries Extension number

Inspect No Copy Option No

Console Procedure Extensions→More→Grp Calling→Message→

Dial calling group ext. no.→Enter→Dial ext. no. for MWI

receiver→Enter→Exit→Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F4 \rightarrow Type$ calling group ext. no. \rightarrow

 $F10 \rightarrow Type \text{ ext. no. for MWI receiver} \rightarrow F10 \rightarrow F5 \rightarrow F5$

Group Calling Calls-In-Queue Alarm Thresholds

Use this procedure to specify the number of unanswered calls that wait in the calling group queue before group members are notified with either an external alert (an external alert is turned on when the third threshold is met) or a light on the telephone. Group members are notified when the number of calls waiting in the queue is equal to or greater than the programmed thresholds as follows:

- First Threshold, flashing light
- Second Threshold, winking light
- Third Threshold, solid light

NOTE:

To configure only one threshold, set *all* thresholds to the same number. To configure only two thresholds, set two of the thresholds to be the same number.

4 Common Administrative Procedures
Optional Group Calling Features

Page 4-313

Summary: Group Calling Calls-In-Queue Alarm Threshold

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Settings 1 call, for all Thresholds

Valid Entries 1 to 99

Inspect No Copy Option No

Console Procedure Extensions→More→Grp Calling→Queue Alarm→

Dial calling group ext. no. \rightarrow Enter \rightarrow Alarm Threshold 1 or

Alarm Threshold 2 or Alarm Threshold 3ightarrow**Drop**ightarrow

Dial no. of calls \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F6 \rightarrow Type$ calling group ext. no. \rightarrow

 $F10 \rightarrow Alt + P \rightarrow F1$ or F2 or $F3 \rightarrow Type$ no. of calls \rightarrow

 $F10 \longrightarrow F5 \longrightarrow F5$

Group Calling External Alert for Calls-In-Queue Alarm

Use this procedure to designate the external alert device used to notify calling group members when the number of calls in the queue reaches programmed Threshold 3.

Only one external alert device can be designated for each calling group. Since the external alert signal is continuous, it is recommended that only light-type external alert devices be designated for the Calls-in-Queue alarm.

Summary: Group Calling External Alert for Calls-In-Queue Alarm

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting Not applicable

Valid Entries Extension number

4 Common Administrative Procedures
Optional Group Calling Features

Page 4-314

Inspect No Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow Xtnl Alert \rightarrow

Dial calling group ext. no. \rightarrow Enter \rightarrow Drop \rightarrow Dial ext. no. for

 $alert \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F7 \rightarrow Type$ calling group ext. no. \rightarrow

 $[F10] \rightarrow (Alt) + [P] \rightarrow Type ext. no. for alert \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

Group Type

Use this procedure to determine whether or not the system automatically logs in members of a calling group after a power failure. This setting also determines the type of voice messaging interface when the calling group is used to connect voice messaging or automated attendant applications. The settings are listed below.

- Automatic Log Out. Used for calling groups to specify that the system does not automatically log in calling group members after a power failure.
 Calling group members must manually log themselves into the group.
- Automatic Log In. Used for calling groups that consist of fax machines or data workstations (also called data hunt groups) to specify that the system automatically logs in calling group members after a power failure. This setting can also be used for calling groups consisting of telephones.
- Integrated VMI. Used when a voice messaging system that requires special signaling for integrated operation (for example, AUDIX Voice Power, IS II/III, or MERLIN MAIL Voice Messaging System) is connected to one or more extension jacks assigned to a calling group. The system automatically logs in the group members after a power failure.
- **Generic VMI**. Used when a voice messaging system that does not need special signaling is connected to one or more extension jacks assigned to a calling group. The system automatically logs in the group members after a power failure.

Summary: Group Type

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting Automatic Log Out

Valid Entries Automatic log in, Automatic log out, Integrated VMI,

Generic VMI

Inspect No

4 Common Administrative Procedures
Optional Group Calling Features

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Copy Option No

 ${\tt Console\ Procedure\ Extensions} {\longrightarrow} {\color{red}{\bf More}} {\longrightarrow} {\color{red}{\bf Group}} {\color{red}{\rightarrow}} {\color{red}{\bf Group}} {\color{red}{\bf Group}$

Type Dial calling group ext. no. \rightarrow Enter \rightarrow Specify login

 $type \rightarrow Enter \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow PgUp \rightarrow Type$ calling group ext. no. \rightarrow

Specify login type \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

Queue Control

In Release 6.0 and later systems, the system manager can control the maximum number of calls allowed in the primary calling group queue for calls that arrive on the following types of facilities:

- DID (Direct Inward Dialing) and dial-in TIE
- PRI facilities programmed for dial-plan routing
- All calls transferred from a VMI (voice messaging interface) port
- Internal calls to the DGC group
- Internal calls to the calling group through the QCC Position-Busy backup (PBB)
- Intrasystem calls to the DGC group
- All private network dialed calls, including remote DID

When the number of the calls in queue reaches the programmed maximum, subsequent callers receive a busy signal.

NOTE:

Dial-in tie trunks, including private tandem tie trunks (Release 6.0 and later systems, Hybrid/PBX only) cannot be assigned directly to calling groups.

Remote-access calls to a calling group, coverage calls directed to a calling group, and all outside/CO calls are not eligible for queue control.

Queue control does not apply to calls received directly on any of the following facilities:

- Loop-start lines
- Ground-start lines/trunks
- Auto-in tie trunks
- BRI (Basic Rate Interface) channels
- T1 facilities emulating ground-start or loop-start lines/trunks
- PRI facilities programmed for line-appearance routing

4 Common Administrative Procedures
Optional Group Calling Features

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When a call arrives on one of the above facilities, it is added to the calling group queue, even if that queue has reached or exceeded the programmed maximum number of calls. For example, if the maximum number of calling group calls is set to 40 and 40 calls have come in, subsequent callers on eligible facilities hear the busy tone. However, calls that come in on a LS line are added to the queue.

Summary: Queue Control

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting 99 calls

Valid Entries 0–99 (0 indicates no calls are gueued)

Inspect No Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow More \rightarrow

Queue $Ctrl \rightarrow Dial calling group ext. no. \rightarrow Enter \rightarrow Dial no. of$

calls allowed in queue \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure $(F6) \rightarrow (PgUp) \rightarrow (F4) \rightarrow (PgUp) \rightarrow (F2) \rightarrow Type calling group ext.$

no \rightarrow F10 \rightarrow Type no. of calls allowed in queue \rightarrow F10 \rightarrow

 $F5 \rightarrow F5 \rightarrow F5$

Common Administrative Procedures
System Features

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System Features

This section contains programming summaries for the optional system features that affect all or most system users and includes the following:

- Transfer Return Time
- One-Touch Transfer/Hold
- Transfer Audible
- Type of Transfer
- Camp-On Return Time
- Call Park Return Time
- Delay Ring Interval
- Automatic Callback Interval
- Extension Status
- SMDR Language
- SMDR Call Report Format
- SMDR Call Length
- SMDR Calls Recorded on Call Report
- SMDR Account Code Format
- Inside Dial Tone
- Reminder Service Cancel
- Redirect Outside Calls to Unassigned Extension Numbers
- Host System Dial Codes for Behind Switch Mode
- Recall Timer
- Allowed Lists
- Assign Allowed Lists to Extensions
- Disallowed Lists
- Assign Disallowed Lists to Extensions

See Chapter 3, "Common Administrative Procedures," for detailed programming information.

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4 Common Administrative Procedures
System Features

Transfer Return Time

Use this procedure to specify the number of times the telephone rings before a call transferred to another inside telephone is returned to the originator. A setting of 0 means that transferred calls are never returned to the originator.



NOTE:

The transfer return time should not be set to 0 in a system with single-line telephones.

The transfer return time should not be set to 0 in a system with single-line telephones.

Summary: Transfer Return Time

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 4 rings (Integrated Administration: 6 rings)

Valid Entries 0 to 9 rings

Inspect No Copy Option No

Console Procedure Options→Transfer→Return Time→Drop→

Dial no. of rings→Enter→Exit→Exit

PC Procedure $F7 \rightarrow F1 \rightarrow F1 \rightarrow Alt + P \rightarrow Type no. of rings \rightarrow$

 $[F10] \rightarrow [F5] \rightarrow [F5]$

One-Touch Transfer/One-Touch Hold

Use this procedure to assign either the One-Touch Transfer or One-Touch Hold feature.

One-Touch Transfer allows users to initiate transfers to another extension by pressing an Auto Dial or DSS button for that extension. If the One-Touch Transfer feature is assigned, you must also specify whether the transfer completion is manual (the user has to press another button to complete the transfer) or automatic (the transfer is completed automatically).

The One-Touch Transfer feature is not available on single-line telephones.

4 Common Administrative Procedures
System Features

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One-Touch Hold applies to incoming central office calls only. When the user presses an Auto Dial or DSS button to initiate a transfer, the outside caller is put on hold. The system automatically selects an intercom facility and dials the transfer destination. There is no transfer return function with this method. Consequently, if the transfer destination does not answer or is busy, the user who initiates the transfer must notify the outside caller, or the outside caller remains on hold.

One-Touch Hold is the factory setting in Behind Switch mode only.

Summary: One-Touch Transfer/Hold

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting One-Touch Transfer, automatic completion (One-Touch Hold

is the factory setting in Behind Switch mode.)

Valid Entries Transfer, Hold

Inspect No

Copy Option No

Console Procedure To program One-Touch Transfer:

Options→Transfer→One Touch→Transfer→
Enter→Manual or Automatic→Enter→Exit→Exit

incer /namai of Aucomacic /Lincer /Lxic /

To program One-Touch Hold:

 $0ptions \rightarrow Transfer \rightarrow 0ne Touch \rightarrow Hold \rightarrow$

Enter→Exit→Exit

PC Procedure To program One-Touch Transfer:

 $F7 \longrightarrow F1 \longrightarrow F2 \longrightarrow F1 \longrightarrow F10 \longrightarrow F1 \text{ or } F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

To program One-Touch Hold:

 $F7 \rightarrow F1 \rightarrow F2 \rightarrow F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

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Transfer Audible

Use this procedure to specify whether an outside caller hears ringing (also called ringback) or Music On Hold while being transferred. Inside callers always hear ringback during a transfer.

NOTES:

- If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a copyright license from and pay license fees to a third party (such as the American Society of Composers, Artists, and Producers or Broadcast Music Incorporated). Magic on Hold requires no such license and can be purchased from Lucent Technologies.
- 2. In Release 6.0 and later systems, when extensions are programmed to use the Centrex Transfer via Remote Call Forwarding feature, do not program Music On Hold as the transfer audible. If Music On Hold is programmed in this case, a caller being transferred hears a click, three seconds of Music On Hold, a second click, silence for about 10 seconds, then ringback or a busy tone from the central office. This can confuse callers, who may then hang up.

Summary: Transfer Audible

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Music on Hold

Valid Entries Music on Hold, Ringback

Inspect No Copy Option No

Console Procedure Options→Transfer→Audible→Music on Hold or

 $Ringback \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $(F7) \rightarrow (F1) \rightarrow (F3) \rightarrow (F1) \text{ or } (F2) \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

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Type of Transfer

Use this procedure to specify whether the system automatically selects an Intercom or System Access Ring or Voice button when the **Transfer** button, or an Auto Dial or DSS button (for One-Touch Transfer) is pressed.

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Summary: Type of Transfer

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Ring button (Intercom or System Access) is automatically

selected

Valid Entries Voice Announce, Ring

Inspect No

Copy Option No

Console Procedure Options \rightarrow Transfer \rightarrow Type \rightarrow Voice Announce or Ring \rightarrow

Enter→Exit→Exit

PC Procedure $[F7] \rightarrow [F1] \rightarrow [F4] \rightarrow [F1]$ or $[F2] \rightarrow [F5] \rightarrow [F5]$

Camp-On Return Time

Use this procedure to specify the number of seconds before a camped-on call (a call transferred to a busy telephone with the Camp-On feature) is returned to the originator.

Summary Camp-On Return Time

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 90 seconds

Valid Entries 30 to 300 seconds, in 10-second increments

Inspect No

Copy Option No

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 $\label{eq:console_procedure_points} \textbf{Console Procedure Options} {\longrightarrow} \textbf{CampOn} {\longrightarrow} \textbf{Drop} {\longrightarrow} \textbf{Dial no. of seconds} {\longrightarrow}$

Enter→Exit

PC Procedure $[F7] \rightarrow [F2] \rightarrow [Alt] + [P] \rightarrow Type no. of seconds \rightarrow [F10] \rightarrow [F5]$

Call Park Return Time

Use this procedure to specify the number of seconds before a call put on hold with the Park feature is returned to the originator.

Summary: Call Park Return Time

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 180 seconds

Valid Entries 30 to 300 seconds, in 10-second increments

Inspect No
Copy Option No

Console Procedure $0ptions \rightarrow CallParkRtn \rightarrow Drop \rightarrow Dial no. of seconds \rightarrow$

Enter→Exit

PC Procedure $F7 \rightarrow F3 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow F5 \rightarrow F5$

Delay Ring Interval

Use this procedure to specify the number of rings for the delay ring interval. The delay ring interval is applied when a primary, secondary, or group cover button is set to delayed ring.



This setting is for Release 4.0 and earlier systems. Use Primary Cover Ring Delay and Secondary Cover Ring Delay for Release 4.1 and later systems.

Summary: Delay Ring Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7c, Group Coverage

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Factory Setting 2 rings

Valid Entries 1 to 6 rings

Inspect No Copy Option No

Console Procedure Options→Delay Ring→Drop→Dial no. of rings→

Enter→Exit

PC Procedure $(F7) \rightarrow (F4) \rightarrow (Alt) + (P) \rightarrow Type no. of rings \rightarrow (F10) \rightarrow (F5)$

Automatic Callback Interval

Use this procedure to specify the number of times the telephone rings at the originator's telephone before the system cancels a Callback request.

Summary: Automatic Callback Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 3 rings

Valid Entries 1 to 6 rings

Inspect No Copy Option No

Console Procedure $0ptions \rightarrow Callback \rightarrow Drop \rightarrow Dial no. of rings \rightarrow$

Enter→Exit

PC Procedure $[F7] \rightarrow [F6] \rightarrow [Alt] + [P] \rightarrow Type no. of rings \rightarrow [F10] \rightarrow [F5]$

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Extension Status

Use this procedure to specify whether the Extension Status (ES) feature is used in Hotel mode or Group Calling/Call Management System (CMS) mode.

The calling mode affects the meaning of the LEDs and the use of Auto Dial or DSS buttons when the DLC operator position is in Extension Status mode.

In Hotel mode, telephones are restricted from making calls in Extension Status states 1 and 2 (ES1 and ES2). In Group Calling/CMS mode, ES states reflect member or agent status without restricting the telephones. In the Group Calling/CMS mode, the Extension Status feature is used by the agents to log in and out, and by the supervisor to see agent status.

Summary: Extension Status

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features
Factory Setting Group Calling/CMS mode

Valid Entries Group Calling/CMS mode, Hotel mode

Inspect No

Copy Option No

Console Procedure Options→Ext Status→Hotel or GrpCall/CMS→

 $Enter \rightarrow Exit$

PC Procedure $F7 \rightarrow F7 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5$

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SMDR Language

Use this procedure to change the language of the SMDR reports. It applies to Releases 1.1 and later only. The default report language is the same as that set for the system language. See "System Language" on page 5.

Summary: SMDR Language

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 1, System Planning

Factory Setting English (matches System Language setting)

Valid Entries English, French, Spanish

Inspect No No Copy Option

Console Procedure More \rightarrow Language \rightarrow SMDR \rightarrow Select language \rightarrow Enter \rightarrow Exit

 $PgUp \longrightarrow F6 \longrightarrow F3 \longrightarrow Select language \longrightarrow F10 \longrightarrow F5$ PC Procedure

SMDR Call Report Format

Use this procedure to specify whether the SMDR call reports are printed in Basic format or ISDN format. In ISDN format, automatic number identification (ANI) information appears in the Calling Number field in place of IN (which appears in the Basic report format). The call recording type for these calls is I in ISDN format and C in Basic format.

ISDN format should be used only in conjunction with automatic number identification (ANI) or Caller ID service subscription.

Summary: SMDR Call Report Format

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Basic format

Valid Entries Basic, ISDN

Inspect No

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Copy Option No

 $\textbf{Console Procedure Options} {\rightarrow} \textbf{SMDR} {\rightarrow} \textbf{Format} {\rightarrow} \textbf{Basic SMDR or ISDN SMDR} {\rightarrow}$

 $Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F7 \rightarrow F8 \rightarrow F1 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

SMDR Call Length

Use this procedure to set the minimum time length of a call before it is recorded on SMDR call reports.



- 1. If the majority of lines/trunks are PRI, the recommended call length is 1. See the *Feature Reference* for more information.
- The outbound call of a Centrex Transfer via Remote Call Forwarding call will not be recorded unless the minimum time length is set to zero (0). The inbound Centrex call to the Principle User who has Centrex Transfer via Remote Call Forwarding will also not be recorded unless the minimum time length is 0.

Summary: SMDR Call Length

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 40 seconds

Valid Entries 0 to 255 seconds

Inspect No Copy Option No

Console Procedure $Options \rightarrow SMDR \rightarrow Call Length \rightarrow Drop \rightarrow Dial no. of$

 $seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F7 \rightarrow F8 \rightarrow F2 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

SMDR Calls Recorded on Call Report

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Use this procedure to specify whether SMDR information should be recorded for both incoming and outgoing calls or for outgoing calls only.



This procedure affects call recording for calls on networked private trunks. If you set SMDR to report outgoing calls only, only outgoing calls are recorded for these trunks.

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Summary: SMDR Calls Recorded on Call Report

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Incoming and outgoing

Valid Entries In/Out, Out Only

Inspect No Copy Option No

Console Procedure Options \rightarrow SMDR \rightarrow Call Report \rightarrow In/Out or Out Only \rightarrow

Enter→Exit→Exit

PC Procedure $F7 \longrightarrow F8 \longrightarrow F3 \longrightarrow F1$ or $F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

SMDR Account Code Format

For calls made using an authorization code, SMDR can be programmed to either have the "home extension" or the actual authorization codes recorded in the Account Code field if no Account Code is entered. Account Code overrides the Authorization Code entry in the SMDR record when both features are used.

Summary: SMDR Account Code Format

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 6h, Authorization Codes

Factory Setting Home Extension Number

Valid Entries Home Extension Number, Authorization Code

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Inspect No Copy Option No

Console Procedure $Options \rightarrow SMDR \rightarrow Auth Code \rightarrow Home Extension Number or$

Authorization Code \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F7 \rightarrow F8 \rightarrow F6 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

SMDR Talk Time

In Release 4.2 and later systems, the Talk field was added to the SMDR call record. The talk field is designed for the MERLIN LEGEND Reporter application that is used to capture detailed information on incoming and outgoing voice and data calls with a special emphasis on calling groups. The talk field contains the talk-time duration—the amount of time (59:59 maximum) that a calling group agent spends on an incoming call including any actions that the agent takes while handling the call.

If your system includes a MERLIN LEGEND Reporter, the Talk Time option must be enabled. All other configurations must have the Talk Time option disabled.

Summary: SMDR Talk Time

Programmable by. System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Disabled

Valid Entries Enable, Disable

Inspect No

Copy Option No

Console Procedure Options \rightarrow SMDR \rightarrow Talk Time \rightarrow Enable or Disable \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F7 \rightarrow F8 \rightarrow F7 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

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Inside Dial Tone

Use this procedure to set the inside (system) dial tone to be either different from, or the same as, the outside line/trunk dial tone.



The inside dial tone must be the same as the outside dial tone when the internal dial tone is not recognized by software applications or modems.

Summary: Inside Dial Tone

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Inside dial tone is different from outside dial tone

Valid Entries Inside, Outside

Inspect No Copy Option No

Console Procedure Options→InsideDial→Inside or Outside→ Enter→Exit

PC Procedure $[F7] \rightarrow [F9] \rightarrow [F1]$ or $[F2] \rightarrow [F10] \rightarrow [F5]$

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Reminder Service Cancel

Use this procedure to set the time of day when all programmed Reminder Service calls are automatically canceled.

To deactivate Reminder Service Cancel, erase the currently programmed time and do not enter a new time.

Summary: Reminder Service Cancel

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Not applicable

Valid Entries 0000 to 2359

Inspect No

Copy Option No

Console Procedure To deactivate Reminder Service Cancel:

Options→Reminder Srv→**Drop**→Enter→Exit

To set Reminder Service Cancel time:

 $0ptions \rightarrow Reminder Srv \rightarrow Drop \rightarrow Dial time \rightarrow Enter \rightarrow Exit$

PC Procedure To deactivate Reminder Service Cancel:

 $F7 \longrightarrow F10 \longrightarrow Alt + P \longrightarrow F10 \longrightarrow F5$

To set Reminder Service Cancel time:

 $F7 \rightarrow F10 \rightarrow Alt + P \rightarrow Type time \rightarrow F10 \rightarrow F5$

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Redirect Outside Calls to Unassigned Extension Numbers

Use this procedure to specify the extension number to receive redirected calls. Redirected calls include calls made to unassigned numbers by remote access users, by users on DID trunks (Hybrid/PBX only), or by users on dial-in tie trunks. Calls can be redirected to the following locations:

- The QCC queue (Hybrid/PBX only)
- Another extension number
- A calling group

Hybrid/PBX Mode Only

This setting does not affect calls received on DID trunks if you have specified that calls to unassigned DID extensions are to receive a fast busy signal. See "Invalid Destination" on page 163.

Summary: Redirect Outside Calls to Unassigned Extension Numbers

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Extension number of primary operator

Valid Entries QCC queue extension number, other extension number

Inspect No Copy Option No

Console Procedure To select QCC queue:

 $Options \rightarrow More \rightarrow Unassigned \rightarrow QCC Queue \rightarrow Enter \rightarrow Exit$

To select extension or calling group:

Options→More→Unassigned→Extension or Grp

Calling \rightarrow Enter \rightarrow Dial ext. no. or group no. \rightarrow Enter \rightarrow Exit

PC Procedure To select QCC queue:

 $F7 \longrightarrow PgUp \longrightarrow F1 \longrightarrow F1 \longrightarrow F10 \longrightarrow F5$

To select extension or calling group:

 $F7 \rightarrow PgUp \rightarrow F1 \rightarrow F2$ or $F3 \rightarrow Type$ ext. no. or group no. \rightarrow

 $F10 \rightarrow F5$

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Host System Dial Codes for Behind Switch Mode

Use this procedure to assign the host system dial codes for the Transfer, Conference, and Drop features.

When multiline telephone users press the **Transfer**, **Conference**, or **Drop** button, a signal is sent to the host service and the communications system features are not accessed. Assigning dial codes to these features ensures that users can take advantage of them through the host system.



This procedure applies to Behind Switch mode only.

Summary: Host System Dial Codes for Behind Switch Mode

Programmable by System Manager

Mode Behind Switch Idle Condition Not required

Planning Form Form 1, System Planning

Factory Setting No host dial codes are assigned

Valid Entries Host system dial code of up to 6 digits

Inspect No Copy Option No

Console Procedure $0ptions \rightarrow More \rightarrow BehndSwitch \rightarrow Select feature \rightarrow$

Drop→Dial host system dial code→Enter→ Exit→Exit

PC Procedure $F7 \rightarrow PgUp \rightarrow F2 \rightarrow Select feature \rightarrow Alt + P \rightarrow$

Type host system dial code \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

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Recall Timer

Use this procedure to designate the length of the timed flash that is sent when Recall is used to disconnect a call and get a new dial tone without hanging up. Both the interval of the timed flash and how Recall works depend on the type of telephone and system operating mode.

The recall timer should be reset if multiline telephone users experience either of the following problems:

- Nothing happens when the user presses the Recall button on an outside call. This indicates that the interval is too short and should be increased to 650 milliseconds or 1 second.
- In a system operating in Behind Switch mode, the call is disconnected when the user presses the Recall button on an outside call. This indicates that the interval is too long and should be decreased to 350 milliseconds.

Summary: Recall Timer

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 450 ms

Valid Entries 350 ms, 450 ms, 650 ms, 1 second

Inspect No Copy Option No

Console Procedure Options→More→RecallTimer→Select time→

 $Enter \rightarrow Exit$

PC Procedure $F7 \rightarrow PgUp \rightarrow F3 \rightarrow Select time \rightarrow F10 \rightarrow F5$

Interdigit Timers

This procedure to program interdigit timers has not yet been implemented. If situations occur where a caller is attempting to make an outside call and becomes connected to an incoming call, the caller may not be able to put the incoming call on hold or transfer the call. Setting interdigit timers to shorter times permits the call to be put on hold or transferred. If you are experiencing these types of problems, call the Lucent Technologies BCS Helpline at 1 800 628-2888.

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Allowed Lists

Use this procedure to establish Allowed Lists. These lists are telephone numbers that can be dialed from specified telephones, regardless of any calling restrictions that are assigned to the telephones.

A maximum of eight lists (numbered 0 through 7) with a maximum of 10 numbers each (numbered 0 through 9) are allowed. Each allowed number can be no more than six digits (an area code plus an exchange) or six digits with a leading 1, where required.

If you program 0 as the first digit of a list entry, any toll restriction assigned to the extension is removed for calls that can be placed by a toll operator.

Special characters (such as Pause) are not permitted in Allowed List entries.

Summary: Allowed Lists

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6g, Call Restriction Assignments and Lists

Factory Setting Not applicable

Valid Entries Area code/exchange (1- to 6-digits with leading 1, if

necessary)

Inspect No

Copy Option No

Console Procedure Tables→AllowList→Dial list no. and entry no.→

Enter \rightarrow **Drop** \rightarrow Dial no. \rightarrow Enter \rightarrow Exit

PC Procedure $[F8] \rightarrow [F1] \rightarrow Type$ list no. and entry no. $\rightarrow [F10] \rightarrow [Alt] + [P] \rightarrow$

Type no. \rightarrow F10 \rightarrow F5

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4 Common Administrative Procedures
System Features

Assign Allowed Lists to Extensions

Use this procedure to assign individual extensions access to established Allowed Lists. More than one Allowed List can be assigned to an extension.

Summary: Assign Allowed Lists to Extensions

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6g, Call Restriction Assignments and Lists

Factory Setting Not applicable

Valid Entries 0 to 7
Inspect Yes
Copy Option Yes

Console Procedure Tables→AllowTo→Dial list no.→Enter→ Dial ext. no.→

Enter→Exit→Exit

PC Procedure $[F8] \rightarrow [F2] \rightarrow Type \text{ list no.} \rightarrow [F10] \rightarrow Type \text{ ext. no.} \rightarrow$

 $[F10] \rightarrow [F5] \rightarrow [F5]$

Disallowed Lists

Use this procedure to establish Disallowed Lists. These lists are telephone numbers that cannot be dialed from specified extensions (including unrestricted extensions).

A maximum of 8 lists (numbered 0 through 7) with 10 entries each (numbered 0 through 9) are allowed. Each number can have a maximum of 11 digits, including wildcards. The Pause character (entered by pressing the **Hold** button) is used to designate a wildcard character, for example, to indicate that calls to a given exchange are restricted in every area code.



SECURITY ALERT:

Create a Disallowed List or use the pre-prepared Disallowed List number 7 (Release 3.1 and later systems only) to disallow dialing 0, 11, 10, 1700, 1809, 1900, and 976 or 1(wildcard)976. In Release 3.1 and later systems, Disallowed List number 7 does not include 800 and 1800 and 411 and 1411, but Lucent Technologies recommends that you add them. Assign all voice mail port extensions to this Disallowed List. Lucent Technologies recommends assigning Disallowed List number 7. This is an added layer of security, in case outward restriction is inadvertently removed. (In Release 3.1 and later systems, voice messaging ports are assigned by default to Disallowed List number 7.)

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Summary: Disallowed Lists

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6g, Call Restriction Assignments and Lists

Factory Setting List #7 containing the following:

0, 10, 11, 1809, 1700, 1900, 976,

1ppp976 (p = wildcard), *

Valid Entries 1- to 11-digit number (including wildcards)

Inspect No Copy Option No

Console Procedure Tables→Disallow→Dial list no. and entry no.→

Enter \rightarrow **Drop** \rightarrow Dial no. \rightarrow Enter \rightarrow Exit

PC Procedure $[F8] \rightarrow [F3] \rightarrow Type$ list no. and entry no. $\rightarrow [F10] \rightarrow [Alt] + [P] \rightarrow$

Type no. \rightarrow [F10] \rightarrow [F5]

Assign Disallowed Lists to Extensions

Use this procedure to assign established Disallowed Lists to individual extensions. Each restricted extension can be assigned to more than one list.

Summary: Assign Disallowed Lists to Extensions

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 6g, Call Restriction Assignments and Lists

Factory Setting Not applicable

Valid Entries 0 to 7
Inspect Yes
Copy Option Yes

Console Procedure Tables \rightarrow DisallowTo \rightarrow Dial list no. \rightarrow Enter \rightarrow

Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F8 \rightarrow F4 \rightarrow Type \text{ list no.} \rightarrow F10 \rightarrow Type \text{ ext. no.} \rightarrow$

 $F10 \rightarrow F5 \rightarrow F5$

Common Administrative Procedures Remote Access Features

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Remote Access Features

This section covers the following Remote Access features:

- Remote Access over Networked Tandem and Tie Trunks (Release 6.0 and later systems only)
- Remote Access Trunk Assignment
- Remote Access Automatic Callback
- Remote Access without Barrier Codes
- Remote Access Barrier Codes
- Remote Access with Barrier Codes



A SECURITY ALERT:

As a customer of a new communications system, you should be aware that there exists an increasing problem of telephone toll fraud. Telephone toll fraud can occur in many forms, despite the numerous efforts of telephone companies and telephone equipment manufacturers to control it. Some individuals use electronic devices to prevent or falsify records of these calls. Others charge calls to someone else's number by illegally using lost or stolen calling cards, billing innocent parties, clipping on to someone else's line, and breaking into someone else's telephone equipment physically or electronically. In certain instances, unauthorized individuals make connections to the public switched network through the use of remote access features.

The Remote Access feature of your system, if you choose to use it, permits off-premises callers to access the system from a remote telephone by using an 800 number or a 7- or 10-digit telephone number. The system returns an acknowledgment signaling the user to key in his or her barrier code, which is selected and administered by the system manager. After the barrier code is accepted, the system returns dial tone to the user. If you do not program specific restrictions, the user will be able to place any call normally dialed from a telephone associated with the system. Such an off-premises network call is originated at and will be billed from the system location.

The Remote Access feature helps the customer, through proper administration, to minimize the ability of unauthorized persons to gain access to the network. Most commonly, phone numbers and codes are compromised when overheard in a public location, through theft of a wallet or purse containing access information, or through carelessness (writing codes on a piece of paper and improperly discarding it). Additionally, hackers may use a computer to dial an access code and then publish the information to other hackers. Enormous charges can be run up quickly. It is the customer's responsibility to take the appropriate steps to properly implement the features, evaluate and administer the various restriction

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Remote Access Features

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levels, protect access codes, and distribute access codes only to individuals who have been fully advised of the sensitive nature of the access information.

Common carriers are required by law to collect their tariffed charges. While these charges are fraudulent charges made by persons with criminal intent, applicable tariffs state that the customer of record is responsible for payment of all long-distance or other network charges. Lucent Technologies cannot be responsible for such charges and will not make any allowance or give any credit for charges that result from unauthorized access.

To minimize the risk of unauthorized access to your communications system follow these basic rules:

- Use a nonpublished remote access number.
- Assign barrier codes randomly to users on a need-to-have basis, keeping a log of ALL authorized users and assigning one code to one person.
- Use random sequence barrier codes, which are less likely to be broken.
- Deactivate all unassigned codes promptly.
- Ensure that remote access users are aware of their responsibility to keep the telephone number and any barrier codes secure.
- When possible, restrict the off-network capability of off-premises callers using the Calling Restrictions and Disallowed List capabilities.
- When possible, block out-of-hours calling.
- Frequently monitor system call detail reports for quicker detection of any unauthorized or abnormal calling patterns.
- Limit remote call forward to persons on a need-to-have basis.
- Always use the longest length password allowed on the system.
- Passwords should consist of a random, non-repetitive, hard-toguess sequence of digits.

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Remote Access over Networked Tandem PRI and Tie Trunks

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> In Release 6.0 and later systems, Hybrid/PBX mode only, an ARS call originating at a remote, networked communications system can arrive on a networked tie or PRI trunk of the local system and receive remote-access treatment automatically. This operation allows callers on one system to use lines on another system speedily and transparently when optimal cost efficiency dictates the need for lines connected to a different switch in the organization's private network (in prior systems and for calls over other remote access trunks, it is necessary to make an explicit remote-access call, enter a barrier code, and finally use ARS).

> To permit this operation, both the local and remote systems must be programmed using ARS and remote access options. If two or more different system managers administer the networked systems, they should work together to coordinate their efforts.

Local Users Calling out on Networked Lines

To implement this operation on a local system where callers will use the networked lines on a remote system, use the procedures outlined in the section, "Automatic Route Selection" on page -363.

Remote Users Calling out on Local Lines

When your system is networked with a remote system, you can set up your system so that remote users can use public switched network trunks connected to your control unit for cost-efficient calling. Your system treats such calls as remote access calls, but the networked user does not enter a barrier code. Instead, the system applies default restrictions that apply to all tie and/or all non-tie trunks, as described later in this topic. These restrictions do not affect other remote-access trunks that are programmed for use with barrier codes

Calling restrictions should be imposed at the remote originating switch using ARS and extension FRLs as necessary. In addition, it is unnecessary to assign tandem trunks for remote access. It is easiest if networked systems that share outside facilities also use the same ARS access code (9, for example).

To implement this operation on a local system where callers on a remote networked system will use the local trunks connected to your MERLIN LEGEND Communications System control unit, use the procedures in this chapter as outlined below. The relevant topics provide additional details.

It is not necessary to assign private networked trunks for remote access. Callback for non-local trunk-to-trunk tandem calls does not work. Automatic Callback can be used at the local system when all private networked trunks are busy.

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- Specify that all tie trunks (that is, networked tandem tie trunks) and/or all non-tie trunks (that is, all PRI tandem trunks) will not require barrier codes. This does not affect calls dialing the remote access code if the trunks on the remote system are regular, assigned remote-access trunks accessed by remote access users on your own system. See "Remote Access without Barrier Codes" on page 345.
- 3. Change the default class of restrictions, as necessary, on tie or non-tie trunks. Any necessary restrictions should be imposed by the system manager for a call at the originating switch. For example, extensions may be assigned a Disallowed List to prevent 900 and 976 calls. If certain private trunks are reserved for particular purposes, the remote system manager may use UDP routing FRLs for this purpose.
- Make any necessary changes to ARS in order to route remote users' calls 4. to yet another system if more cost effective, or to add or absorb digits (an area code, for example) before sending a call over a trunk that is connected to your system. See "Automatic Route Selection" on page -363 for the procedures.

Remote Access Trunk Assignment

Use this procedure to assign or remove the trunks used for remote access. You can also use this procedure to specify whether the Remote Access feature is dedicated (always used for remote access) or shared (used for remote access only when Night Service is activated).

Trunks used for dedicated remote access must not be assigned to ring into a calling group or the QCC queue (Hybrid/PBX mode only).

In Release 6.0 and later systems, a remote-access caller who calls into his or her own local system can reach extensions networked to the local system (non-local dial plan extensions) just as on-site users of the local system can.

In Hybrid/PBX mode, if a trunk assigned to ring into the QCC gueue is also used for shared remote access, perform the procedure below before you attempt the procedure "QCC Operator to Receive Calls" on page 4-58.



NOTE:

A loop-start line must be programmed for Reliable Disconnect if it is to be used for remote access (see "Disconnect Signaling Reliability" on page 4-42).

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Summary: Remote Access Trunk Assignment

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 3a, Incoming Trunks: Remote Access

Factory Setting Remote Access is not assigned

Valid Entries Dedicated, Shared, No Remote

Inspect Yes
Copy Option No

Console Procedure LinesTrunks→RemoteAccss→LinesTrunks→

Dial line/trunk no. \rightarrow Enter \rightarrow Specify how trunk is used \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F4} \rightarrow \boxed{F8} \rightarrow \boxed{F1} \rightarrow \boxed{Type line/trunk no.} \rightarrow \boxed{F10} \rightarrow \boxed{$

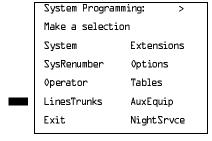
Specify how trunk is used \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Remote Access Trunk Assignment

Console/Display Instructions Additional Information

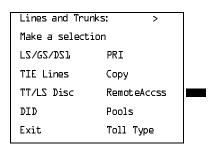
PC

▶ 1. Select the Lines and Trunks menu.



F4

2. Select Remote Access.



➤ 7. Continue to assign the remote access status to another line/trunk or go to Step 8.

Select Next.

Return to Step 6. The next line/trunk is be displayed on Line 1.

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Console/Display Instructions

Additional Information

PC

Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit twice.

F5 F5

Remote Access Automatic Callback

Use this procedure either to allow remote access users to use the Automatic Callback feature to request busy lines/trunks or pools or to prevent use of the Automatic Callback feature.



This feature applies to Hybrid/PBX mode only.

Summary: Remote Access Automatic Callback

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 3a, Incoming Trunks: Remote Access

Factory Setting Disable

Valid Entries Disable, Enable

Inspect No Copy Option No

Console Procedure LinesTrunks→RemoteAccss→AutoQueuing→

Enable or Disable \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F8 \rightarrow F6 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$ 4 Common Administrative Procedures Remote Access Features

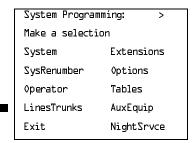
Page 4-344

Procedure: Remote Access Automatic Callback

Console/Display Instructions Additional Information

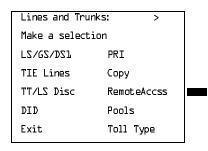
PC

▶ 1. Select the Lines and Trunks menu.



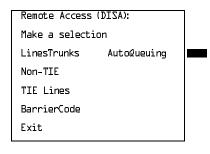
F4

2. Select Remote Access.



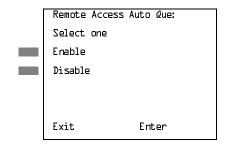
F8

▶ 3. Specify Automatic Callback (queuing).



F6

▶ 4. Allow or disallow use of the Automatic Callback feature by remote access users.



Select Enable or Disable.

F1 F2 **MERLIN LEGEND Communications System Release 6.0** System Programming 555-660-111

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Page 4-345

Console Display/Instructions

Additional Information

PC

Save your entry. **▶** 5.

Select Enter.

F10

6. Return to the System Programming menu.

Select Exit twice.

F5 F5

Remote Access without Barrier Codes

Use this procedure to change the class of restriction for one of the following:

- All non-tie lines/trunks
- All tie trunks and DID trunks with Remote Access
- DID remote access code



A SECURITY ALERT:

Your system will be highly susceptible to toll fraud if you activate the Remote Access feature without barrier codes. Lucent Technologies does not recommend doing this except in cases where your remote-access trunks are being used by external users connected to a system that is in a private network with your own (Release 6.0 and later). Even in these cases, the lack of barrier code poses a risk of toll fraud. Be sure that the remote system manager assigns any necessary restrictions.



If barrier code requirements have been established for remote access users, use "Remote Access with Barrier Codes" on page -357 and not this procedure.

The class of restriction assigned may be one of the following:

- Restriction. Determines whether remote access users can make local and/or toll calls and includes the following settings:
 - Unrestricted
 - Toll restricted
 - Outward restricted

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Remote Access Features

Page 4-346

- ARS Facility Restriction Level (Hybrid/PBX only). Allows or disallows use of outgoing trunks by assigning a facility restriction level from 0 through 6. The FRL ranges from 0 (most restrictive) to 6 (least restrictive). The FRL value assigned here is the opposite of the FRL value assigned to the ARS route, where a value of 0 is the least restrictive and a value of 6 is the most restrictive.
- Allowed Lists Assignment. Assigns Allowed Lists and is used when remote access users are restricted from making local or toll calls.
- **Disallowed Lists Assignment.** Assigns Disallowed Lists and is used when remote access users are not restricted from making local or toll calls.

A maximum of eight Allowed or Disallowed Lists can be assigned to lines/trunks.

Class of restriction settings are assigned either to all non-tie trunks or to all tie trunks and DID trunks. They cannot be assigned to each trunk on an individual basis.

Summary: Remote Access without Barrier Codes

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 3a, Incoming Trunks: Remote Access

Factory Setting Call restriction: Outward restricted

ARS restriction level: 3

Valid Entries Unrestricted, Toll Restricted, Outward Restricted: 0 to 6

Inspect No Copy Option No

Console Procedure To change calling restrictions:

$$\label{linesTrunks} \begin{split} &\text{LinesTrunks} {\to} \text{RemoteAccss} {\to} \text{Non-TIE or TIE Lines} {\to} \\ &\text{Restriction} {\to} \text{Select restriction} {\to} \text{Enter} {\to} \text{Exit} {\to} \end{split}$$

 $Exit \rightarrow Exit \rightarrow Exit$

To change ARS Facility Restriction Level:

 $\label{linesTrunks} \rightarrow RemoteAccss\rightarrow Non-TIE or TIE Lines\rightarrow ARS$

Restrict \rightarrow **Drop** \rightarrow Dial FRL value \rightarrow Enter \rightarrow Exit \rightarrow

Exit→Exit→Exit

To assign/remove Allowed Lists:

 ${\tt LinesTrunks} {\rightarrow} {\tt RemoteAccss} {\rightarrow} {\tt Non-TIE} \ \, {\tt or} \ \, {\tt TIE} \ \, {\tt Lines} {\rightarrow}$

Allow List→Dial list no.→Enter→Exit→Exit→

Exit→Exit

Common Administrative Procedures

Remote Access Features

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To assign/remove Disallowed Lists:

 $\label{linesTrunks} \rightarrow RemoteAccss\rightarrow Non-TIE or TIE Lines\rightarrow DisallowLst\rightarrow DisallowLst\rightarrow Exit\rightarrow Exit$\rightarrow$$

Exit→Exit

PC Procedure

To change calling restrictions:

To change ARS Facility Restriction Level:

$$F4 \rightarrow F8 \rightarrow F2$$
 or $F3 \rightarrow F3 \rightarrow Alt + P \rightarrow Type FRL value $\rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$$

To assign/remove Allowed Lists:

$$F4$$
 \rightarrow $F8$ \rightarrow $F2$ or $F3$ \rightarrow $F4$ \rightarrow Type list no. \rightarrow $F5$ \rightarrow $F5$ \rightarrow $F5$

To assign/remove Disallowed Lists:

$$F4$$
 \rightarrow $F8$ \rightarrow $F2$ or $F3$ \rightarrow $F6$ \rightarrow Type list no. \rightarrow $F10$ \rightarrow $F5$ \rightarrow $F5$ \rightarrow $F5$ \rightarrow $F5$

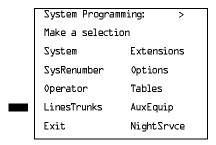
Procedure: Remote Access without Barrier Codes

Console/Display Instructions

Additional Information

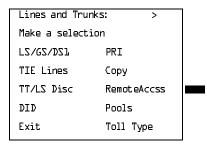
PC

1. Select the Lines and Trunks menu.



F4

2. Select Remote Access.



Common Administrative Procedures Remote Access Features

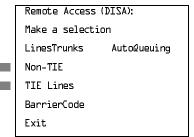
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Console Display/Instructions

Additional Information

PC

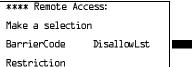
Specify whether you are establishing/removing a class of restrictions for non-tie lines/trunks or for tie and DID trunks.



Select Non-TIE or TIE Lines.

F2 F3

Select an option.



**** = option name selected in Step 3

To change current calling restrictions, select Restriction and go to

F2

Restriction Procedure.

To change ARS Facility Restriction level, F3 select ARS Restrct and go to

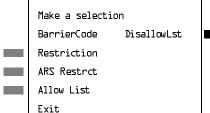
◆ ARS Restriction Procedure.

To change Allowed Lists, select Allow List.

[F4]

To change Disallowed Lists select Disallow Lstand go to

■ Allowed or Disallowed Lists Procedure.



4 Common Administrative Procedures
Remote Access Features

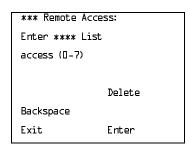
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■ Allowed or Disallowed Lists Procedure

Console/Display Instructions Additional Information

PC

1. Enter the list you want to assign (n = 0 to 7).



*** = option name selected in Step 3

**** = option name selected in Step 5

Dial or type [n].

C

2. Assign or remove the list.

Select Enter or Delete.

F10

F8

3. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Remote Access Barrier Codes

Use this procedure to establish or remove barrier code requirements as well as to establish or remove the barrier codes themselves.

Barrier codes are security passwords that restrict users from making unauthorized remote access calls on tie and non-tie lines and trunks. Callers are allowed three attempts per call to enter the correct remote access barrier code. If the caller enters an incorrect barrier code or times out during code entry, the caller hears the retry tone. The caller can erase an entered code by dialing ** (two asterisks). Code erasure is counted as one of the three permitted attempts. After three unsuccessful attempts, the caller hears a reorder tone and the call is disconnected. If this happens, the SMDR contains sixteen 0s in the Account Code field to flag the three failed attempts.

A maximum of 16 barrier codes are allowed for all lines/trunks. Each of the 16 barrier codes may be programmed with its own class of restriction (COR).

4 Common Administrative Procedures Remote Access Features

Page 4-351

The systemwide barrier code length can range from a minimum of 4 characters to a maximum of 11 characters. The default length is 7. If you enter a length that is less than 4 or greater than 11, the entry is erased and the previous entry displays on the screen. When the barrier code length is changed, all barrier codes are erased and must be reassigned. If the barrier code length is changed and barrier codes are not reassigned, users can dial into remote access trunks and enter a barrier code, but are denied access into the remote access trunks no matter what code is entered.



A SECURITY ALERT:

Always use the longest length barrier code allowed on the system.

Barrier codes should consist of a random, non-repetitive, hard-to-guess sequence of digits.

The time and date of the most recent change made to the systemwide barrier code length is shown during the system programming procedure as well as on the Remote Access DISA Information report. The SMDR record for incoming remote access trunks includes the barrier code IDs established in this procedure.

Use numbers 0 through 9 and the asterisk (*) to enter the barrier codes. The codes cannot start with an asterisk and cannot contain two consecutive asterisks. (The use of two consecutive asterisks is reserved for users to erase an incorrect barrier code entry.)

See "Remote Access without Barrier Codes" on page -345 to allow or deny use of system features for each barrier code assigned.

Summary: Remote Access Barrier Codes

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 3a, Incoming Trunks: Remote Access

Factory Setting No barrier codes are established

Valid Entries Not applicable

Inspect No Copy Option No

4 Common Administrative Procedures
Remote Access Features

Page 4-352

Console Procedure To establish or remove code requirements:

LinesTrunks→RemoteAccss→Non-Tie or TIE Lines→BarrierCode→Specify whether barrier codes are

required \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

To change barrier code length:

 $LinesTrunks \rightarrow RemoteAccss \rightarrow BarrierCode \rightarrow$

Code Info \rightarrow Code Length \rightarrow Drop \rightarrow Dial code length \rightarrow

 $Enter \rightarrow Yes \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To change barrier code:

 $\label{linesTrunks} $$\operatorname{RemoteAccss} \to \operatorname{BarrierCode} \to \operatorname{Code Info} \to \operatorname{Code Entry} \to \operatorname{Dial code ID} \to \operatorname{Enter} \to \operatorname{Drop} \to \operatorname{Dial code} \to \operatorname{Enter} \to \operatorname{Exit} \to \operatorname{Exit} \to \operatorname{Exit} \to \operatorname{Exit}$

PC Procedure

To establish or remove code requirements:

 $F4 \rightarrow F8 \rightarrow F2$ or $F3 \rightarrow F1 \rightarrow Specify$ whether barrier

codes are required \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)

To change barrier code length:

Type code length \rightarrow [F10] \rightarrow [F2] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

To change barrier code:

$$\underbrace{\text{F4}} \rightarrow \underbrace{\text{F8}} \rightarrow \underbrace{\text{F4}} \rightarrow \underbrace{\text{F2}} \rightarrow \underbrace{\text{F2}} \rightarrow \underbrace{\text{Type Code ID}} \rightarrow \underbrace{\text{F10}} \rightarrow$$

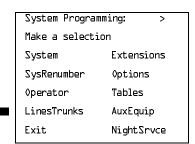
Alt + P \rightarrow Dial code length \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Remote Access Barrier Codes

Console/Display Instructions Additional Information

PC

1. Select the Lines and Trunks menu.



Common Administrative Procedures

Remote Access Features

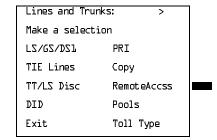
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Console/Display Instructions

Additional Information

PC

▶ 2. Select Remote Access.



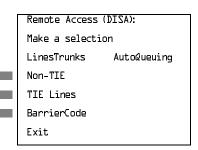
F8

F2

[F3]

F4

3. Select an option.

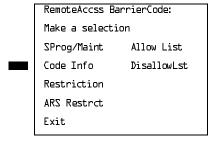


Select Non-TIE or TIE Lines to specify whether barrier codes apply to non-tie or tie trunks and go to

 Establish or Remove Barrier Code Requirements Procedure.

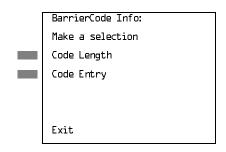
Select BarrierCode to change the barrier code length or edit a barrier code, and continue with Step 4.

▶ 4. Select Code Information.



F2

5. Select an option.



To change the length of the barrier code, select Code Length and go to

◆ Change Barrier Code Length Procedure.

To edit a specific barrier code, select Code Entry and go to

■ Change Barrier Code Procedure.

F1

4 Common Administrative Procedures Remote Access Features

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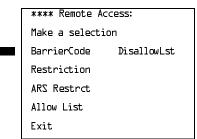
● Establish or Remove Barrier Code Requirements Procedure

Console/Display Instructions

Additional Information

PC

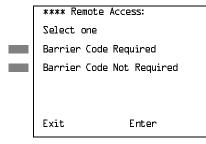
▶ 1. Select Barrier Code.



**** = option name selected in Step 3

F1

2. Specify barrier code requirement.



**** = option name selected in Step 3

Select Barrier Code Required or

Barrier Code Not Required.

F1 F2

Save your entry.

Select Enter. [F10]

▶ 4. Return to the System Programming menu.

Select Exit three times. F5 F5 F5

4 Common Administrative Procedures Remote Access Features

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◆Change Barrier Code Length Procedure

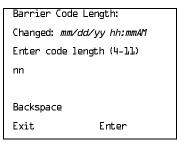
When the systemwide barrier code length is changed, all barrier codes are erased and must be reassigned. Users are denied access to remote access trunks until new barrier codes are assigned.

Console/Display Instructions

Additional Information

PC

▶ 1. Erase the current code length (nn).



The screen displays the date and time of the most recent change to the barrier code length.

Press **Drop**.

Alt + P

ightharpoonup 2. Enter the new length of the code (nn = 4 to 11).

Dial or type [nn].

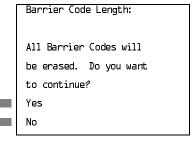
C

3. Save your entry.

Select Enter.

F10

▶ 4. Respond to the confirmation prompt.



If you select No, return to Step 5 of the main procedure.

F1

Select Yes to continue.

F2

▶ 5. Save your entry.

Select Enter.

F10

▶ 6. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

Select Exit three times.

Issue 1

F5 F5 F5

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	ommon Administrative Procedures emote Access Features	Pa	age 4-356
C h	ange Barrier Code Procedure		
	Console/Display Instructions	Additional Information	PC
1.	Enter the barrier code ID numb	per (<i>nn</i> = 1 to 16).	
	RemoteAccss BarrierCode:		
	Enter Barriercode number		
	(1-14)		
	Backspace		
	Exit Enter	Dial or type [nn].	C
2.	Save your entry.		
	Select Enter.		F10
3.	Erase the current code (nnnn).		
	BarrierCode xx :	xx = barrier code ID number entered in	
	Enter yy digits (0-9, *)	Step 1	
	code	yy = barrier code length	
	nnnn		
	Backspace Next		
	Exit Enter	Press Drop .	Alt + P
4.	Enter a code of up to 11 digits	[N = any combination of 0 to 9 and an aste	risk (*)].
	Dial or type [N].		C
5 .	Continue to assign the code to Step 6.	another barrier code ID number or go to	
	Select Next.		F9
		Return to Step 3. The next barrier code is displayed on Line 1.	number
6.	Save your entry.		
	Select Enter.		F10
7 .	Return to the System Program	mina menu.	

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4 Common Administrative Procedures
Remote Access Features

Remote Access with Barrier Codes

Use this procedure to change the class of restriction for individual remote access barrier codes. The class of restriction assigned to each barrier code allows or denies the use of the following system features:

- **Restriction.** Determines whether remote access users can make local and/or toll calls, and includes the following settings:
 - Unrestricted
 - Toll restricted
 - Outward restricted
- ARS Facility Restriction Level (Hybrid/PBX only). Allows or restricts use of outgoing trunks by assigning a facility restriction level (FRL) from 0 through 6. The FRL ranges from 0 (most restrictive) to 6 (least restrictive). The FRL value assigned here is the opposite of the FRL value assigned to the ARS route, where a value of 0 is the least restrictive, and a value of 6 is the most restrictive.
- Allowed Lists Assignment. Assigns Allowed Lists and is used when remote access users are restricted from making local or toll calls.
- Disallowed Lists Assignment. Assigns Disallowed Lists and is used when remote access users are not restricted from making local or toll calls.

A maximum of eight Allowed or Disallowed Lists can be assigned to each barrier code. Class of restriction settings apply to individual barrier codes.

NOTE:

If barrier code requirements have not been established or have been removed for remote access users, do not use this procedure. See <u>"Remote Access without Barrier Codes"</u> on page 345.

Summary: Remote Access with Barrier Codes

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 3a, Incoming Trunks: Remote Access

Factory Setting Calling restrictions:

Barrier Code: outward restricted All other barrier codes: unrestricted

ARS restriction level: 3

Valid Entries Unrestricted, Toll Restricted, Outward Restricted; 0 to 6

4 Common Administrative Procedures

Remote Access Features

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Inspect No Copy Option No

Console Procedure LinesTrunks→RemoteAccss→BarrierCode→

Restriction→Dial barrier code no.→Enter→Select restriction→Enter→ARS Restrict→Dial barrier code no.→Enter→Drop→Dial FRL value→Enter→

Allow List or Disallow List→Dial barrier code no.→
Enter→Dial list no.→Enter→Exit→Exit→Exit→Exit

PC Procedure $\boxed{F4} \rightarrow \boxed{F8} \rightarrow \boxed{F4} \rightarrow \boxed{F3} \rightarrow \boxed{Type barrier code no.} \rightarrow \boxed{F10} \rightarrow$

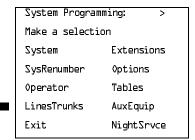
Select restriction \rightarrow F10 \rightarrow F4 \rightarrow Type barrier code no. \rightarrow F10 \rightarrow Alt + P \rightarrow Type FRL value \rightarrow F10 \rightarrow F6 or F7 \rightarrow Dial barrier code no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

Procedure: Remote Access with Barrier Codes

Console/Display Instructions Additional Information

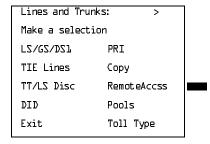
PC

▶ 1. Select the Lines and Trunks menu.



F4

▶ 2. Select Remote Access.



2. Save your entry.

F10

Save your entry.

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4		mmon Administrative Procedures mote Access Features		Page 4-362
		Console/Display Instruction	s Additional Information	PC
>	2.	Save your entry.		
		Select Enter.		F10
>	3.	Enter the number of the All to assign or remove $(n = 0)$	owed List or Disallowed List you want to 7).	
		Barrier Code xx:	xx = barrier code entered in Step	1
		Enter AllowedList access (0-7)		
		(0-7)		
		Delete		
		Backspace Next		
		Exit Enter	Dial or type [<i>n</i>].	C
	4.	Assign or remove the Allov the barrier code number. Select Enter or Delete.	You may continue to assign or rem	
			lists from the barrier code number Steps 3 and 4.	by repeating
>	5.	Continue to assign or remo	ove lists from the next barrier code nun	nber
		Select Next.		F9
			Return to Step 3. The next barrier is displayed on Line 1.	code number
>	6.	Save your entry.		
		Select Enter.		F10
>	7.	Return to the System Progr	ramming menu.	
		Select Exit three times.		F5 F5

4 Common Administrative Procedures Automatic Route Selection

Page 4-363

Automatic Route Selection

This section contains programming procedures for the following Automatic Route Selection (ARS) features:

- 1 + 7-Digit Dialing Requirements
- ARS Tables
- Start and Stop Times for Subpatterns
- Pool Routing
- Facility Restriction Level (FRL)
- Digit Absorption
- Other Digits
- N11 Special Numbers Tables
- Dial 0 Table
- Voice and/or Data Routing

NOTE:

ARS applies to Hybrid/PBX mode only.

ARS over Networked Tandem PRI and Tie Trunks

In Release 6.0 and later systems, Hybrid/PBX mode only, callers on one system can use lines on another system speedily and transparently when optimal cost efficiency dictates the need for lines connected to a different switch in the organization's private network (in prior systems, it is necessary to make an explicit remote-access call, enter a barrier code, and finally use ARS). To permit this operation, both the local and remote systems must be programmed using ARS and remote access options.

Remote Users Calling out on Local Networked Lines

To implement this operation on a local system where remote callers will use the networked lines connected to your system, use the procedures outlined in the section "Remote Access Features" on page –337.

4 Common Administrative Procedures *Automatic Route Selection*

Page 4-364

Local Users Calling out on Networked Lines

To implement this operation on a local system where callers will use the trunks on a *remote* system, use the procedures outlined in this section. The relevant topics provide additional details.

- Assign the networked tandem tie and/or PRI trunks to a pool or pools including only those types of trunks. See <u>"Trunks to Pools Assignment" on page 72.</u>
- 2. Use one or more ARS tables for routing calls. Typically, you might need an area code table. For example, if the remote system is in the 617 area code and your local system is in the 908 area code, the area code table that you set up might include the entry £17. The type of table required depends upon how users in your system will employ networked lines. At the remote system, ARS can be used, if necessary, to route the call to yet another networked system. See "ARS Tables" on page 367.
- 3. Set up the subpatterns for the table. In doing so, you may wish to check with the remote system manager to ensure that routing will stipulate the most cost-effective timing based on the rates at the remote location. If the remote system is in a different time zone from your own, you may need to take this into consideration as well. See "Start and Stop Times for Subpatterns" on page 370.
- 4. Assign each tandem and/or tie trunk pool to an ARS table. See <u>"Pool</u> Routing" on page 374.
- Assign appropriate Facility Restriction Levels to the routes and to the
 extensions that will use the networked lines. Factory settings restrict toll
 calls. See <u>"Facility Restriction Level" on page -378</u> and "ARS Restriction
 Level For Extensions" on page 3–108 respectively.
- 6. Assign absorbed and other (added) digits as required at both ends of the connection. The local ARS feature adds (prepends) the ARS access code of the remote system. At the remote system digit absorption may be needed. For example, if local callers are in the 908 area code but the networked lines are connected to a system in the 617 area code, callers might dial \$\frac{71\leftal}{2\leftal}\frac{7555l2l2}{2}\$, where \$\frac{7}\$ is the local ARS access code. At the remote system, because the call would be a local call, the absorbed digits would be \$\frac{1\leftal}{2\leftal}\frac{7}{2}\$. See the ARS topics, "Digit Absorption" on page \$-382\$ and "Other Digits" on page \$-387\$ for additional information.



A SECURITY ALERT:

In Release 6.0 and later systems, do not place remote ARS access codes in the non-local dial plan by specifying, for example, a non-local extension range as 9000–9050 when the remote ARS access code is 9. Doing so allows DID callers to make outside calls through the remote switch. **4** Common Administrative Procedures *Automatic Route Selection*

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1 + 7-Digit Dialing Requirements

Use this procedure for calls placed within the same (home) area code as the system. The procedure allows you to specify whether or not the local telephone company requires a 1 to precede the 7-digit number. The two available settings are:

- Within Area Code. Requires that a 1 plus a 7-digit number must be dialed; the system checks the 1 + 7-digit tables for routing.
- Not Within Area Code. Does not require that a 1 precede the 7-digit number (the system does this automatically).

Summary: 1 + 7-Digit Dialing Requirements

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 3f, Automatic Route Selection Tables

Factory Setting Not within area code

Valid Entries Not within area code, Within area code

Inspect No Copy Option No

Console Procedure Tables ARS 1+7Dial Within Area Code or

Not within Area Code→Enter→Exit→Exit

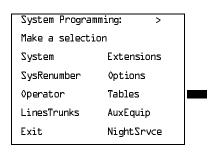
PC Procedure $F8 \rightarrow F6 \rightarrow F1 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: 1 + 7-Digit Dialing Requirements

Console/Display Instructions Additional Information

PC

Select the Tables menu.



Common Administrative Procedures

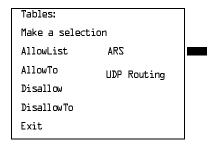
Automatic Route Selection

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Console/Display Instructions Additional Information

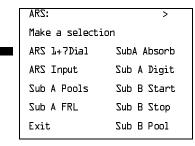
PC

2. Select Automatic Route Selection.



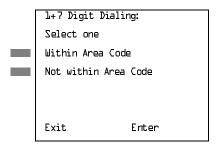
F6

3. Select ARS 1+7 Digit Dial.



F1

▶ 4. Specify whether 1+7-digit dialing is required within the home area code.



Select Within Area Code or Not within Area Code.

F1

5. Save your entry.

Select Enter.

[F10]

▶ 6. Return to the System Programming menu.

Select Exit twice.

F5 F5

4 Common Administrative Procedures

Automatic Route Selection Page 4-367

ARS Tables

Use this procedure for the following tasks:

- To specify type of table (6-digit, area code, exchange, or 1 + 7-digit number)
- To add or change area codes to be included in each table
- To add or change exchanges to be included in each table

A maximum of 16 tables can be established, numbered 1 through 16. Each table can have a maximum of 100 entries, numbered 1 through 100. Tables 17 and 18, the Default Toll and Default Local tables respectively, cannot be changed.

The first entry in a 6-digit table must be the area code. Subsequent entries consist of exchanges within that area code.

Area code tables can contain only area codes. In Release 6.0 and later systems, these tables are often used to provide cost-efficient calling through networked lines/trunks connected to another system. The type of table required depends upon how users in the networked systems will employ networked lines. When you use ARS in this way, the ARS access code is only permitted on private trunks and is blocked from calls that arrive from the public switched network.

Exchange and 1 + 7-digit tables can contain only exchanges.

The wildcard character (Pause) cannot be used to enter area codes or exchanges in ARS tables.

Summary: ARS Tables

Programmable by. System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 3f, Automatic Route Selection Tables

Factory Setting Not applicable
Valid Entries Not applicable

Inspect Yes
Copy Option No

Console Procedure Tables \rightarrow ARS \rightarrow ARS Input \rightarrow Dial table no. \rightarrow Enter \rightarrow

Specify table type→Enter→Dial entry no.→Enter→

Drop \rightarrow Dial no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

4 Common Administrative Procedures Automatic Route Selection

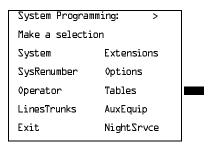
Page 4-368

PC Procedure
$$F8 \rightarrow F6 \rightarrow F2 \rightarrow Type \text{ table no.} \rightarrow F10 \rightarrow Select \text{ table type} \rightarrow F10 \rightarrow Type \text{ entry no.} \rightarrow F10 \rightarrow F5 \rightarrow F5$$

Procedure: ARS Tables

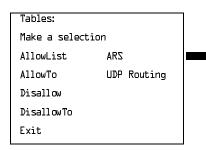
Console/Display Instructions Additional Information PC

■ 1. Select the Tables menu.



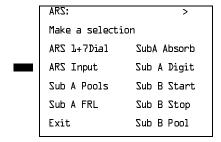
F8

Select Automatic Route Selection.



[F6]

▶ 3. Select ARS Table Input.



	ERLIN LEGEND Communications System Programming 555-660-111	em Release 6.0	Issue 1 February 1998
4	Common Administrative Procedures Automatic Route Selection		Page 4-370
	Automatic Noute Gelection		r age 4-370
	Console/Display Instructions	Additional Information	PC
>	10. Erase the current entry (nnn).		
	ARS Table xx, Entry xxx:	xx = table number entered in Step	4
	Enter area code or	xxx = entry number entered in Step	8 (
	exchange		
	nnn		
	Backspace Next		
	Exit Enter	Press Drop .	Alt + P
>	12. Continue to enter area code of to Step 13.Select Next.	or exchange for another table entry nu	imber or go
		Return to Step 10. The next table is displayed on Line 1.	5
>	13. Save your entry.		
	Select Enter.		F10
>	14. Return to the System Program	nming menu.	
	Select Exit twice.		F5 F5
St	art and Stop Times for Subpatte	erns	
	Use this procedure to speci	fy the time of day that calls are routed us	sina

Use this procedure to specify the time of day that calls are routed using Subpattern B routing information.

Subpatterns are used to provide two different routing patterns according to the time of day. This allows you to take advantage of lower rates that may apply to some or all lines, or to change restrictions on some facilities during off hours.

The stop time for Subpattern B is the start time for Subpattern A.

Enter the time in 4-digit, 24-hour notation, and use leading zeros as necessary.

4 Common Administrative Procedures *Automatic Route Selection*

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In Release 6.0 and later systems, if you are setting up ARS to allow local users to make cost-efficient calls on trunks connected to remote systems, you may wish to check with the remote system manager to ensure that routing stipulates the most cost-effective timing based on the rates at the remote location. If the remote system is in a different time zone from your own, you may need to take this into consideration as well

Summary: Start and Stop Times for Subpatterns

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 3f, Automatic Route Selection Tables

Form 3g, Automatic Route Selection Default and

Special Numbers Tables

Factory Setting No time is specified, thus all calls are routed according to

Subpattern A.

Valid Entries 0000 to 2359

Inspect No Copy Option No

Console Procedure Tables→ARS→Sub B Start→Dial table no.→Enter→

Drop \rightarrow Dial start time \rightarrow Enter \rightarrow Sub B Stop \rightarrow Dial table no. \rightarrow Enter \rightarrow Drop \rightarrow Dial stop time \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure

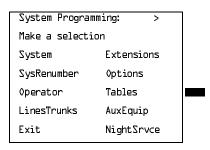
Type stop time \rightarrow F10 \rightarrow F5 \rightarrow F5

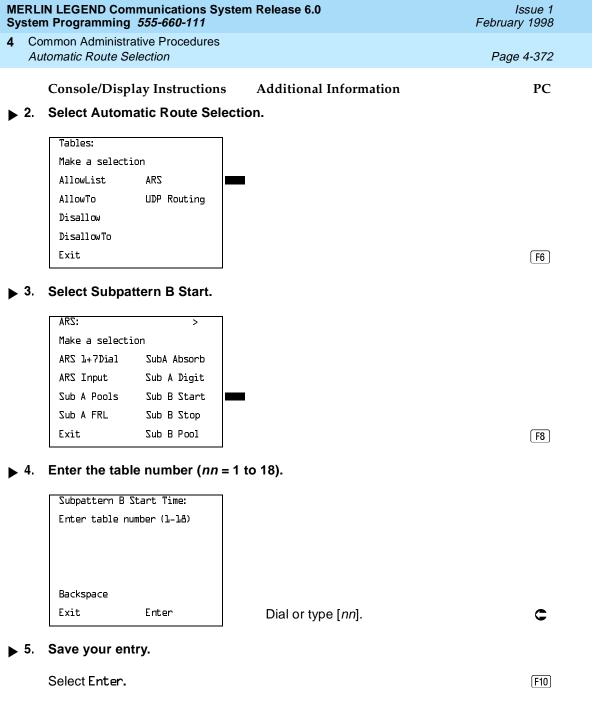
Procedure: Start and Stop Times for Subpatterns

Console/Display Instructions Additional Information

PC

1. Select the Tables menu.





[F10]

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Console Display/Instructions Additional Information

PC

▶ 12. Erase the current stop time (xxxx).

Subpattern B Stop Time:
Enter stop time hour
(00-23) and min (00-59)
xxxx

Backspace
Exit Enter

Press Drop.

Alt]+[P]

▶ 13. Enter the stop time for Subpattern B (hh = 00 to 23, mm = 00 to 59).

Dial or type [hhmm].

C

▶ 14. Save your entry.

Select Enter.

F10

▶ 15. Return to the System Programming menu.

Select Exit twice.

F5 F5

Pool Routing

Use this procedure to identify the trunk pools on which to route calls to area codes and/or exchanges included in ARS tables.

A maximum of six routes (numbered 1 through 6) can be specified for each subpattern. Pool routing is programmed for Tables 1 through 16. Tables 17 and 18, the Default Toll and Default Local tables respectively, cannot be changed.



1. In Release 6.0 and later systems, when routing for ARS 10*** and 101**** equal-access calls (Interexchange Carrier or IXC) from a networked switch that is not connected to the public switched network and only has private network trunks, the private network trunks must be assigned to the main pool on the system where ARS is dialed. The ARS access code for the caller's system must match that of the system where the public switched network trunks are connected. For this reason, consider using the same ARS access code for all systems in the private network.

4 Common Administrative Procedures *Automatic Route Selection*

Page 4-375

For Dial 0 and Special Numbers N11 calls routed from systems with only private trunks, the private trunks must be assigned to the main pool, and the ARS access code of the remote system must be prepended to the dialed number (see "Dial 0 Table" on page -393 and "N11 Special Numbers Tables" on page -390). Therefore, ARS access codes should be the same.

Summary: Pool Routing

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 3f, Automatic Route Selection Tables

Form 3g, Automatic Route Selection Default and

Special Numbers Tables

Factory Setting Not applicable Valid Entries Not applicable

Inspect No Copy Option No

Console Procedure Tables \rightarrow ARS \rightarrow Sub A Pools or Sub B Pool \rightarrow Dial table no.

and pool route no. \rightarrow Enter \rightarrow Dial pool dial-out code \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $[F8] \rightarrow [F6] \rightarrow [F3]$ or $[F10] \rightarrow Type$ table no. and pool route no. \rightarrow

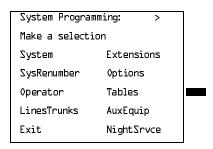
F10 \rightarrow Type pool dial-out code \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Pool Routing

Console/Display Instructions Additional Information

PC

1 Select the Tables menu.



[F10]

F10

Save your entry.

4 Common Administrative Procedures Automatic Route Selection

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Console/Display Instructions

Additional Information

PC

Enter a pool dial-out code of up to 3 digits on which to route calls.

ARS Pool (xx,x): Enter pool dialout code Backspace Next Exit Enter

xx = table number entered in Step 1 x = route number entered in Step 1

Dial or type [nnn].

C

Continue to enter pool dial-out code(s) for another route or go to Step 5.

Select Next.

F9

Return to Step 3. The next route is displayed on Line 1.

Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit twice.

F5 F5

Facility Restriction Level

Use this procedure to assign a Facility Restriction Level (FRL) to each route. The FRL ranges from 0 (least restrictive) to 6 (most restrictive) and is used to restrict user access to the route. The FRL assigned to extensions and remote access users is the opposite of the FRL assigned to routes, where 0 is the most restrictive and 6 is the least restrictive.



NOTE:

Pool routes must be programmed before you assign Facility Restriction Levels.

Facility Restriction Levels are assigned to Tables 1 through 18. Tables 17 and 18, the Default Toll and Default Local tables respectively, cannot be changed.

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4 Common Administrative Procedures

Automatic Route Selection

Summary: Facility Restriction Level

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 3f, Automatic Route Selection Tables

Form 3g, Automatic Route Selection Default and

Special Numbers Tables

Factory Setting 3 (beginning with Release 3.1, Table 18, the Default Local

table has a factory setting of 2)

Valid Entries 0 to 6

Inspect No Copy Option No

Console Procedure Tables \rightarrow ARS \rightarrow Sub A FRL or More and Sub B FRL \rightarrow Dial

table no, and pool route no. \rightarrow Enter \rightarrow Dial restriction level \rightarrow

Enter→Exit→Exit

PC Procedure $[F8] \rightarrow [F6] \rightarrow [F4]$ or [F9Up] and $[F1] \rightarrow [F9Up]$ and $[F1] \rightarrow [F9Up]$ and $[F1] \rightarrow [F9Up]$

route no. \rightarrow F10] \rightarrow Type restriction level \rightarrow F10] \rightarrow F5] \rightarrow F5

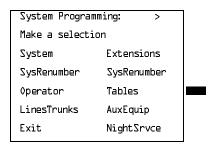
Procedure: Facility Restriction Level

Console Display/Instructions Addition

Additional Information

PC

1. Select the Tables menu.



(F10)

F10

Save your entry.

Common Administrative Procedures

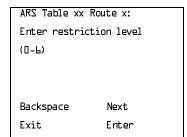
Automatic Route Selection

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Console Display/Instructions Additional Information

PC

▶ 3. Enter the restriction level (n = 0 to 6).



xx = table number entered in Step 1 x = route number entered in Step 1

Dial or type [n].

▶ 4. Continue to enter FRL for another pool route or go to Step 5.

Select Next. F9

Return to Step 3. The next route is displayed on Line 1.

▶ 5. Save your entry.

Select Enter. F10

▶ 6. Return to the System Programming menu.

Select Exit twice. F5 F5

Digit Absorption

Use this procedure to specify how many of the digits dialed (0 through 11) by the caller should be absorbed (not sent to the telephone company's central office) by the system when a call is made on an identified route.

Entries of 1 through 11 indicate that the system should not send the specified number of digits, starting with the first digit dialed by the user after the dial-out code.

Digit absorption is assigned to Tables 1 through 18.

4 Common Administrative Procedures

Automatic Route Selection Page 4-383

NOTES:

- 1. Pool routes must be programmed before you assign digit absorption.
- 2. In Release 6.0 and later systems where remote users will dial out via networked lines, absorbed digits are often useful. For example, if remote callers are in the 908 area code but your system is in the 617 area code, callers might dial 71L175551212, where 7 is the remote ARS access code. Because the call is a local call on the remote system, the absorbed digits on that system would be 1L17.

Summary: Digit Absorption

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 3f, Automatic Route Selection Tables

Factory Setting 0

Valid Entries 0 to 11

Inspect No Copy Option No

Console Procedure Tables→ARS→SubA Absorb or **More** and SubB Absorb→

Dial table no. and pool route no. \rightarrow Enter \rightarrow Drop \rightarrow Dial no. of

digits to absorb \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $\overline{F8} \rightarrow \overline{F6} \rightarrow \overline{F6}$ or \overline{PgUp} and $\overline{F2} \rightarrow \overline{Type}$ table no. and pool

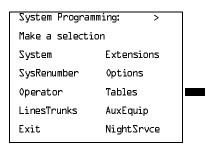
route no. \rightarrow [F10] \rightarrow [Alt] + P] \rightarrow Type no. of digits to absorb \rightarrow

 $[F10] \rightarrow [F5] \rightarrow [F5]$

Procedure: Digit Absorption

Console/Display Instructions Additional Information PC

1. Select the Tables menu.



[F10]

	IN LEGEND Communications System Programming 555-660-111		Issue 1 February 1998
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,			_
•	Console/Display Instructions	Additional Information	PC
2.	Save your entry.		
	Select Enter.		F10
3.	Erase the current number of a	bsorbed digits (<i>nn</i>).	
	ARS Table xx Route x:	xx = table number entered in Step 1	
	Enter number of digits	x = route number entered in Step	1
	to absorb (D-11)		
	Backspace Next Exit Enter	Drees Bron	
	EXIL Elicer	Press Drop .	(Alt)+(P)
4.	Enter the number of digits to b	be absorbed ($nn = 1$ to 11).	
	Dial or type [nn].		C
5.	Continue to enter absorbed dig Subpattern B or go to Step 6.	gits for another route number for	
	Select Next.		F9
		Return to Step 3. The next route nuis displayed on Line 1.	mber
6.	Save your entry.		
	Select Enter.		F10
7.	Return to the System Program	ming menu.	
	Select Exit twice.		F5 F5

M Sy

4 Common Administrative Procedures

Automatic Route Selection Page 4-387

Other Digits

Use this procedure to specify other (extra) digits that must be added by the system to the beginning of the number dialed by the caller, when calls are placed on an identified route.



- 1. Pool routes must be programmed before you assign other digits.
- In Release 6.0 and later systems where ARS calls will be made from lines/trunks connected to a remote networked system, the local ARS feature adds (prepends) the ARS access code of the remote system.

A maximum of 20 digits can be added, in any combination of the digits 0 through 9.

Special characters such as switchhook flash, Stop, and # cannot be included as extra digits. Pause is allowed in every position but the first.

Other digits are assigned to Tables 1 through 18.

Summary: Other Digits

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 3f, Automatic Route Selection Tables

Factory Setting 0

Valid Entries Up to 20 digits (any combination of 0 to 9)

Inspect No Copy Option No

Console Procedure Tables \rightarrow ARS \rightarrow Sub A Digit or **More** and Sub BDigit \rightarrow Dial

table no. and pool route no. \rightarrow Enter \rightarrow Drop \rightarrow Dial digits to

be added \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F8 \rightarrow F6 \rightarrow F7$ or PgUp and $F3 \rightarrow Type$ table no. and pool

route no. \rightarrow F10 \rightarrow Alt + P \rightarrow Type digits to be added \rightarrow F10 \rightarrow

 $F5 \rightarrow F5$

Common Administrative Procedures

Automatic Route Selection

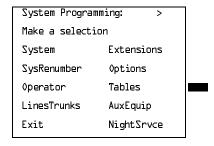
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Procedure: Other Digits

Console/Display Instructions Additional Information

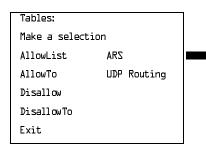
PC

▶ 1. Select the Tables menu.



F8

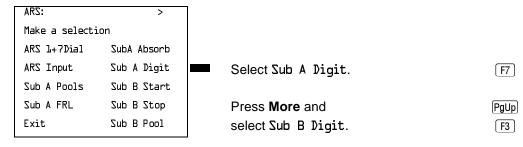
▶ 2. Select Automatic Route Selection.



F6

C

3. Select other digits for Subpattern A or B.



▶ 4. Enter the table (nn = 1 to 18) and the route (m = 1 to 6) number.

Sub x Other Digits:	x = subpattern selected in Step 3
Enter table (1-18), route	
(J-P)	
Backspace	
Exit Enter	Dial or type [nnm].

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4		mmon Administrative Procedures comatic Route Selection		Page 4-389
•	5.	Console/Display Instructions Save your entry.	Additional Information	PC
		Select Enter.		F10
>	6.	Erase the current number of	other digits (<i>n</i>).	
		ARS Table xx, Route x: > Enter other digits n	xx = table number entered in Step 4x = route number entered in Step 4	
		Backspace Next Exit Enter	Press Drop .	Alt + P
>	7.	Enter up to 20 other digits (n	= any combination of 0 to 9).	
		Dial or type [n].		C
>	8.	Continue to specify other dig go to Step 9.	its for another route in the specified sub	pattern or
		Select Next.		F9
			Return to Step 6. The next route number is displayed on Line 1.	oer
>	9.	Save your entry.		
		Select Enter.		F10
>	10.	Return to the System Program	nming menu.	
		Select Exit twice.		F5 F5

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Issue 1

N11 Special Numbers Tables

4 Common Administrative Procedures Automatic Route Selection

> Use this procedure to specify Facility Restriction Level (FRL) and/or digits that must be added when emergency numbers in the N11 Special Numbers table are dialed (for example, 411, 811, or 911).

Subpattern B, absorb, and pool routing cannot be programmed for the N11 Special Numbers tables.



NOTE:

In Release 6.0 and later systems, when routing for ARS Special Numbers N11 calls from a networked switch that is not connected to the public switched network, the private trunks must be assigned to a pool. The local system must prepend the ARS access code of the connected switch from which the calls will be directed to the public switched network.

Summary: N11 Special Numbers Tables

Programmable by System Manager

Mode Hybrid/PBX Idle Condition Not required

Planning Form Form 3g, Automatic Route Selection Default and

Special Numbers Tables

Not applicable Factory Setting Valid Entries Not applicable

Inspect No Copy Option No

Console Procedure To change Facility Restriction Level:

Tables \rightarrow ARS \rightarrow More \rightarrow SpeclNumber \rightarrow ARS FRL \rightarrow Drop \rightarrow

Dial FRL value→Enter→Exit→Exit→Exit

To program other digits:

Tables \rightarrow ARS \rightarrow More \rightarrow SpeclNumber \rightarrow ARS Digit \rightarrow **Drop** \rightarrow Dial digits \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure To change Facility Restriction Level:

 $F8 \longrightarrow F6 \longrightarrow PgUp \longrightarrow F4 \longrightarrow F1 \longrightarrow Alt + P \longrightarrow$

Type FRL value \rightarrow F10 \rightarrow F5 \rightarrow F5

To program other digits:

 $F8 \rightarrow F6 \rightarrow PgUp \rightarrow F4 \rightarrow F2 \rightarrow Alt + P \rightarrow Type digits \rightarrow$

 $[F10] \rightarrow [F5] \rightarrow [F5]$

4 Common Administrative Procedures Automatic Route Selection

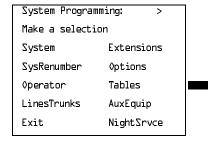
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Procedure: N11 Special Numbers Tables

Console/Display Instructions Additional Information

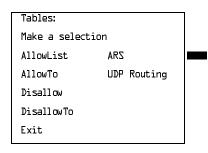
PC

Select the Tables menu.



F8

2. Select Automatic Route Selection.



F6

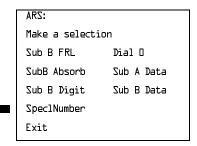
■ 3. Go to the second screen of the ARS menu.

ARS:	>
Make a selecti	on
ARS 1+7Dial	SubA Absorb
ARS Input	Sub A Digit
Sub A Pools	Sub B Start
Sub A FRL	Sub B Stop
Exit	Sub B Pool

Press More.

PgUp

▶ 4. Select N11 Special Numbers Table.



[F4]

F10

F5 F5

Dial or type [n].

Select Enter.

Save your entry.

Select Exit twice.

Return to the System Programming menu.

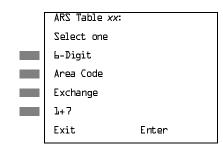
4 Common Administrative Procedures Automatic Route Selection

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♦ Other Digits Procedure

Console Display/Instructions Additional Information PC

Erase the current other digits (x).



xx = table number entered in Step 4

Select L-Digit, Area Code,

Exchange, or

1+7.

F1

F2 [F3] **F4**

Enter up to 20 other digits (n =any combination of 0 to 9).

Dial or type [n].

C

Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit twice.

[F5][F5]

Dial 0 Table

Use this procedure to specify pool routing, Facility Restriction Level (FRL), and Other Digits for the Dial 0 table.

Only one route can be specified. The Subpattern B route cannot be specified for this table, and digit absorption cannot be specified.



In Release 6.0 and later systems, when routing for ARS Dial 0 calls via a networked switch that is not connected to the public switched network, the external private trunks must be assigned to a pool, and the ARS access code must be prepended to the dialed number using this procedure.

4 Common Administrative Procedures Automatic Route Selection

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Summary: Dial 0 Table

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Form 3g, Automatic Route Selection Default and

Special Numbers Tables

Factory Setting 3

Valid Entries 0 to 6
Inspect No
Copy Option No

Console Procedure Tables \rightarrow ARS \rightarrow More \rightarrow Dial 0 \rightarrow ARS Pool or ARS FRL or

ARS Digits→Dial value→Enter→Exit→Exit→Exit

PC Procedure $F8 \rightarrow F6 \rightarrow PgUp \rightarrow F6 \rightarrow F1$ or F2 or $F3 \rightarrow Type$ value \rightarrow

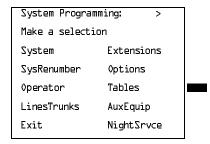
 $F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Dial 0 Table

Console/Display Instructions Additional Information

PC

▶ 1 Select the Tables menu.



F8

▶ 2. Select Automatic Route Selection.

Tables:

Make a selection

AllowList ARS

AllowTo UDP Routing

Disallow

DisallowTo

Exit

Common Administrative Procedures

Automatic Route Selection

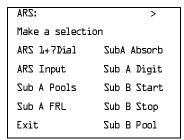
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Console/Display Instructions

Additional Information

PC

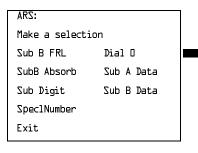
■ 3. Go to the second screen of the ARS menu.



Press More.

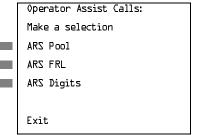
(PgUp)

4 Select Dial 0.



F6

▶ 5. Specify an option.



To program pool routing, select

(F1)

ARS Pool and go to

ARS Pool Procedure.

F2

F3

To change the current FRL Level, select

ARS FRL and go to

◆ ARS FRL Procedure.

To change other digits, select ARS Digits and go to

ADC Digita Dragadura

■ ARS Digits Procedure.

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	Common Administrative Procedures Automatic Route Selection	Page 4-396	
•	ARS Pool Procedure		
	1 7	Additional Information	PC
▶ 1	Erase the current pool dial-out	code (<i>xxx</i>).	
	Dial O Pool:		
	Enter pool dialout code		
	xxx		
	Backspace		
	Exit Enter	Press Drop .	Alt + P
▶ 2	. Enter a pool dial-out code of u	p to 3 digits.	
	Dial or type [nnn].		C
▶ 3	Save your entry.		
	Select Enter.		(F10)
> 4	. Return to the System Program	ming menu.	
	Select Exit three times.		F5 F5 F5
◆ A	RS FRL Procedure		
	Console/Display Instructions	Additional Information	PC
) 1	. Erase the current restriction le	vel (x).	
	Dial O Restriction:		
	Enter restriction level		
	(D-L)		
	×		
	Backspace		
	Exit Enter	Press Drop .	(Alt)+P
		-	
▶ 2	Enter a restriction level $(n = 0)$	to 6).	
	Dial or type [n].		C

_		n Programming 555-660-111		February 1998
		mmon Administrative Procedures tomatic Route Selection		Page 4-397
		Console/Display Instructions	Additional Information	PC
▶ :	3.	Save your entry.		
		Select Enter.		F10
> 4	1.	Return to the System Progra	amming menu.	
		Select Exit three times.		F5 F5 F5
	\R	S Digits Procedure		
		Console/Display Instructions	Additional Information	PC
•	1.	Erase the current other digit	ts (x).	
		Dial O Other Digits		
		Enter other digits		
		Backspace Exit Enter	Press Drop .	(Alt)+(P)
	,	Enter up to 20 other digits (n – any combination of 0 to 0)	
▶ 2	٤.		<i>n</i> = any combination of 0 to 9).	
		Dial or type [n].		C
▶ :	3.	Save your entry.		
		Select Enter.		F10
> 4	1.	Return to the System Progra	amming menu.	
		Select Exit three times.		F5 F5 F5

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4 Common Administrative Procedures *Automatic Route Selection*

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Voice and/or Data Routing

Use this procedure to route voice, data, or voice and data. The voice/data specification is used mainly in conjunction with PRI. See "PRI Facilities" on page 4–165 especially its subtopic, "Outgoing Tables" on page 4–220.

Voice/data routes can be associated with Subpattern A or Subpattern B.

Summary: Voice and/or Data Routing

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 3g, Automatic Route Selection Default and

Special Numbers Tables

Factory Setting Voice

Valid Entries Voice Only, Data Only, Voice/Data

Inspect No Copy Option No

Console Procedure Tables \rightarrow ARS \rightarrow More \rightarrow Sub A Data or Sub B Data \rightarrow

Dial table no. and route no. \rightarrow Enter \rightarrow Select capability \rightarrow

Enter→Exit→Exit

PC Procedure $F8 \rightarrow F6 \rightarrow PgUp \rightarrow F7$ or $F8 \rightarrow Type$ table no. and route

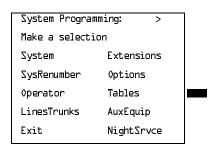
no. \rightarrow F10 \rightarrow Select capability \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Voice and/or Data Routing

Console/Display Instructions Additional Information

PC

1. Select the Tables menu.



F8

Common Administrative Procedures

Automatic Route Selection

Page 4-399

PC

[F6]

Console/Display Instructions

Select Automatic Route Selection.

Tables:

Make a selection

AllowList ARS

AllowTo UDP Routing

Disallow

DisallowTo

Exit

•

Additional Information

▶ 3. Go to the second screen of the ARS menu.

ARS: >

Make a selection

ARS 1+7Dial SubA Absorb

ARS Input Sub A Digit

Sub A Pools Sub B Start

Sub A FRL Sub B Stop

Exit Sub B Pool

Press More.

(PgUp)

▶ 4. Select Subpattern A or B.

Tables:

Make a selection

Sub B FRL Dial D

SubB Absorb Sub A Data

Sub Digit Sub B Data

SpeclNumber

Exit

Select Sub A Data or Sub B Data.

F7 F8

▶ 5. Enter the table (nn = 1 to 18) and route (m = 1 to 6) numbers for Subpattern A or B.

Subpattern x Voice/Data:

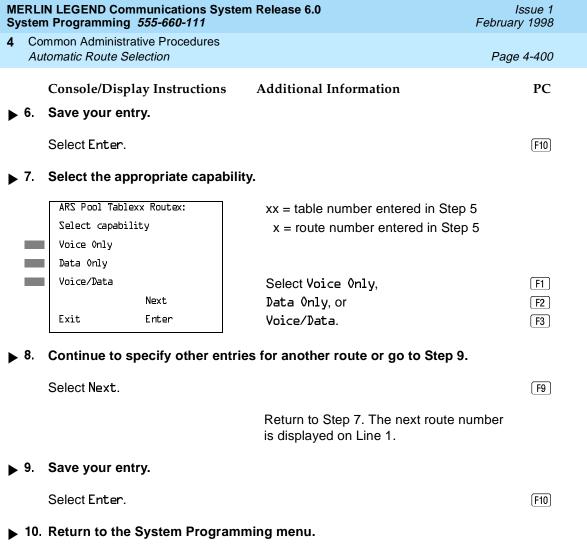
Enter table (1-18), route
(1-6)

Backspace

Exit Enter

x =option name selected in Step 4

Dial or type [nnm].



F5 F5

Select Exit twice.

4 Common Administrative Procedures UDP (Uniform Dial Plan) Routing

Page 4-401

UDP (Uniform Dial Plan) Routing

This section includes programming procedures for assigning Uniform Dial Plan (UDP) routing, available for Hybrid/PBX mode in Release 6.0 and later systems only.

UDP routing is very similar to ARS, except that it is slightly simpler. UDP routing allows system users to reach non-local extensions at a remote DEFINITY or MERLIN LEGEND Communications System that is networked to your system. Users simply dial the non-local extension number as they would an inside extension number. Then UDP routing associates the dialed extension number with one of up to 20 programmed patterns. For each pattern you can specify up to four routes. For each route, you specify a pool dial-out code. Then you can program Facility Restriction Levels (FRLs), absorbed digits, added digits, and voice and/or data capability.



NOTE:

Before assigning routes, patterns must be assigned to non-local extensions, which is part of the numbering of the extensions. To perform this procedure, see "Non-Local Dial Plan Extension Ranges" on page 3-19.

This section contains programming procedures for the following UDP Routing features:

- **UDP Pool Routing**
- Facility Restriction Level (FRL)
- Digit Absorption
- Other Digits
- Voice and/or Data Routing



A SECURITY ALERT:

Do not include the ARS codes of non-local systems in the non-local dial plan, or calling restrictions may be violated.

4 Common Administrative Procedures UDP (Uniform Dial Plan) Routing

Page 4-402

UDP Pool Routing

Before beginning this procedure, assign tandem tie or PRI trunks to pools. To do so, see "Trunks to Pools Assignment" on page 4-72. In UDP routing, routes (1-4) are associated with patterns, which are assigned first. Each route has various attributes (FRL, digit absorption, and so on) for call delivery. You may assign from one to four routes, with Route 1 having the highest priority. Unused routes should have the highest FRL numbers. Only Route 1 allows Callback queuing.

In many cases, only one pool may be needed. However, multiple pools can help prioritize certain types of calls and maximize the used of shared facilities.

PRI tandem trunk pools, if available, should be included in the first route.



SECURITY ALERT:

In Release 6.0 and later systems (Hybrid/PBX mode only), do not provide dial access to PRI or tie tandem trunk pools or assign these trunk pools to buttons on telephones. Use ARS to provide access to a remote networked system's trunks for making outside calls. System users can reach extensions on the remote system by using normal calling procedures.

Summary: UDP Pool Routing

Programmable by. System Manager

Hybrid/PBX Mode Idle Condition Not required

Non-Local Dial Plan Administration Form in the Installation Planning Form

Specification

Factory Setting Not applicable

Valid Entries Routes (1-4)

Inspect Yes Copy Option No

Console Procedure Tables→UDP Routing→Dial pattern no.→Enter→

Dial route no. \rightarrow Enter \rightarrow Pool \rightarrow Dial pool dial-out code \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F8 \rightarrow F7 \rightarrow Type pattern no. \rightarrow F10 \rightarrow Type route no. \rightarrow$

 $F10 \rightarrow F1 \rightarrow Type pool dial-out code \rightarrow F10 \rightarrow$

 $F5 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

F10

Save your entry.

Select Enter.

Ļ	Common Administrative Procedures
	UDP (Uniform Dial Plan) Routing

Page 4-404

Console/Display Instructions Additional Information PC

► 5. Enter the route number (n = 1 to 4).
UDP Pattern xx:

Enter route number (1-4)

xx = pattern number entered in Step 3

Backspace

Exit Enter

Dial or type [n].

/pe [n].

▶ 6. Save your entry.

Select Enter.

F10

7 Select Pool.

UDP Pattern xx Route x:

Make a selection

Pool Data

FRL

Absorb

Digits

Exit

xx = pattern number entered in Step 3 x = route number entered in Step 5

F1

▶ 8. Enter a pool dial-out code, up to 4 digits, on which to route calls.

UDP Pattern xx Route x:
Enter pool dialout code

Backspace Next
Exit Enter

xx = pattern number entered in Step 3 x = route number entered in Step 5

Dial or type [nnnn].

C

[F9]

▶ 9. Continue to enter a pool dial-out code for another route or go to Step 10.

Select Next.

Return to Step 8. The next route number is displayed on Line 1.

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F5 F5 F5

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Console/Display Instructions Additional Information PC

▶ 10. Save your entry.

Select Enter. F10

▶ 11. Return to the System Programming menu.

Select Exit four times.

UDP Facility Restriction Level

UDP (Uniform Dial Plan) Routing

Use this procedure to assign a Facility Restriction Level (FRL) to each UDP route. The FRL ranges from 0 (least restrictive) to 6 (most restrictive) and prevents users from accessing the route. The FRL assigned to extensions and remote access users is the opposite of the FRL assigned to routes, where 0 is the most restrictive and 6 is the least restrictive. A call will succeed if the extension's FRL is greater than or equal to the facility's FRL.

FRLs assigned to extensions apply not only to ARS calls but also to calls for non-local dial plan extensions connected by private trunks to your local system. For this reason, use care in assigning FRLs both to extensions and to UDP routes. For example, if a user must be restricted from toll calls on your local system, you may need to plan UDP routes' FRLs to be unrestricted, so that the user can reach necessary non-local dial plan extensions. For information about assigning FRLs to extensions, see "ARS Restriction Level For Extensions" on page 3–108.

NOTES:

- UDP pool routes must be programmed before you assign Facility Restriction Levels to those routes.
- Extension outward and toll calling restrictions are removed when a user dials a non-local dial plan extension. However, FRL extension restrictions remain in effect.

Summary: UDP Route Facility Restriction Level

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Non-Local Dial Plan Administration Form in the Installation

Specification

Factory Setting 3

Valid Entries 0 to 6

4 Common Administrative Procedures UDP (Uniform Dial Plan) Routing

Page 4-406

Inspect No Copy Option No

Console Procedure Tables \rightarrow UDP Routing \rightarrow Dial pattern no. \rightarrow Enter \rightarrow

Dial route no. \rightarrow Enter \rightarrow FRL \rightarrow Dial restriction level \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F8 \rightarrow F7 \rightarrow Enter pattern no. \rightarrow F10 \rightarrow Type route no. \rightarrow$

 $F10 \rightarrow F2 \rightarrow Type restriction level \rightarrow F10 \rightarrow F5 \rightarrow$

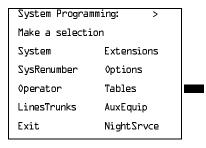
 $F5 \rightarrow F5 \rightarrow F5$

Procedure: UDP Route Facility Restriction Level

Console Display/Instructions Additional Information

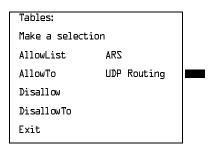
PC

1. Select the Tables menu.



F8

▶ 2. Select UDP Routing.



[F7]

3. Enter the number of the pattern (nn = 1 to 20).

UDP Routing	
Enter pattern nur	ııber
(1-50)	
Backspace	
Exit [Enter

Dial or type [nn].

C

Dial or type [n].

Backspace

Exit

Next

Enter

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Console/Display Instructions

Additional Information

PC

▶ 9. Continue to enter a restriction level for another route in the pattern or go to Step 10.

Select Next. F9

Return to Step 8. The next route number is displayed on Line 1.

10. Save your entry.

Select Enter. F10

▶ 11. Return to the System Programming menu.

Select Exit four times.

F5 F5 F5 F5

UDP Digit Absorption

Use this procedure to specify how many of the digits dialed (0 through 11) by the caller should be absorbed (not sent over the trunk) by the system when a UDP call to a non-local extension is made on an identified route. Therefore, if the number is dialed without a pool access code or without using a **Pool** button, the dialed digits correspond to the non-local dial plan numbering. Digit absorption can be used to modify the digits that are actually sent to the remote system.

Entries of 1 through 11 indicate that the system should not send the specified number of digits, starting with the first digit dialed by the user.



- UDP pool routes must be programmed before you assign digit absorption.
- Do not use this procedure to overcome conflicts between local and remote extension numbering. Such conflicts can result in numerous problems with system features.

4 Common Administrative Procedures UDP (Uniform Dial Plan) Routing

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Summary: UDP Digit Absorption

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Non-Local Dial Plan Administration Form in the Installation

Specification

Factory Setting 0

Valid Entries 0 to 11

Inspect No

Copy Option No

Console Procedure Tables \rightarrow UDP Routing \rightarrow Dial pattern no. \rightarrow Enter \rightarrow Dial

route no. \rightarrow Enter \rightarrow Absorb \rightarrow Drop \rightarrow Dial number of absorption digits \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure $F8 \rightarrow F7 \rightarrow Enter pattern no. \rightarrow F10 \rightarrow Type route no. \rightarrow$

 $F10 \rightarrow F3 \rightarrow Alt + P \rightarrow Type number of digits to absorb \rightarrow$

 $F10 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

Procedure: UDP Digit Absorption

Console/Display Instructions

Additional Information

PC

▶ 1 Select the Tables menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F8

▶ 2. Select UDP Routing.

Tables:

Make a selection

AllowList ARS

AllowTo UDP Routing

Disallow

DisallowTo

Exit

[F7]

F5 F5 F5

▶ 12. Return to the System Programming menu.

Select Exit four times.

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4 Common Administrative Procedures *UDP (Uniform Dial Plan) Routing*

UDP Other Digits

Use this procedure to specify other (extra) digits that must be added by the system to the beginning of the dialed digits when calls are placed on an identified route. You may need to prepend a digit in order to accommodate the 5-digit numbering of DEFINITY Communications System extensions in your private network. For more information about techniques for handling these non-local dial plan extension numbers "Non-Local Dial Plan Extension Ranges" on page 3–19.

The user does not use a **Pool** button or pool dial-out code. Therefore, the dialed digits correspond to the non-local dial plan numbering.

NOTES:

- UDP pool routes must be programmed before you assign digit absorption.
- 2. Do not use this procedure to overcome conflicts between local and remote extension numbering. Such conflicts can result in numerous problems with system features.

A maximum of 20 digits can be added, in any combination of digits 0 through 9.

Special characters such as switchhook flash, Stop, and # cannot be included as extra digits. Pause is allowed in every position but the first.

Summary: UDP Other Digits

Programmable by System Manager

Mode Hybrid/PBX Idle Condition Not required

Planning Form Non-Local Dial Plan Administration Form in the Installation

Specification

Factory Setting 0

Valid Entries Up to 20 digits (any combination of 0 to 9)

Inspect No Copy Option No

Console Procedure Tables→UDP Routing→Dial pattern no.→Enter→

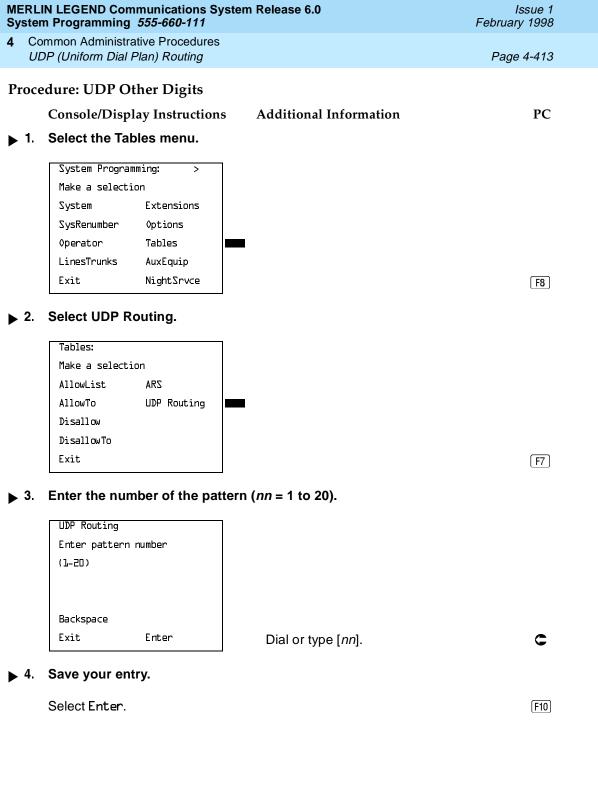
Dial route no. \rightarrow Enter \rightarrow Digits \rightarrow Drop \rightarrow

Dial digits to add \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure $F8 \rightarrow F7 \rightarrow E$ nter pattern no. $\rightarrow F10 \rightarrow T$ ype route no. \rightarrow

 $[F10] \rightarrow [F4] \rightarrow [Alt] + [P] \rightarrow Type digits to add \rightarrow [F10] \rightarrow [F5] \rightarrow$

 $F5 \rightarrow F5 \rightarrow F5$



Enter up to 20 other digits (n =any combination of 0 to 9).

Dial or type [n].

F4

C

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4 Common Administrative Procedures *UDP (Uniform Dial Plan) Routing*

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Console/Display Instructions

Additional Information

PC

F9

▶ 10. Continue to specify other digits for another route in the current pattern or go to Step 11.

Select Next.

Return to Step 8. The next route number is displayed on Line 1.

▶ 11. Save your entry.

Select Enter. F10

▶ 12. Return to the System Programming menu.

Select Exit four times.

F5 F5 F5 F5

UDP Voice and/or Data Routing

Use this procedure to route voice, data, or voice and data. For UDP routing, the voice/data specification is used in conjunction with PRI tandem trunks (see "PRI Facilities" on page 4–165 for more information). When using Fractional-T1 tandem trunks, each channel on the trunk can be used for either voice or data but not for voice/data (see "DS1 Facilities" on page 4–87 for more information).

Voice/data routes can be associated with any UDP pattern.

Summary: UDP Voice and/or Data Routing

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required

Planning Form Non-Local Dial Plan Administration Form in the Installation

Specification

Factory Setting Voice/Data

Valid Entries Voice Only, Data Only, Voice/Data

Inspect No Copy Option No

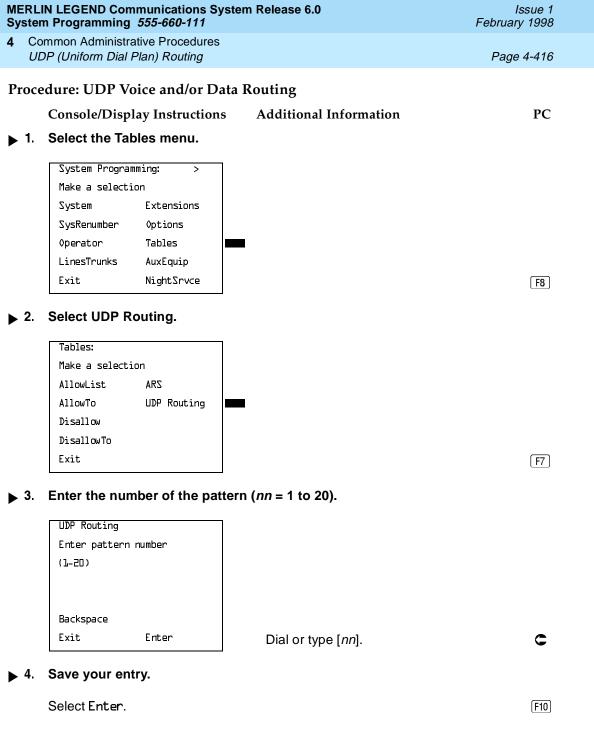
Console Procedure Tables→UDP Routing→Dial pattern no.→Enter→

Dial route no. \rightarrow Enter \rightarrow Data \rightarrow Select capability \rightarrow Enter \rightarrow

 $\texttt{Exit} {\rightarrow} \texttt{Exit} {\rightarrow} \texttt{Exit} {\rightarrow} \texttt{Exit}$

PC Procedure $\overline{F8} \rightarrow \overline{F7} \rightarrow \overline{Type}$ pattern no. $\rightarrow \overline{F10} \rightarrow \overline{Type}$ route no. \rightarrow

 $F10 \rightarrow F6 \rightarrow Select capability \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$



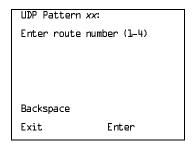
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PC

Console/Display Instructions Additional Information

5. Enter the route number (n = 1 to 4).



xx = pattern number entered in Step 3

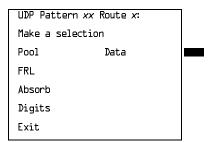
Dial or type [n].

▶ 6. Save your entry.

Select Enter.

F10

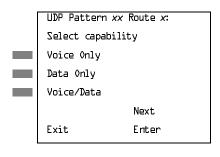
7 Select Data.



xx = pattern number entered in Step 3 x = route number entered in Step 5

F6

▶ 8. Select the appropriate capability.



xx = table number entered in Step 5 x = route number entered in Step 5

·

Select Voice Only, Data Only, or [F1]

Voice/Data.

F3

▶ 9. Continue to specify other entries for another route or go to Step 10.

Select Next.

Return to Step 8. The next route number is displayed on Line 1.

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▶ 10. Save your entry.

Night Service

Sy 4

Select Enter. F10

▶ 11. Return to the System Programming menu.

Select Exit four times.

F5 F5 F5 F5

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Night Service

This section contains summary information for the following optional Night Service features:

- Night Service Group Assignment
- Night Service with Outward Restriction
- Night Service with Time Set
- Night Service with Coverage Control

For detailed information see Chapter 3, "Common Administrative Procedures."

Night Service Group Assignment

Use this procedure to assign extensions and calling groups to a Night Service group for coverage after hours.

A maximum of eight Night Service groups can be assigned (no more than one for each operator position assigned). Any number of extensions can be assigned to a Night Service group, and an extension can belong to more than one group.

A calling group can also be assigned to a Night Service group. This applies only to Release 2.0 or later.

Beginning with Release 4.1 this option allows the system manager to assign outside lines to Night Service groups in addition to extensions and calling groups for coverage after hours.

Any number of outside lines can be assigned to a Night Service group. Each outside line can belong to more than one group.

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Night Service Page 4-419

Summary: Night Service Group Assignment

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 9a, Night Service: Group Assignment

Factory Setting Not applicable
Valid Entries Not applicable

Inspect Yes (extensions only)

Copy Option No

Console Procedure To assign a calling group to a Night Service group:

 $\label{eq:NightSrvce} $$ NightSrvce \to GroupAssign \to Calling Group \to Dial ext. no. of Night Service attendant \to Enter \to Dial calling group no. \to are also below the property of the property$

 $Enter \rightarrow Exit \rightarrow Exit$

To assign an extension to a Night Service group:

NightSrvce→GroupAssign→Extensions→Dial ext. no. of Night Service attendant→Enter→Dial ext. no.→Enter→

Exit→Exit

To assign an outside line to a Night Service group: NightSrvce→GroupAssign→Lines→Dial ext. no. of Night Service attendant→Enter→Dial outside line number (801-880)→Enter→Exit→Exit

PC Procedure To assign a calling group to a Night Service group:

 $F10 \rightarrow F1 \rightarrow F2 \rightarrow Type ext. no. of Night Service attendant \rightarrow$

F10 \rightarrow Type calling group no. \rightarrow F10 \rightarrow F5 \rightarrow F5

To assign an extension to a Night Service group:

To assign an extension to a riight Service group.

 $F10 \rightarrow F1 \rightarrow F1 \rightarrow Type ext. no. of Night Service attendant \rightarrow$

 $F10) \rightarrow Type ext. no. \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

To assign an outside line to a Night Service group:

F10 →F1 →F3 →Type ext. no. of Night Service attendant →

 $[F10] \rightarrow Type$ outside line number $(801-880) \rightarrow [F10] \rightarrow (F5) \rightarrow (F5)$

4 Common Administrative Procedures

Night Service

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Night Service with Outward Restriction

Use this procedure to prevent unauthorized use of telephones after hours. This feature requires the user to enter a password to make a call when Night Service is activated, unless one of the lists below applies. It also requires an operator to enter a password in order to manually activate Night Service.

To remove the password requirement follow the procedure below and delete the current password (press the **Drop** button).

This procedure is also used to establish the following lists:

- Emergency Allowed List. A list of telephone numbers that can be dialed without a password.
- **Exclusion List.** A list of extensions that are exempt from password requirements.

A maximum of 10 telephone numbers can be included on the Emergency Allowed List, each number with a maximum of 12 digits.

Extensions included in the Exclusion List keep normal calling restrictions (if any are assigned); however, they are not protected in any other way from unauthorized use after hours.

AUDIX Voice Power jacks are automatically included on the Exclusion List.

Summary: Night Service with Outward Restriction

Programma	ble by	System	Manager

Mode All

Idle Condition Not required

Planning Form
Form 9b, Night Service: Outward Restrictions

Factory Setting No password

Valid Entries 4 digits (any combination of 0 to 9)

Inspect Yes (Exclusion List)

Copy Option No

Console Procedure NightSrvce→OutRestrict→Drop→Dial password→

Enter \rightarrow Emergency \rightarrow Dial item no. \rightarrow Enter \rightarrow **Drop** \rightarrow

Dial telephone no. \rightarrow Enter \rightarrow ExcludeList \rightarrow Dial ext. no. \rightarrow

 $Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $(F10) \rightarrow (F2) \rightarrow (Alt) + (P) \rightarrow Type password \rightarrow (F10) \rightarrow (F3) \rightarrow (F10) \rightarrow (F1$

Type item no. \rightarrow [F10] \rightarrow [Alt] + P] \rightarrow Type telephone no. \rightarrow

 $F10 \rightarrow F4 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

4 Common Administrative Procedures

Night Service Page 4-421

Night Service with Time Set

Use this procedure to specify the time of day and the days of the week when Night Service is to be activated and deactivated.

Enter the time of day as 4 digits, using 24-hour notation. Enter the day of the week as a single digit (0 to 6), with 0 being Sunday. If you enter an invalid number, the system truncates the number.

If you change the system time while Night Service is active, Night Service is deactivated automatically and you must manually reactivate it.

Operators can override the timer and turn Night Service on and off manually. This feature can be deactivated when out-of-the-ordinary situations occur (for example, a midweek holiday).

NOTE:

For Release 2.1 and earlier, after setting Start and Stop time for Night Service the current day of the week for Night Service must be set using the following procedure.

NightSrvce→Day of Week→Dial the current day of the week→Enter→Exit

If system programming information is being loaded into memory from a backup diskette, the current day of the week must be reset.

Night Service can be turned off by using the following procedure:

NightSrvce→Day of Week→Dial 9→Enter→Exit

NOTE:

The current day of the week for Night Service must be reset if system programming information is being loaded into memory from a backup.

Summary: Night Service with Time Set

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 9c, Night Service: Time Set

Factory Setting Not applicable

Valid Entries Day: 0 to 6; Time: 0000 to 2359

Inspect No Copy Option No

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Night Service

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Console Procedure To add or change start/stop time:

 $NightSrvce \rightarrow Start \rightarrow Drop \rightarrow Dial start day and time \rightarrow$

Enter \rightarrow Stop \rightarrow Drop \rightarrow Dial stop day and time \rightarrow

 $Enter \rightarrow Exit$

To activate/deactivate:

NightSrvce \rightarrow Time Control \rightarrow Off or On \rightarrow Enter \rightarrow Exit

PC Procedure To add or change start/stop time:

 $F10 \rightarrow F6 \rightarrow Alt + P \rightarrow Type \text{ start day and time} \rightarrow F10 \rightarrow F7 \rightarrow Alt + P \rightarrow Type \text{ stop day and time} \rightarrow F10 \rightarrow F5$

To activate/deactivate:

 $F10 \rightarrow F8 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5$

Night Service with Coverage Control

Use this procedure to enable or disable the Night Service Coverage Control option to automatically control the status of programmed **Coverage VMS Off** buttons.

When the Coverage Control option is enabled, a transition into Night Service (either by pressing a **Night Service** button or automatically by the Time Set option) automatically deactivates the **VMS Coverage Off** (Release 2.0 or later) buttons (LED is off) and allows outside calls to go to VMS Coverage at night. When the system is taken out of Night Service (either by pressing a **Night Service** button or automatically by the Time Set option), programmed VMS Coverage Off buttons are activated (LED is on) and outside calls are prevented from going to VMS Coverage during the day.

When the Coverage Control option is disabled, Night Service status has no effect on programmed **VMS Coverage Off** buttons.

Summary: Night Service with Coverage Control

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 9c, Night Service: Options

Factory Setting Disabled

Valid Entries Enable or Disable

Inspect No Copy Option No

Console Procedure NightSrvce \rightarrow CoverContrl \rightarrow Enable or Disable \rightarrow

Enter→Exit

PC Procedure $[F10] \rightarrow [F9] \rightarrow [F1]$ or $[F2] \rightarrow [F10] \rightarrow [F5]$

4 Common Administrative Procedures

Labeling Page 4-423

Labeling

This section contains summaries on adding or changing labels for the following:

- Extension Directory
- Lines or Trunks
- Posted Message
- Group Calling
- System Speed Dial Directory

For detailed information see Chapter 3, "Common Administrative Procedures."

Extension Directory

Use this procedure to establish alphanumeric system labels for display telephone users to identify the person calling or leaving a message. This procedure is also used to program the Extension Directory feature for MLX telephones.



■> NOTE:

In Release 6.0 and later systems (Hybrid/PBX mode only) where networked systems are connected by PRI tandem trunks, programmed labels for extensions on the remote system may be displayed at a call recipient's MLX or analog multiline display telephone on a local system. If other types of trunks connect the networked systems, the call display is the same as for an outside call. For additional information about controlling the display for such incoming calls, see "Optional Extension Features" on page –277

A label can have a maximum of seven characters.

Summary: Extension Directory

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 2a, System Numbering: Extension Jacks

Factory Setting Not applicable

Valid Entries Not applicable

Inspect No Copy Option No

4 Common Administrative Procedures Labeling

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 $\textbf{Console Procedure } \ \textbf{More} {\rightarrow} \textbf{Labeling} {\rightarrow} \textbf{Directory} {\rightarrow} \textbf{Extension} {\rightarrow}$

Dial ext. no. \rightarrow Enter \rightarrow Drop \rightarrow Enter label \rightarrow Enter \rightarrow

Exit→Exit→Exit

PC Procedure $PgUp \rightarrow F1 \rightarrow F2 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow Alt + P \rightarrow F10 \rightarrow F10$

Type label \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

Lines or Trunks

Use this procedure to establish alphanumeric system labels for display telephone users to identify the line or trunk being used.

Summary: Lines or Trunks

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting Not applicable
Valid Entries Not applicable

No

Inspect No

Copy Option

Console Procedure More→Labeling→LinesTrunks→Dial line/trunk no.→

 $Enter \rightarrow Drop \rightarrow Dial\ label \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F2 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow Alt + P \rightarrow$

Type label \rightarrow F5 \rightarrow F5

Posted Message

Use this procedure to add or change existing posted messages. The posted messages allow callers with display telephones to know why the called extension does not answer.

Each posted message can have a maximum of 16 characters. Messages 2 through 20 can be changed through programming. Message 1, Do Not Disturb, cannot be changed.

NOTE:

In Release 6.0 and later systems, posted messages are not supported across networked systems.

4 Common Administrative Procedures

Labeling

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Summary: Posted Message

Programmable by System Manager, Integrated Administration

Mode All

Idle Condition Not required

Planning Form Form 8a, Label Form: Posted Message

Factory Setting First 10 messages

Valid Entries 1 to 20

Inspect No

Copy Option No

Console Procedure **More**→Labeling→PostMessage→Dial message no.→

 $Enter \rightarrow Drop \rightarrow Enter message \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $(PgUp) \rightarrow (F1) \rightarrow (F3) \rightarrow Type message no. \rightarrow (F10) \rightarrow (Alt) + (P) \rightarrow (F3) \rightarrow$

Type message \rightarrow F6 \rightarrow F5 \rightarrow F5

Group Calling

Use this procedure to establish alphanumeric system labels for display telephone users to identify calling groups.

A label can have a maximum of seven characters.

Summary: Group Calling

Programmable by. System Manager, Integrated Administration

Mode All

Idle Condition Not required

Planning Form Form 6e, Group Calling

Factory Setting Not applicable

Valid Entries Not applicable

Inspect No Copy Option No

 $\hbox{Console Procedure $\textbf{More}$$\rightarrow$$ Labeling$$\rightarrow$$ Grp $Calling$$\rightarrow$ Dial calling group ext. }$

 $no. {\rightarrow} Enter {\rightarrow} \textbf{Drop} {\rightarrow} Enter \ label {\rightarrow} Enter {\rightarrow} Exit {\rightarrow} Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F4 \rightarrow Type calling group ext. no. \rightarrow F10 \rightarrow$

 $(Alt) + (P) \rightarrow Type label \rightarrow (F6) \rightarrow (F5) \rightarrow (F5)$

4 Common Administrative Procedures

Labeling Page 4-426

System Speed Dial Directory

Use this procedure to establish System Speed Dial numbers for all system users. You can also use this procedure to enter the alphanumeric labels shown on display telephones (for the System Directory feature of the MLX telephone).

A total of 130 numbers (System Speed Dial plus System Directory) can be entered, with a maximum of 11 characters per label.

Speed dial code assignments are 600 through 729.

Summary: System Speed Dial Directory

Programmable by System Manager, Integrated Administration

Mode All

Idle Condition Not required

Planning Form Form 8b, System Speed Dial

Factory Setting Not applicable

Valid Entries 600 to 729

Inspect No

Copy Option No

Console Procedure $More \rightarrow Labeling \rightarrow Directory \rightarrow System \rightarrow Dial dial code$

no.→Enter→**Drop**→Enter label Enter→Backspace→

 ${\sf Dial\ telephone\ no.}{\rightarrow} {\sf Enter}{\rightarrow} {\sf Yes\ or\ No}{\rightarrow} {\sf Enter}{\rightarrow}$

Exit→Exit→Exit

PC Procedure $PgUp \rightarrow F1 \rightarrow F1 \rightarrow Type dial code no. \rightarrow F10 \rightarrow$

 $\overline{Alt} + \overline{P} \rightarrow \overline{Type label} \rightarrow \overline{F6} \rightarrow \overline{F2} \rightarrow \overline{Type telephone no.} \rightarrow$

 $F6 \longrightarrow F1 \text{ or } F2 \longrightarrow F6 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

Print Reports

Print Reports

4 Common Administrative Procedures

Use the procedures in this section to change the language for system reports and to print the system reports.

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Report Language

Use this procedure to change the language of the system reports. It applies to Release 1.1 and higher. Unless you change the report language, reports are printed in the language chosen as the system language.

Summary: Report Language

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Form 1, System Planning Planning Form

Factory Setting English

Valid Entries English, French, Spanish

Inspect Nο Copy Option Nο

Console Procedure **More**→Language→Printer→English or French or

 $Spanish \rightarrow Enter \rightarrow Exit$

PC Procedure $\begin{array}{c}
\text{PgUp} \longrightarrow \text{F6} \longrightarrow \text{F4} \longrightarrow \text{F1} \text{ or } \text{F2} \text{ or } \text{F3} \longrightarrow \text{F10} \longrightarrow \text{F5}
\end{array}$

Printing System Reports

The communications system can be used to print a variety of reports. You can print individual reports or use the All option to print the entire set of available reports, including all report sections and options. See Appendix F for samples of the print reports.

Use this procedure to print the reports listed below. With the exception of Trunk Information, the dash lists under the bullets show the sections of each report that automatically print when the report option is selected.

- ΑII
 - Each report
 - All report options
- System Set Up

Common Administrative Procedures

Print Reports

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- System Dial Plan
 - Pools
 - Telephone Paging Zones
 - Direct Group Calling
 - Lines/Trunks
 - Stations (Extensions)
- Label Information
 - Telephone Personal Directory
 - Message Numbers and Posted Messages
- Trunk Information*
 - TIE
 - DID
 - Loop/Ground
 - General
 - Switched 56 Data
- T1 Information
- PRI Information
- Remote Access
 - General Options
 - Non-TIE Restrictions
 - TIE Restrictions
 - Barrier Code Restrictions
- Operator Information
 - Position
 - General Options
 - DSS Options
 - QCC Operators
 - Operator Information
- Allowed Lists
- Allowed Lists Assigned to Extensions
- Trunk option must be specified

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4 Common Administrative Procedures
Print Reports

- Disallowed Lists
- Disallowed Lists Assigned to Extensions
- Automatic Route Selection
- Tables
- Extension Directory
- System Directory
- Group Page
- Extension information
- Group Coverage
- Group Calling
- Night Service
- Call Pickup Groups
- Error Logs
- Authorization Codes
- BRI Information Report
- Non-Local Dial Plan

If you select the All option, keep in mind that the reports take several minutes to print. You may want to schedule use of the printer during off-peak hours.

If you select a report for which there is no information, the report header still prints.

Print reports if you cannot back up your system programming information.

Do not print reports if your system must handle more than 100 calls per hour.

If you are printing from the console, your printer must be connected to the SMDR port. If you are programming on a PC with SPM, you have the following choices:

- Print reports on the SMDR printer (if available)
- Print reports on the PC printer
- Save reports (on hard disk or floppy)
- View reports (browse)

See Chapter 2, "Programming With SPM," for details.

4 Common Administrative Procedures

Print Reports

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Summary: Printing System Reports

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Not applicable

Factory Setting Not applicable

Inspect No

Copy Option No

Console Procedure To print trunk information:

More→Print→Trunk Info→Select trunk type→Exit

To print extension information:

 $More \rightarrow Print \rightarrow More \rightarrow Ext Info \rightarrow Dial extension no. \rightarrow$

Enter→Exit

To print all other reports:

More→Print→Select report→Exit

PC Procedure To print trunk information:

 $PgUp \rightarrow F3 \rightarrow F6 \rightarrow Select trunk type \rightarrow F5$

To print extension information:

 $[PgUp] \rightarrow [F3] \rightarrow [PgUp] \rightarrow [F10] \rightarrow Type extension no. \rightarrow [F10] \rightarrow [F5]$

To print all other reports:

 $PgUp \rightarrow F3 \rightarrow Select report \rightarrow F5$

To save report on disk:

 $PgUp \rightarrow F3 \rightarrow Select report \rightarrow F10 \rightarrow Select GOTO FLOPPY from$

screen below simulated console→F10

To view report:

Ctrl + **F8**

Common Administrative Procedures

Data Features

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Data Features

This section covers the programming procedure for analog multiline telephones connected by a General-Purpose Adapter (GPA) to a data terminal and modem.

Other data programming procedures can be found in earlier sections of this book (see <u>Table 4–5</u>), with the exception of ringing options. See "Ringing Options" on page 5–35 for information about ringing options.

Table 4–5. Other Data Programming Procedures

Procedure	Location
Assign Trunks or Pools to Data Workstations	"Assign Trunks or Pools to Extensions" on page 3–65
Copy Trunk Assignments	"Copy Line/Trunk Assignments" on page 3-71
Assign Intercom or System Access Buttons	"Assign Intercom or System Access Buttons" on page 3–75
Pool Dial-Out Code (Hybrid/PBX only)	"Pool Dial-Out Code" on page 3–98
Calling Restrictions	"Calling Restrictions" on page 3–101
Copy Calling Restrictions	"Copy Calling Restrictions" on page 3–103
Forced Account Code Entry	"Forced Account Code Entry" on page 3–111
Ringing Options	"Ringing Options" on page 5-35
Assign Data Hunt Group Members	"Group Calling Member Assignments" on page –150
Assign Data Hunt Group Trunks or Pools	"Group Calling Line/Trunk or Pool Assignments" on page –153
Group Type	"Group Type" on page –185 (choice restricted to Automatic Log In)

4 Common Administrative Procedures *Data Features*

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Analog Multiline Telephones at Data Workstations

Use this procedure to dedicate a pair of extension jacks to provide the voice and data to an analog data workstation.

The extension number associated with the first (odd-numbered) extension jack in the pair is the telephone's extension number. The extension number for the second (even-numbered) extension jack is dedicated to Data.

Calls cannot be placed to the extension jack reserved for data.

Voice Announce to Busy must be disabled at data workstations.

When you select Enter after entering the voice extension number in the data entry screen, the system automatically assigns the data extension.

Use the Inspect feature to verify extension pairs.

Summary: Analog Multiline Telephones at Data Workstations

Programmable by System Manager

Mode All

Idle Condition System idle

Planning Form Form 2a, System Numbering: Extension Jacks

Form 4b, Analog Multiline Telephone

Form 5a, Direct-Line Console (DLC): Analog Data

Form 2a, Analog Data Workstation

Factory Setting Not applicable

Valid Entries Extension numbers of analog sets

Inspect Yes

Copy Option Yes

Console Procedure More→Data→Voice/Data→Dial ext. no.→Enter→Exit

PC Procedure $PgUp \rightarrow F2 \rightarrow F1 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5$

4 Common Administrative Procedures *Data Features*

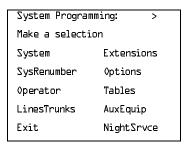
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Procedure: Analog Multiline Telephones at Data Workstations

Console Display Instructions Additional Information

PC

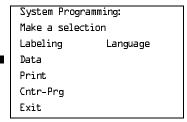
▶ 1. Go to the second screen of the System Programming menu.



Press More.

PgUp

2. Select Data.



F2

3. Select Voice/Data.



(F1)

▶ 4. Enter the voice (odd-numbered) extension number of the pair (nnnn).

Data Voice/Data	
Enter voice/data pair	
·	
	Delete
	Delete
Backspace	
Exit	Enter

The system automatically assigns the data (even-numbered) extension. Use the Inspect feature (Inspect or PgDn) to view the pair.

SP: "Entering an Extension"

C

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Console/Display Instructions Additional Information

▶ 5. Assign or remove the voice/data pair.

Select Enter or Delete.

F10 F8

PC

You may continue to assign or remove additional voice/data pairs by repeating Steps 4 and 5.

▶ 6. Return to the System Programming menu.

Select Exit.

F5

2B Data

Use this procedure to program an MLX port for 2B data capability. Assigning a port for 2B data allows both B-channels of a single MLX port to be used for speeds up to 128 Kbps on data calls. 2B data capability is available on in Release 4.0 and later.

Consider the following when programming ports for 2B data capability:

- The extension number of the port cannot be the first or fifth port on an MLX module. These ports are designated as potential operator ports and cannot be used for 2B data connections.
- The extension number must correspond to the adjunct extension number of an MLX port. By default these extensions begin with "7."
- Devices that are not intended for 2B data should not be connected to a port programmed for 2B data. These devices probably will not work.

Summary: 2B Data

Programmable by System Manager

Mode Key, Hybrid/PBX

Idle Condition Required

Planning Form Data Form 2b, Digital Data Workstation

Factory Setting None

Valid Entries Adjunct extension number up to four digits

Inspect Yes
Copy Option No

Console Procedure Data \to 2B Data \to Dial adjunct ext. no. \to Enter \to

Exit→Exit

PC Procedure $\boxed{F2} \rightarrow \boxed{F2} \rightarrow \boxed{Type adjunct ext. no.} \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

4 Common Administrative Procedures Data Features

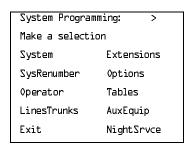
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Procedure: 2B Data

Console Display Instructions Additional Information

PC

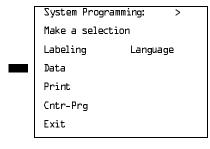
▶ 1. Go to the second screen of the system programming menu.



Press More.

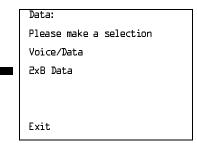
PgUp

2. Select Data.



F2

3. Select 2xB Data.



▶ 4. Enter the adjunct extension number of an MLX port [xxxx].

2xB Data/Vide	20: >	
Enter adjunct extension		
number of an MLX port		
xxxx		
	Delete	
Backspace		
Exit	Enter	

The adjunct extension number cannot correspond to the 1st or 5th port of an MLX module. Use the inspect feature (Inspect or PgDn) to view the 2B data pairs.

Dial or type [xxxx].

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Additional Information Console Display/Instructions

PC

Assign or remove the 2B data pair.

Select Enter or Delete.

F10 F8

You may continue to assign or remove additional 2B data pairs by repeating Steps 4 and 5.

Return to the System Programming menu.

Select Exit two times.

F5 F5

Integrated Administration



NOTE:

This feature applies only to Release 2.0 or later of the communications

Integrated Administration is available in Hybrid/PBX and Key modes only.

Capabilities

The Integrated Administration capability of Integrated Solution III (IS III) simplifies the programming of common information for the communications system (the switch), AUDIX Voice Power and, if it is installed, the AT&T FAX Attendant System™. Since the AUDIX Voice Power and FAX Attendant applications use some of the same information programmed on the switch, Integrated Administration lets the installer or system manager make changes or additions to this information just once, instead of on both sides of the connection. Using Integrated Administration reduces programming time and effort and ensures that the switch and the applications are in agreement.

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Integrated Administration

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Common Information

The switch and the applications share the following information:

- System numbering of extensions, trunks, and pools
- System labeling of the user (or other input name) associated with each extension, trunk, and pool
- The coverage Group that sends its calls to the applications
- The calling group set up for each service of the applications
- The Reliable Disconnect setting for loop-start trunk
- The Delay Ring and Coverage Delay Interval settings
- The Transfer Return Time and VMS Transfer Return Interval settings

Set Up

You cannot program the common information until you have completed basic setup programming for the communications system. Use SPM or the system programming console to program the following:

- Mode of operation
- System numbering
- System operator positions
- Phantom extensions
- Lines/Trunks to pools assignment

NOTE:

If you do not want all lines to have the same application services, you must assign lines with the same services to the same pools.

Programmable Options

When you complete the system setup, you can use the information in <u>Table 4–6</u> to program through Integrated Administration.

Common Administrative Procedures
Integrated Administration

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Table 4-6. Programming through Integrated Administration

Option	Factory Setting	Range
Automated Attendant Calling Group	770	
Call Answer Calling Group	7926	
FAX Response Calling Group	7924	
Information Service Calling Group	7927	
Message Drop Calling Group	7928	
Voice Mail Calling Group	7925	
Coverage Group	30	1 to 30
Reliable Disconnect	yes	
Delay Ring	2 rings	1 to 6 rings
Coverage Delay Ring	3 rings	1 to 9 rings
VMS Transfer Return Interval	6 rings	0 to 9 rings
Transfer Return Time	6 rings	0 to 9 rings

The information programmed through Integrated Administration is shared with the communications system control unit. The information does not have to be programmed again when you program the communications system.

If extension numbering is changed on the switch (using the MLX-20L console or SPM), the switch and the application database will no longer be in agreement. To reduce the chance that such changes will disrupt communication between the switch and the application(s), Integrated Administration includes an automatic reconciliation program that runs every day at 3:00 a.m. The program compares the application database to the switch programming and brings the two into agreement. The program makes changes, as necessary, only to the application database, according to the rules listed in Table 4-7. The reconciliation program does not change the switch programming.

In a Release 2.0 or earlier system with Integrated Solution III Version 1.0 or 1.1, use the System Renumbering feature cautiously. When this feature is used, all messages and greetings for users that have been renumbered are erased from AUDIX Voice Power when the automatic reconciliation program runs at 3:00 a.m.



The reconciliation program is disabled in IS III Version 1.2.

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Table 4–7. Database Reconciliation Rules

Extension appears in		
Switch	Application Database	Action
yes	yes	None
yes	no	Extension is added to database. Can be added as AUDIX Voice Power or AUDIX Voice Power/FAX Attendant subscriber through Extension Directory screen.
no	yes (regular extension)	Extension is deleted from database and removed as an AUDIX Voice Power or AUDIX Voice Power/FAX Attendant subscriber.
no	yes (special extension)	Extension is retained as special-purpose extension in database.
yes	yes (special extension)	Extension is converted from special- purpose extension to regular extension in database.

When you finish programming the common information, you can complete any remaining system programming procedures. See the *Feature Reference* for additional information on Integrated Administration.

Complete information on IS III can be found in the *Integrated Solution III System Manager's Guide*, Order No. 555-601-010 and the *Integrated Solution III Installation and Maintenance Guide*, Order No. 555-601-011.

4 Common Administrative Procedures *Memory Card*

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Memory Card

A PCMCIA (Personal Computer Memory Card International Association) interface slot is present on the processor module. The slot is a standard interface through which information can be added to or obtained from the system using a memory card. The PCMCIA interface slot accepts one memory card at a time.

This section covers the following memory card functions:

- Memory Card Formatting
- Restore

Summary information is included for the following procedures:

- Backup
- Automatic Backup

See "Backup" on page –282 for details about backup and automatic backup.

Card Types

The types of memory cards are described below. The card type is identified by a preprinted, color-coded label.

■ **Upgrade Card.** This card is used for MERLIN LEGEND Communication System software upgrades. The upgrade can be performed by the system manager using the memory card and the Maintenance option on the SPM main menu. See *Maintenance and Troubleshooting* for information about this feature.

This card is identified by an orange label with black lettering.

■ Translation Card. The backup and restore procedures previously available to system managers through SPM (using the PC and floppy disks) can now be performed using the memory card and the new Backup/Restore option on the System menu. A new automatic backup feature permits you to set the system to perform automatic backups to the memory card on a daily or weekly basis. See "Backup" on page -445 and "Restore" on page -447 for more information.

This card is identified by a white label with black lettering.

■ Forced Installation. For use by qualified service technicians only, this card is used when the system software has been corrupted and a re-installation must be done at the customer site. The use of the card for forced installation is reserved for emergency situations in which the system software on the processor module has been damaged.

This card is identified by an orange label with black lettering. In addition, black stripes are present on the card to distinguish it from an upgrade card.

Common Administrative Procedures

Memory Card

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Figure 4–4 shows a sample Translation card.

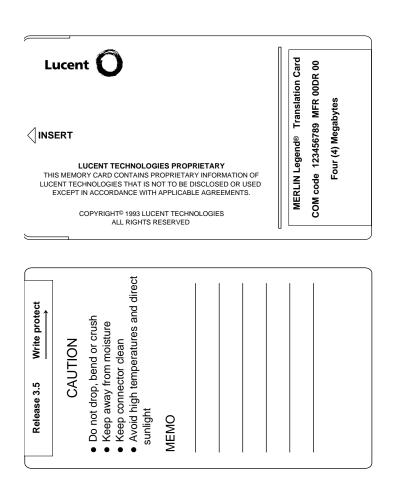


Figure 4-4. PCMCIA Memory Card

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Inserting the Card

To insert the card, hold the card with the Lucent logo facing up and the arrow pointing toward the slot. See <u>Figure 4–5</u> for the proper way to insert the memory card into the slot on the processor module.

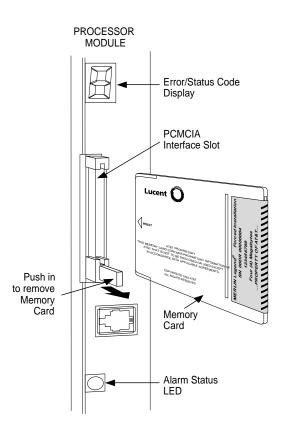


Figure 4–5. Inserting the Memory Card

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Memory Card Formatting

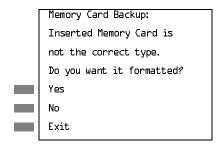
The memory card may have to be formatted before you begin any manual or automatic backup procedures. This section details the screens and messages that appear during the format procedure.



CAUTION:

Formatting overwrites previous data on the memory card. Make certain that there is no important information on the card before you begin formatting.

Unformatted Card



If you begin a backup procedure with an unformatted or incorrectly formatted card, this screen appears.

The inserted memory card is not the correct type. You have the option of formatting the memory card as a translation memory card or repeating the backup procedure with a different memory card.

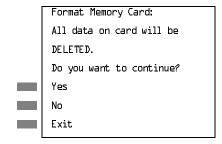


- 1. Only 4 MB Series I or Series II PCMCIA memory cards may be formatted, except those already formatted as translation cards.
- 2. If a memory card cannot be formatted, a message appears on screen. These messages are noted in the procedures as appropriate.
- 3. A memory card may need to be formatted if it is intended for use as a translation card but is currently blank or contains data other than MERLIN LEGEND Communication System backup files.

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Memory Card Page 4-444

Format Warning



This screen appears if you respond to the system prompt to format the memory card.

Select Yes (or press F3) to begin the memory card format. Table 4–8 lists the screen messages that may appear while formatting is in progress.

Table 4–8. Memory Card Formatting Messages

Message	What it Means
Formatting Memory Card	The format is in progress.
Formatting of Memory Card Completed	The format was successful and has completed.
Memory Card cannot be formatted	The memory card cannot be formatted. Remove the card and repeat the procedure with another card.
Formatting of Memory Card FAILED	The format was unsuccessful. Remove the card and repeat the procedure with another card.
Missing Card or Card Not Inserted Correctly	Verify that the card is inserted correctly and repeat the procedure.

If **Home** or **Menu** are pressed during a format procedure, the format is terminated. The data on the memory card may be lost. See Chapter 1, "Programming Basics," for details about these keys.

4 Common Administrative Procedures

Memory Card Page 4-445

Backup

Use this procedure to make a copy of your customized system data. You should create a backup at least three times during system installation (so that programmed information is not lost), and once after each system upgrade, service technician visit, or major system reconfiguration.

See "Backup" on page –282 for detailed information and a list of errors that can occur during a backup procedure.

Summary: Backup

Programmable by System Manager

Mode All

Idle Condition Not required (No extensions are allowed to be in

programming mode except system programming console)

Planning Form Not applicable

Factory Setting Not applicable

Valid Entries Not applicable

Inspect Yes

Copy Option No

Console Procedure Insert memory card \rightarrow System \rightarrow Back/Restore \rightarrow Backup \rightarrow

Select backup file→Dial the new backup filename→

 $Enter \rightarrow Yes \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure Insert memory card \rightarrow [F1] \rightarrow [F9] \rightarrow [F1] \rightarrow Select backup file \rightarrow

Type the new backup filename \rightarrow [F6] \rightarrow [F1] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

4 Common Administrative Procedures

Memory Card Page 4-446

Automatic Backup

Use this procedure to schedule automatic daily or weekly backups of your customized system data.

See "Backup" on page –282 for detailed information and a list of errors that can occur during a backup procedure.

Summary: Automatic Backup

Programmable by System Manager

Mode All

Idle Condition Not required (No extensions are allowed to be in

programming mode, including the system programming

console)

Planning Form Form 1, System Planning

Factory Setting Weekly backup: Sunday at 2:00 am

(if daily backup is selected, time is factory set for 2:00 am)

Valid Entries Daily: hhmm (00 to 23; 00 to 59)

Weekly: dhhmm (0 to 6; 00 to 23; 00 to 59)

Inspect Yes
Copy Option No

Console Procedure To program daily backup:

Insert memory card→System→Back/Restore→
Auto Backup→Daily→Drop→Dial time→Enter→

Exit→Exit

To program weekly backup:

 $\label{local_system} \textbf{Insert memory card} \rightarrow \textbf{System} \rightarrow \textbf{Back/Restore} \rightarrow \textbf{Auto Backup} \rightarrow \textbf{Weekly} \rightarrow \textbf{Drop} \rightarrow \textbf{Dial day and time} \rightarrow \textbf{System} \rightarrow$

Enter→Exit→Exit

PC Procedure To program daily backup:

Insert memory card \rightarrow [F1] \rightarrow [F2] \rightarrow [F2] \rightarrow [Alt] + [P] \rightarrow

Type time \rightarrow F10 \rightarrow F5 \rightarrow F5

To program weekly backup:

Insert memory card \rightarrow [F1] \rightarrow [F2] \rightarrow [F3] \rightarrow [Alt] + [P] \rightarrow

Type day and time \rightarrow F10 \rightarrow F5 \rightarrow F5

4 Common Administrative Procedures

Memory Card

Page 4-447

Restore

Use this procedure to restore system conditions that were backed up onto a translation memory card. The information in a backup file on the translation card is copied to the system.

The restore procedure is necessary under the following conditions:

- System RAM is corrupt.
- A previously stored set of system conditions is preferred over the current set.
- The processor module is replaced.
- After a System Erase (frigid start) has been performed.
- The system software has been reinstalled.

The Inspect feature (Inspct or PgDn) is available to view the attributes of the backup files on the memory card prior to initiating the restore procedure. The attributes included on the Inspect screen are the filename, the time and day of the file creation/update, the location of the system programming port, and information about the system software release from which the backup was made.

If any type of programming is taking place at another extension when you begin the restore procedure, the restore is canceled and the number of the first busy extension appears on the screen. Repeat the restore procedure when the busy extension becomes idle.

If a line is busy (incoming call or active call) when you begin the restore procedure, the restore is canceled and the number of the first active line appears on the screen. Repeat the restore procedure when the line becomes idle.

Also see <u>"Restore Messages" on page –450</u> for information about errors that may occur during the restore procedure.

Summary: Restore

Programmable by System Manager

Mode All

Idle Condition System Forced Idle

Planning Form Not applicable
Factory Setting Not applicable
Valid Entries Not applicable

Inspect Yes

4 Common Administrative Procedures Memory Card

Page 4-448

Copy Option No

Console Procedure Insert memory card \rightarrow System \rightarrow Back/Restore \rightarrow

Restore→Select restore file→Yes

PC Procedure Insert memory card \rightarrow [F1] \rightarrow [F9] \rightarrow [F5] \rightarrow

Select restore file→F3

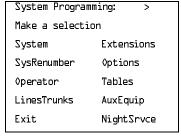
Procedure: Restore

Console Display Instructions Additional Information

PC

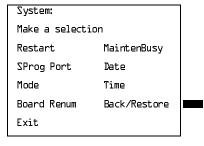
 Insert the memory card into the PCMCIA interface slot on the processor module.

▶ 2. Select the System menu.



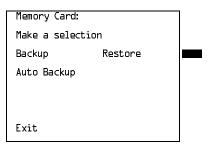
F1

3. Select Back/Restore.



F9

4. Select Restore.



F5

Common Administrative Procedures

Memory Card

Page 4-449

Console/Display Instructions

Additional Information

PC

5. Inspect the backup files present on the Memory Card.

MemCard Restore Files: >

aaaaaaaaa MM/DD HH:MM

SProg Port: xxxx X.Y

bbbbbbbbbbb MM/DD HH:MM

SProg Port: xxxx X.Y

Exit

Press **More** to view additional files.

Alt + P

aaaaaaaaaaa, bbbbbbbbbb = filenames
xxxx = System Programming Port

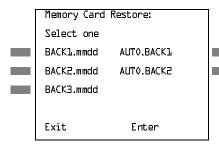
MM/DD HH:MM = date and time

X.Y = system software release

Press Exit to continue.

F5

6. Select the restore file.



mmdd = month and day of backup

Press the button or function key next to your selection.

C

➤ 7. Observe the restore file validation screen.

Memory Card Restore:
File is being validated.

▶ 8. Respond to the prompt.

Restore n:

System will be down ...

Do you want to continue?

Yes

No

Exit

n = filename selected in Step 5

Select No to terminate the restore. Go back to Step 5.

Select Yes to continue the restore.

F3

F2

4 Common Administrative Procedures Memory Card

Page 4-450

Console/Display Instructions

Additional Information

PC

▶ 9. Observe the restore progress screen.

Restore N :	
Restore in Progress,	
Please Wait.	

n = filename selected in Step 5

10. Observe the restore file validation screen.

Restore N :

Restore Successfully

Completed.

System is Restarting.

Please Wait.

n = filename selected in Step 5

The session is finished, and the system restarts. You must enter system programming again if you wish to continue programming.

Restore Messages

During the restore procedure, additional screens may appear to alert you to problems with the translation memory card, the backup file or the restore procedure. This section contains displays of each screen and information about what to do if the screen appears.

Card Missing or Card Not Inserted Correctly

Memory Card Restore:
Verify that Memory Card
has been inserted
correctly.

Exit

The memory card is either not inserted or inserted incorrectly. The restore is aborted. You must reinsert the card and repeat the restore procedure. This screen may also appear if the wrong type of memory card is inserted and a restore is requested within one minute of insertion. Verify that the card is a translation memory card.

4 Common Administrative Procedures

Memory Card Page 4-451

Card Removed after Confirmation

Memory Card Restore: RESTORE IS CANCELED. System is DOWN.

The memory card was removed from the PCMCIA interface slot while the restore was in progress. The restore is aborted and the system performs a System Erase (frigid start). You must reinsert the memory card and repeat the restore procedure.

Wrong System Programming Port

Restore n:
Change Sys Programming
Port to Extension xxxx
before Restoring.

Exit

n = filename selectedxxxx = system programming port extension

The system programming port is not set to the same system programming port as that set in the backup file. The restore is aborted. Use the **Inspect** feature to view the port of the file on the card. Change the system programming port to match the port shown on the card (see "System Programming Position Assignment" on page 4–4) and repeat the restore procedure.

Release Mismatch

Restore n:
File is Not Compatible
for Release X.Y
Restore Canceled.
Conversion Required.

n = filename selectedX.Y = release number

This screen only appears if you are upgrading from Release 3.0 or higher and the releases are not compatible.

4 Common Administrative Procedures

Memory Card Page 4-452

Card Failure Before Confirmation

Memory Card Restore:
Restore Failure.
Try a different file
or a new Memory Card.

Exit

If the restore fails because the card is damaged, repeat the restore procedure using a different file and/or memory card.

Card Failure after Confirmation

Restore n:
Restore Failure
RESTORE IS CANCELED.

System is DOWN.

n =filename selected

If the restore fails because the card is damaged, the system performs a System Erase (frigid start). Repeat the restore procedure using a different file and/or memory card.

Wrong Type of Card

Memory Card Restore:

Inserted Memory Card is

not the correct type.

Remove and insert MERLIN

LEGEND Backup/Restore

Card.

Exit

The inserted card does not match the card option selected from the System menu. Remove the card and repeat the restore procedure with the correct type of card. See "Card Types" on page –440 for information about the card labels.

4 Common Administrative Procedures

Memory Card Page 4-453

Board Mismatch

Restore n:
Restore Failure
RESTORE IS CANCELED.
Board mismatch between
control unit and file.

n = filename selected

Exit

A mismatch exists between the hardware components present on the current system and the hardware components reflected in the backup file. The restore is aborted. You can do one of the following:

- Repeat the restore procedure with another file.
- Modify the system hardware to match the configuration of the backup file and repeat the restore procedure with the same file.

Strap in Place for Key Mode but Mode is Set to Hybrid

Restore Failure
RESTORE IS CANCELED.
Restore File Mode is
Hybrid/PBX. Control Unit

strap in place for KEY.

Exit

Restore n:

n = filename selected



CAUTION:

This procedure should be performed only by qualified service personnel.

If the processor module has been set for Permanent Key mode, a restore to Hybrid/PBX mode is not possible. A service associate must be notified in order to modify the processor.

MERLIN LEGEND Communications System Release 6.0 System Programming *555-660-111* February 1998

4 Common Administrative Procedures Memory Card

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Issue 1

Page 5-1

5 Centralized Telephone Programming

Centralized Telephone Programming

5

This chapter describes centralized telephone programming for the system manager and includes the following information:

- Accessing centralized telephone programming
- Programming the features available with this function
- Programming a single telephone
- Copying programmed features from one extension to another extension (Release 2.0 and higher)

See the *Feature Reference* for the appropriate user or operator guide for details about each feature.



NOTE:

Only the system manager should perform the programming procedures described in this chapter.

5 Centralized Telephone Programming Introduction

Page 5-2

Introduction

Centralized telephone programming allows the system manager to program any feature that can be programmed by individual telephone users, or by the system operator, onto another telephone in the system. Any feature that can be programmed at an individual telephone can be programmed using centralized telephone programming.

The following features can be programmed only by using centralized programming:

- Barge-In
- Headset Hang Up
- Intercom buttons: all types (Key and Behind Switch mode only)
- System Access buttons: all types (Hybrid/PBX only)

To perform centralized telephone programming, you can use the system programming console (see Chapter 1, "Programming Basics") or a PC with SPM software (see Chapter 2, "Programming with SPM").

In Release 2.0 and higher, if you are programming several telephones of the same type (that is, all analog or all MLX), program one extension and then use the programmed extension as a template for programming additional extensions. See "Copy Extension" on page 5–13 and also refer to the planning forms.

Some programming can be performed only when the entire system or some part of it (such as a trunk or an extension) is idle. See "Idle States" on page 46.

5 Centralized Telephone Programming

Access to Centralized Telephone Programming

Page 5-3

Access to Centralized Telephone Programming

Access the Centralized Programming menu from the System Programming menu. Centralized programming is performed by selecting features from the display or by using programming codes.

Follow the procedure below to access the Centralized Programming menu.

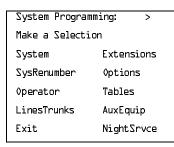
Console Display/Instructions

Additional Information

PC



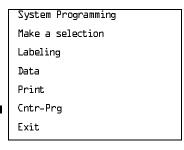
Go to the second screen of the System Programming menu.



Press More.

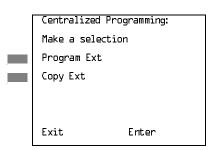
PgUp

▶ 1. Select Centralized Programming.



F4

▶ 2. Select a programming option.



Select Program Ext or Copy Ext.

F1

■ 3. Go to the appropriate section.

Centralized Telephone Programming Program Extension

Page 5-4

The following sections explain the use of menu selections for programming a single extension (Program Extension), and for using one extension as a template for programming several extensions of the same type (Copy Extension).



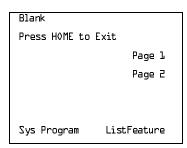
NOTE:

It is recommended that you use the programming codes for centralized programming; however, you may also use the List Features option that is available on the programming screen. See "Telephone Programming" Codes" on page 5–7 for details about this option.

Program Extension

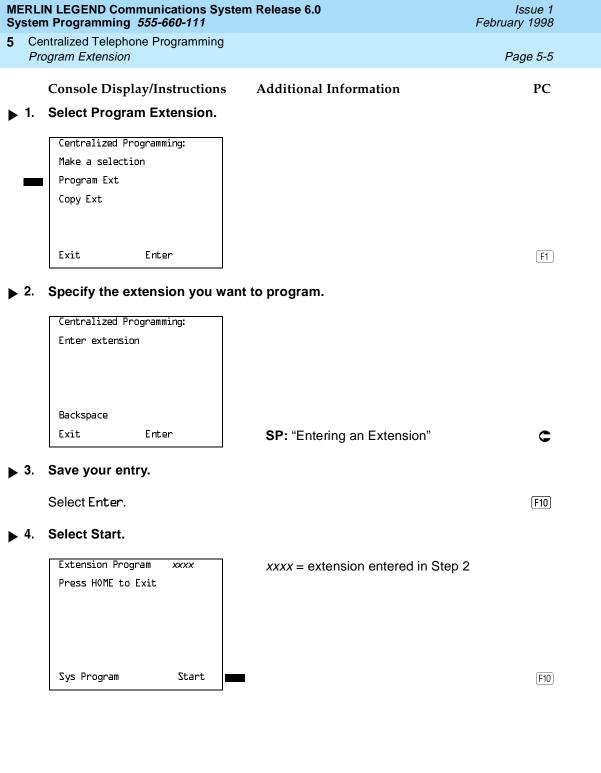
Review the items below before you begin to program extensions.

- Use Table 5–1 to locate the code for the feature that you want to program.
- If you enter a feature code incorrectly or enter a feature code that is not appropriate for the button, a beep sounds or the message Programming Error appears and the green LED next to the button flashes. If this happens, press the button again and repeat the procedure.
- If you make a mistake and program the wrong feature on a button, follow the steps below:
 - 1. Press the button.
 - 2. Select Delete (press F2 on the PC).
 - 3. Press the button again.
- If you press a line button that is not active, the screen shown here appears. Press **Home** to return to the Home screen.



You can use the Extension Information (Ext Info) report option on the Print menu to print all of the programmed features for a specific extension.

At the Centralized Programming menu, follow the procedure below to program features onto a single telephone.



Centralized Telephone Programming Program Extension

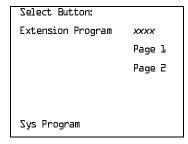
Page 5-6

Console Display/Instructions Add

Additional Information

PC

▶ 5. Select the line button to which you want to assign the feature.



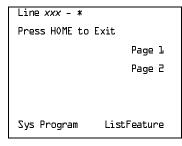
xxxx = extension entered in Step 2

Press the line button or function key that corresponds to your selection.

F7

If you are programming a telephone with more than 20 line buttons, use Page 2 to select line button 21 and above. See Appendix E for button diagrams of all telephones.

▶ 6. Program the feature(s).



xxx= line selected in Step 5*= current feature programmed

Use <u>Table 5–1</u> to dial or type the programming code: *[nnn]
OR

C

.

Select ListFeature and see

"Using the List Feature Menu" on page 5–12.

When the line button is programmed, the system automatically returns to the screen in Step 5.

➤ 7. Repeat Steps 5 and 6 for each line button you want to program for the extension, or press Home to return to the Centralized Programming menu.

Continued on next page

Programming Codes

<u>Table 5–1</u> provides a quick reference to the programming codes for the system features.

Table 5-1. Telephone Programming Codes

Feature	Programming Code
Account Code Entry	*82
Alarm [*]	*75 9
Authorization Code	*80
Auto Answer All	*754
Auto Answer Intercom	*753
Auto Dial Inside (ext., group, zone) Outside	*22 + ext. no. *21 + tel. no.
Automatic Line Selection Begin Sequence End Sequence	*14 **14
Barge-In*†	*58
Callback Automatic	
On Off	*12
Off Selective	**12 *55
Camp-On	*57
Call Waiting	
On	*1.1.
Off	**11
Conference	*77 2
* System operator feature only † Centralized telephone programm	

Table 5–1. Continued

Feature	Programming Code
Coverage	
Cover inside and outside calls	*48
Cover outside calls only	**48
Receiver buttons	*42 + ext. no.
Group	
Primary	*4□ + ext. no.
Secondary Sender buttons	*41 + ext. no.
Coverage Off	
Coverage VMS Off	*49
-	*46
Data Status	*83 + ext. no.
Direct Voice Mail	*56
Directories	
Extension Directory	(display only)
Personal Directory	(display only)
System Directory	(sys. prog.)
Do Not Disturb	*47
Drop	*773
Extension Status	
Direct-Line Console*	
Status Off	*7 6 0
Status 1	*7 <i>L</i> 1
Status 2	*7 L 2
Telephones (rooms or agents)	
Status 1	*45
Status 2	*44
Feature Button	*20
Forward	
Activate	
Forward (inside)	<i>*33</i>
Remote Call Forward and Centrex Transfer via Remote Call Forward	<i>*33</i>
(outside)	
(outside)	
* System operator feature only	

5 Centralized Telephone Programming *Program Extension*

Page 5-9

Table 5–1. *Continued*

Feature	Programming Code
Group Calling	Trogramming Code
In-Queue Alarm button	∗22 + calling group ext. no.
Calling group supervisor	*LL + Calling group ext. 110.
Member available	*7 L 2
Member unavailable	*7 L O
Calling group members	
Sign in (Available)	*44
After-call work state (CMS only)	*45
Group Page Auto Dial Button	*22 + paging group ext. no.
Headset Options	
Auto Answer	*7BO
Hang Up [†]	*7 <i>81</i> .
Mute (Headset/Handset)	*783
Status	*7B2
Intercom buttons	
Assign buttons [*]	
ICOM (Default Ring)	*16
ICOM Originate Only	*18
Change button type	**17
Ring	**19
Voice	<i>*</i> <u>1</u> 1
Last Number Dial	*B4
Messaging	
Leave Message	*25
Message LED off	<i>*5</i> 4
Posted Message	*75 <u>1</u>
Send/Remove Msg [†]	*3B
Receiving messages	
Delete Message [‡]	*2 L
Next Message [‡]	*2B
Return Call [‡]	* 27
Scroll [‡]	*2 9
GGOII	

^{*} Centralized telephone programming only

[†] System operator feature only

Display telephones only. Programming and feature codes are used with analog multiline telephones only.

Table 5–1. Continued

Feature	Programming Code
Night Service [†]	*39
Notify	
Send	*757 + ext. no.
Receive	*75B + ext. no.
Park	*86
Park Zone Auto Dial*	∗22 + park zone
Personal Speed Dial	# + (01–24) +*21 + tel no.+ ##
Personalized Ringing	*32 + ring (1−8)
Pickup	
General use	*9
Specific extension	*9 + ext. no.
Specific line	*9 + line no.
Group	*88
Privacy On	*31
Recall	*775
Reminder Service	
Set [*]	*81
Cancel	**81
Missed [†]	*75 2
Ringing/Idle Line Preference	
On	*343
Off	*344
Ringing Options	
Individual lines	
Immediate ring	* <u>3</u> 7
Delay ring	*36 *35
No ring	*
All lines	*347
Immediate ring	*34L
Delay ring No ring	*345
Abbreviated ring	71.7
On	*341. *342
Off	ネコ TE
Send Ring (Shared SA)	
On	*15
Off	**1.5

English only: time is 12-hour (0100-1259) + 2 (4) or 7 (P); French and Spanish: time is 24-hour (0000-2359).

[†] System operator feature only

5 Centralized Telephone Programming Program Extension

Page 5-11

Continued Table 5–1.

Feature	Programming Code
Saved Number Dial	*85
Send/Remove Message*	*38
Signal (manual)	*23 + ext. no.
System Access buttons	
Assign buttons [†] SA (Default Ring) SA Originate Only Shared SA Change type (SA or Shared SA)	*16 *18 *17 + primary ext. no.
Ring Voice	**17 *19
System Speed Dial	*24 + code (600−729)
Timer	
Transfer	*774
Voice Announce to Busy On Off	*10 **10
* System operator feature only	

System operator feature only

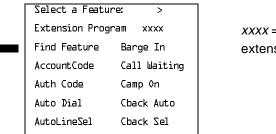
[†] Centralized telephone programming only

5 Centralized Telephone Programming Program Extension

Page 5-12

Using the List Feature Menu

You can use the List Feature menu to select a feature, instead of using a programming code. When you select ListFeature (or press \square), the first screen of features appears as shown below.

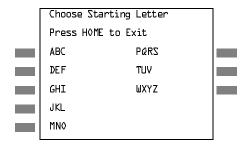


xxxx = previously entered extension

F1

There are four feature option screens. Press **More** to move through the screens. Press the button or function key that corresponds to your selection.

You can also use the FindFeature option to display alphabetized lists of features that begin with the letter(s) you select. The Find Feature screen is shown below.



Press the button or function key that corresponds to the first letter of the feature you want. The screen displays all of the features that begin with the selected letters. If the list of features for the letters you select does not fill a complete screen, the screen display continues with the next alphabetic feature. Press **Home** to return to the Home screen.

5 Centralized Telephone Programming Copy Extension

Page 5-13

Copy Extension

The system manager uses the copy extension feature to copy an extension's programmed buttons (with some exceptions) to one or more extensions. The features are individually programmed on an extension, creating a template that can then be copied to other extensions in the system.

Only extensions of the same type can be copied to one another (that is, analog to analog, and MLX to MLX) since the two extension types have different button layouts. For a system that has both analog and MLX telephone types, you will need two templates: one for analog and one for MLX.

An MFM can be copied to or from another MFM. A DLC can only be copied to another DLC. Single-line telephones and QCCs *cannot be copied to or from*.

Features That Can Be Copied

<u>Table 5–2</u> lists the features that can be copied to another extension. Features that can be copied for DLC operator extensions are listed in <u>Table 5–3</u>.

Table 5-2. Features That Can Be Copied: All Telephones

Feature	Analog and MLX Telephones	Analog Telephones Only	MLX Telephones Only
Account Code Entry	✓		
Authorization Code*	✓		
Auto Answer All		1	
Auto Answer Intercom		✓	
Auto Dial Inside	✓		
Auto Dial Outside*	✓		
Barge-In	✓		
Callback-Selective	✓		
Camp-On	✓		
Conference [†]	✓		
Coverage Off	✓		

Page 5-14

Table 5–2. *Continued*

Feature	Analog and MLX Telephones	Analog Telephones Only	MLX Telephones Only
Coverage VMS Off	· ✓	,	,
Data Status	✓		
Direct Voice Mail	✓		
Do Not Disturb	✓		
Drop**	✓		
Extension Status 2 (ES2) (Non-operator)	✓		
Extension Status 1 (ES1) (Non-operator)	✓		
Feature Button		1	
Forward	✓		
Group Calling	1		
Group Page	1		
Headset Auto Answer			✓
Headset Hang Up			✓
Headset Status			✓
Headset/Handset Mute			✓
Last Number Dial*	✓		
Delete Message		√	
Leave Message	1		
Message Light Off	✓		
Next Message		1	
Posted Message	✓		
Return Call		1	
Scroll		1	

5 Centralized Telephone Programming Copy Extension

Page 5-15

Table 5–2. Continued

Feature	Analog and MLX Telephones	Analog Telephones Only	MLX Telephones Only
Park	✓		
Pickup: Group	✓		
Pickup: General	✓		
Pickup: Extension	√		
Pickup: Line	✓		
Privacy	✓		
Recall	✓		
Reminder Service: Set	√		
Reminder Service: Cancel	✓		
Saved Number Dial*	✓		
Signaling	✓		
SA/ICOM Ring [‡]	✓		
SA/ICOM Voice†	✓		
SA/ICOM Originate Only†	✓		
System Speed Dial	√		
Transfer**	✓		

^{*} Number is not copied.

[†] Behind Switch mode only.

[‡] Ringing options (No Ring, Delay Ring, and Immediate Ring) are copied with the button.

5 Centralized Telephone Programming Copy Extension

Page 5-16

<u>Table 5–3</u> shows the operator features than can be copied for operator consoles. QCC features cannot be copied.

Table 5–3. Features That Can Be Copied: Direct-Line Consoles Only

Feature	Analog Direct-Line Console (DLC)	MLX Direct-Line Console (DLC)
Alarm	✓	✓
Extension Status Off	√	✓
Extension Status 1	√	✓
Extension Status 2	√	✓
Missed Reminder	✓	✓
Night Service	✓	✓
Operator Park	✓	✓
Send/Remove Message	✓	✓

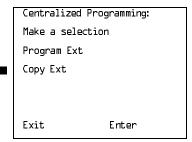
Use the procedure below to copy programming from one extension to another.

Console Display/Instructions

Additional Information

PC

▶ 1. Select Copy Extension.



F2

Specify the number of the extension from which you want to copy programming features.

Extension Program Copy:
Enter extension to copy
from

Backspace
Exit Enter

SP: "Entering an Extension"

Go to Step 4 to continue programming. The extension to be copied from will be displayed on Line 1.

- ▶ 6. Return to Centralized Programming menu.
- 7. Select Exit.

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February 1998

Issue 1

Feature Ouick Reference

Feature Quick Reference

Centralized Telephone Programming

The following feature descriptions provide a quick reference for using centralized telephone programming.

Account Code Entry

Assign a button for account code entry.

Summary: Account Code Entry

Telephones All (except QCC)

Mode All (except single-line telephone in Behind Switch mode)

Programmable by Users and system manager

Programming Code *82

AccountCode Display Label

Alarm

Assign a button to alert the operator to system problems.

Summary: Alarm

Telephones DLC operator only

ΑII Mode

Programmable by DLC operator and system manager

Programming Code *759

Display Label Alarm

Authorization Code

Assign a button for authorization code entry.

Summary: Authorization Code

Telephones All (except QCC)

Mode All (except single-line telephone in Behind Switch mode)

Programmable by Users and system manager

Programming Code *****[∆]□

Display Label Auth Code

5 Centralized Telephone Programming
Feature Quick Reference

Page 5-19

Auto Answer All

Assign a button to direct calls to an answering device when the user is not available.

Summary: Auto Answer All

Telephones Analog multiline only

Mode All

Programmable by Users and system manager

Programming Code *754

Display Label AutoAns All

Auto Answer Intercom

Assign a button to answer both inside and outside calls without lifting the handset.

Summary: Auto Answer Intercom

Telephones Analog multiline only

Mode All

Programmable by Users and system manager

Programming Code *753

Display Label AutoAnsIcom

Auto Dial

Assign buttons for one-touch dialing of frequently called inside or outside numbers.

Summary: Auto Dial Inside and Outside

Telephones Analog multiline, all MLX telephones (except QCC)

Mode All

Programmable by Users and system manager

Programming Code Inside: *22 + ext. no. + Enter

Outside: *21 + telephone no. + Enter

Display Label Auto Dial Inside/Outside

5 Centralized Telephone Programming Feature Quick Reference

Page 5-20

Automatic Line Selection

Select the order in which the system makes outside lines available to the user.



Your current Automatic Line Selection table is deleted immediately after you select this feature by either selecting AutoLineSel from the display or pressing *14. There is no way to cancel the operation. You must program new selections and then press **14 to end the operation.

Summary: Automatic Line Selection

Telephones Analog multiline and all MLX telephones

Mode ΑII

Programmable by Users and system manager

Programming Code Enter: *14

Exit: **14

Display Label AutoLineSel

Barge-In

Assign a button to allow an operator to interrupt a user's call in an emergency.

Summary: Barge-In

Telephones All except single-line telephone or QCC

ΑII Mode

Programmable by system manager only

Programming Code *58

Display Label Barge In

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Callback

With Automatic Callback turned on, the system retries calls to busy extensions or busy trunk pools. Assign a Selective Callback button to allow the system to retry calls to busy extensions or busy trunk pools on a call-by-call basis.



NOTE:

To use the Callback feature on loop-start lines/trunks, the loop start line/trunk must be programmed for reliable disconnect. See "Disconnect Signaling Reliability" on page 42.

Summary: Automatic Callback

Telephones All Mode All

Programmable by Users and system manager

Programming Code On: *12

Off: **12

Display Label Cback Auto On/Off

Summary: Selective Callback

Telephones All Mode All

Programmable by Users and system manager

Programming Code *55

Display Label Cback Sel

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Call Waiting

With Call Waiting turned on, a user on a call will know that another call is waiting. The person at the extension hears one beep for a waiting inside call, two for an outside call.

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Summary: Call Waiting

Telephones ΑII Mode ΑII

Programmable by Users and system manager

Programming Code On: *11

Off: **11

CallWaiting On/Off Display Label

Camp-On

Assign a button to allow a user to complete a transfer to a busy extension.

Summary: Camp-On

Telephones Analog multiline and MLX telephones (except QCC)

Mode ΑII

Programmable by Users and system manager

Programming Code *57

Display Label Camp On

Conference

Assign a button to access the host system conference feature.

Summary: Conference

Telephones Analog multiline and MLX telephones (except QCC)

Mode **Behind Switch**

Programmable by Users and system manager

Programming Code *772

Display Label Conference em Release 6.0 Issue 1 February 1998

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Coverage

Assign a button to establish Coverage; senders' calls are covered by receivers.

Summary: Receiver Buttons-Primary, Secondary, Group

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This procedure assigns primary, secondary, or group coverage receivers.

Telephones All (except QCC)

Mode All

Programmable by Users and system manager

Programming Code Primary: *40 + ext. no. + Enter

Secondary: *41 + ext. no. + Enter Group: *42 + group no. + Enter

Display Label Coverage Primary/Secondary/Group

Summary: Coverage Inside Off/On

This procedure allows or prevents Coverage of inside calls.

Telephones Analog multiline and MLX telephones (except QCC)

Mode All

Programmable by Users and system manager

Programming Code In/Outside Calls: *4B

Outside Calls Only: **48

Display Label CoverInside, 0n/0ff

Summary: Sender Buttons, Coverage Off

This procedure turns off all Coverage.

Telephones Analog multiline and MLX telephones (except QCC)

Mode All

Programmable by Users and system manager

Programming Code *****⁴¶

Display Label Coverage Off

Centralized Telephone Programming
Feature Quick Reference Page 5-24

Summary: Coverage VMS Off

This procedure prevents outside calls from being sent to voice mail.

Telephones Analog multiline and MLX telephones (except QCC)

Mode Al

Programmable by Users and system manager

Programming code *46

Display Label Coverage VMS Off

Data Status

Assign a button to indicate when a data call is in progress.

Summary: Data Status

Telephones All (except QCC)

Mode All

Programmable by Users and system manager

Programming Code *83 + ext. no. + Enter

Display Label Data Status

Direct Voice Mail

This feature allows one user to call another user's voice mail without ringing that user's telephone.

Summary: Direct Voice Mail

Telephones All Mode All

Programmable by Users and system manager

Programming Code ***5**₺

Display Label Direct VoiceMail

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5 Centralized Telephone Programming Feature Quick Reference

Do Not Disturb

Assign a button to prevent calls from ringing at the telephone.

Summary: Do Not Disturb

Telephones Analog multiline and MLX telephones (except QCC)

Mode All

Programmable by Users and system manager

Programming Code *47

Display Label DoNotDisturb

Drop

Assign a button to access the host system Drop feature.

Summary: Drop

Telephones Analog multiline and MLX telephones (except QCC)

Mode Behind Switch

Programmable by Users and system manager

Programming Code *773

Display Label Prop

Extension Status

Assign a button to allow system operators or supervisors to monitor the status of extensions and restrict use of telephones (hotel configuration) or to change group members' availability to take calls (Group Calling/CMS configuration).

Summary: DLC Extension Status

Telephones DLCs only

Mode All

Programmable by System manager

Programming Code Off: *7L0

ES1: *7*L*1

ES2: **7Ы*2

Display Label OperatorES, ESOff/ES1/ES2

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5 Centralized Telephone Programming Feature Quick Reference

Summary: Telephone Extension Status 1 and 2

Telephones Single-line, analog multiline, MLX telephones

Mode All

Programmable by Users and system manager

Programming Code ES1: *45

ES2: *44

Display Label ES Status, ES1/ES2

Feature Button

Use in conjunction with features that require dial codes.

Summary: Feature Button

Telephones Analog multiline

Mode All

Programmable by Users and system manager

Programming Code *2□

Display Label Feature Btn

Forward

Assign a button to activate the forwarding of a user's calls to another extension or to an outside number.

Summary: Forward

Telephones Single-line, analog multiline, MLX telephones

(except QCC)

Mode All

Programmable by Users and system manager

Programming Code *33

Display Label Forward

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Group Calling

Assign buttons to allow the calling group supervisor to monitor the number of calls in the queue or to change calling group members' availability to take calls.

Summary: Calls-In-Queue Alarm Button

5 Centralized Telephone Programming Feature Quick Reference

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code *22 + calling group ext. no. + Enter

Display Label Group Call

Summary: Calling Group Supervisor

Telephones Analog multiline, MLX-28D, MLX-20L

Mode All

Programmable by Users and system manager

Programming Code ES2, Available: *7₺2

ES Off, *Unavailable: *7₺*₽

Display Label OperatorES, ES2/ES Off

Summary: Calling Group Members

Telephones Single-line, analog multiline, MLX telephones

Mode All

Programmable by Users and system manager

Programming Code Sign-in, Available: *44

After-Call Work State, MS only: *45

Display Label ES Status, ES2/ES1

5 Centralized Telephone Programming Feature Quick Reference

Page 5-28

Group Page Auto Dial Button

Assign a button to allow the user to broadcast an announcement to individuals or groups using a speakerphone or loudspeaker.

Summary: Group Page Auto Dial button

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code *22 + paging group ext. no. + Enter

Display Label Group Page

Headset

Program headset buttons on MLX telephones only.

Summary: Headset Auto Answer

Assign a button to automatically answer a ringing call.

Telephones MLX telephones only

Mode All

Programmable by Users and system manager

Programming Code *780

Display Label Hdset Auto Answer

Summary: Headset Hang Up

Assign a button to use to disconnect a call.

Telephones MLX telephones only

Mode All

Programmable by System manager only

Programming Code *781

Display Label Hdset Hang Up

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5 Centralized Telephone Programming
Feature Quick Reference

Summary: Headset Mute

Assign a button to turn microphone operation on or off for both headset and handset.

Telephones MLX telephones only

Mode All

Programmable by Users and system manager

Programming Code *783

Display Label Hdset Mute

Summary: Headset Status

Assign a button to activate headset operation.

Telephones MLX telephones only

Mode All

Programmable by Users and system manager

Programming Code *782

Display Label Hdset Status

Last Number Dial

Assign a button to redial the last number dialed.

Summary: Last Number Dial

Telephones All

Mode All

Programmable by Users and system manager

Programming Code *84

Display Label LastNumDial

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5 Centralized Telephone Programming
Feature Quick Reference

Messaging

Assign a button to allow users to send, receive, and post messages.

Summary: Leave Message After Calling

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code *25

Display Label Leave Msg

Summary: Leave Message-Message LED Off

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code *54

Display Label none

Summary: Posted Message

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code *751

Display Label Posted Msg

Summary: Send/Remove Message

Telephones DLC operator only

Mode All

Programmable by Users and system manager

Programming Code *****3₺

Display Label Send/RmvMsg

5 Centralized Telephone Programming Feature Quick Reference

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Summary: Receiving Messages-Delete

Telephones Analog multiline display only

Mode All

Programmable by Users and system manager

Programming Code *2₺

Display Label Messages Delete Msg

Summary: Receiving Messages-Next

Telephones Analog multiline display only

Mode All

Programmable by Users and system manager

Programming Code *28

Display Label Messages Next Msg

Summary: Receiving Messages-Return Call

Telephones Analog multiline display only

Mode All

Programmable by Users and system manager

Programming Code *27

Display Label Return Call

Summary: Receiving Messages-Scroll

Telephones Analog multiline display only

Mode All

Programmable by Users and system manager

Programming Code *29

Display Label Scroll Msg

5 Centralized Telephone Programming Feature Quick Reference

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Night Service

Assign a button to activate telephone operation after normal business hours.

Summary: Night Service

Telephones DLC operator only

Mode All

Programmable by Operators and system manager

Programming Code *37

Display Label Night Srvc

Notify

Assign buttons to allow users to send a visual signal to another extension without making a call to that extension.

Summary: Notify-Send and Receive

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code Send: *757 + ext. no. + Enter

Receive: *758 + ext. no. + Enter

Display Label Notify Send/Receive

Park

Assign a button to hold a call and allow the call to be picked up at any telephone in the system.

Summary: Park

Telephones All (except single-line telephones in Behind Switch mode)

Mode All

Programmable by Users and system manager

Programming Code *****86

Display Label Park

5 Centralized Telephone Programming Feature Quick Reference

Page 5-33

Park Zone Auto Dial

Assign a button to allow DLC operators to hold a call at a specified extension or park zone.

Summary: Park Zone Auto Dial

Telephones DLC operator only

Mode All

Programmable by Users and system manager

Programming Code *22 + Park Zone + Enter

Display Label Park Zone

Personal Speed Dial

Use this procedure to program codes that allow users to dial outside numbers by dialing a 2-digit code.

Summary: Personal Speed Dial

Telephones Single-line, analog multiline, and telephones with 10 or fewer

buttons

Mode All

Programmable by Users and system manager

Programming Code # + (01 to 24) + *21 + tel. no. + # + Enter

Display Label SysSpeedD1

5 Centralized Telephone Programming Feature Quick Reference

Page 5-34

Pickup

Assign buttons to allow users to answer calls that are ringing, parked, or on hold anywhere in the system.

Summary: Pickup-General Use, Specific Extension, Specific Line

Telephones All Mode All

Programmable by Users and system manager

Programming Code General: *7

Specific line or ext.: *7 + line no./ext. no. + Enter

Group: *告告

Display Label General Use, Specific Extension, Specific Line:

Pickup General/Extension/Line

Group: Pickup Group

Privacy

Assign a button to prevent other users from connecting to a call on this telephone.

Summary: Privacy

Telephones All

Mode All

Programmable by Users and system manager

Programming Code *31

Display Label Privacy

Recall

Assign a button to send a switchhook flash.

Summary: Recall

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code *775

Display Label Recall

5 Centralized Telephone Programming Feature Quick Reference

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Reminder Service

Assign buttons to allow the system to make calls automatically at preset times and cancel reminder service calls and operator reminder calls that were not answered.

Summary: Set, Cancel, or Missed Reminder Service

Telephones All Mode All

Programmable by Users and system manager

Programming Code Set: *81

Cancel: **81 Missed: *752

Display Label Reminder Set/Cancel/Missed

Ringing/Idle Line Preference

Use this procedure to turn on Ringing/Idle Line Preference.

Summary: Ringing and Idle Line Preference

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code On: *343

Off: *344

Display Label Line Prefer, 0n/0ff

Ringing Options

Summary: Personalized Ringing

Use this procedure to individualize the telephone ring.

Telephones Analog multiline and MLX telephones

Mode Hybrid/PBX, Key, Behind Switch

Programmable by Users and system manager

Programming Code *32 + ring pattern (1 to 8)

Display Label Personal Ring Pattern #n

Summary: Ring Timing Options

5 Centralized Telephone Programming Feature Quick Reference

> Use this procedure to establish whether and how the individual lines or all lines ring at a telephone.

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Telephones Analog multiline and MLX telephones

ΑII Mode

Programmable by Users and system manager

Programming Code Individual Lines:

Immediate: *37 Delay: *36 No Ring: *35

All Lines:

Immediate: *347 Delay: *346 No Ring: *345

Display Label

Individual Lines:

Ring Options One Line Immed/Delay/No Ring

All Lines:

Ring Options All Lines Immed/Delay/No Ring

Summary: Abbreviated Ringing Options

Use this procedure to turn abbreviated ringing on or off.

Analog multiline and MLX telephones Telephones

Mode ΑII

Programmable by Users and system manager

Programming Code On: *341

Off: *342

Display Label Ring Options Abbreviated On/Off

Summary: Send Ringing Options

Override Delay Ring on an extension with **Shared SA** buttons.

Telephones ΑII

Mode Hybrid/PBX

Programmable by Users and system manager

Programming Code On: *15

Off: **15

Shared SA Ring On/Off Display Label

5 Centralized Telephone Programming Feature Quick Reference

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Saved Number Dial

Assign a button to selectively save the last number dialed and call that number again without manually redialing.

Summary: Saved Number Dial

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code *85

Display Label SaveNumDial

Send/Remove Message

Assign a button to allow the system operator to turn the Message LED on or off for any telephone connected to the system.

Summary: Send/Remove Message

Telephones DLC operator only

Mode All

Programmable by Users and system manager

Programming Code *38

Display Label Send/RmvMsq

Signaling

Assign a button to allow a user to send an audible signal to another extension without making a call to that extension.

Summary: Signaling (manual)

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code *23 + ext. no. + Enter

Display Label Signal

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System Access/Intercom Buttons

5 Centralized Telephone Programming Feature Quick Reference

Assign Intercom or System Access buttons on telephones.

Summary: Assign System Access/Intercom **Buttons**

ΑII Telephones

Mode Intercom buttons

Key, Behind Switch

System Access buttons

Hybrid/PBX

Programmable by System manager only

Programming Code Intercom buttons:

Assign Intercom Ring button: *16

Assign Intercom Originate Only button: *18

System Access buttons: Assign Ring button: *14

Assign Originate Only button: *18

Display Label SysAccess/SysAcc-00

Summary: Assign Shared System Access Buttons

Telephones ΑII

Mode Hybrid/PBX

Programmable by System manager only Programming Code *17 + primary ext. no.

Display Label ShareSysAcc

Summary: Change Type of System Access Button

Telephones ΑII

Mode Intercom buttons:

Key, Behind Switch

System Access buttons:

Hybrid/PBX

Programmable by Users and system manager

Programming Code Ring: **19

Voice: *17

Display Label Voice Annce, Place Ring/Voice

5 Centralized Telephone Programming Feature Quick Reference

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System Speed Dial

Assign a button to dial any 3-digit speed dial code.

Summary: System Speed Dial

Telephones All Mode All

Programmable by Users and system manager

Programming Code *24 + 3-digit code (600-729) + Enter

Display Label SysSpeedD1

Transfer

Assign a button to access the host system Transfer feature.

Summary: Transfer

Telephones Analog multiline and MLX telephones

Mode Behind Switch

Programmable by Users and system manager

Programming Code *774

Display Label Transfer

Voice Announce

Allow users to receive or prevent inside calls over their speakerphones when they are busy on another call.

Summary: Voice Announce

Telephones Analog multiline and MLX telephones

Mode All

Programmable by Users and system manager

Programming Code On: *10

Off: **10

Display Label Voice Annce Receive On/Off

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Issue 1

Feature Quick Reference Page 5-40 A Customer Support Information Support Telephone Number

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Customer Support Information



Support Telephone Number

In the USA only, Lucent Technologies provides a toll-tree customer Helpline (1 800 628-2888) 24 hours a day. If you need assistance when installing, programming, or using your system, call the Helpline, or your Lucent Technologies representative. Consultation charges may apply.

Outside the USA, if you need assistance when installing, programming, or using your system, contact your Lucent Technologies representative.

Federal Communications Commission (FCC) Electromagnetic Interference Information

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

A Customer Support Information
Canadian Department of Communications (DOC) Interference Information

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Canadian Department of Communications (DOC) Interference Information

This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

Le Présent Appareil Numérique n'émet pas de bruits radioélectriques depassant les limites applicables aux appareils numériques de la classe A préscrites dans le reglement sur le brouillage radioélectrique edicté par le ministère des Communications du Canada.

FCC Notification and Repair Information

This equipment is registered with the FCC in accordance with Part 68 of its rules. In compliance with those rules, you are advised of the following:

- Means of Connection. Connection of this equipment to the telephone network shall be through a standard network interface jack, USOC RJ11C, RJ14C, RJ21X. Connection to E&M tie trunks requires a USOC RJ2GX. Connection to off-premises extensions requires a USOC RJ11C or RJ14C. Connection to 1.544-Mbps digital facilities must be through a USOC RJ48C or RJ48X. Connection to DID requires a USOC RJ11C, RJ14C, or RJ21X. These USOCs must be ordered from your telephone company. Connection to 56-Kbps or 64-Kbps facilities requires a USOC RJ11C, RJ14C, or RJ21.
- Party Lines and Coin Telephones. This equipment may not be used with party lines or coin telephone lines.
- Notification to the Telephone Companies. Before connecting this equipment, you or your equipment supplier must notify your local telephone company's business office of the following:
 - The telephone number(s) you will be using with this equipment.
 - The appropriate registration number and ringer equivalence number (REN), which can be found on the back or bottom of the control unit, as follows:
 - □ If this equipment is to be used as a Key system, report the number AS593M-72914-KF-E.
 - If the system provides both manual and automatic selection of incoming/outgoing access to the network, report the number AS593M-72682-MF-E.

A Customer Support Information
FCC Notification and Repair Information

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- □ If there are no directly terminated trunks, or if the only directly terminated facilities are personal lines, report the number AS5USA-65646-PF-E.
- □ The REN (Ringer Equivalence Number) for all three systems is 1.5A.
- The facility interface code (FIC) and service order code (SOC):
 - □ For tie line connection, the FIC is TL31M and the SOC is 9.0F.
 - For connection to off-premises stations, the FIC is OL13C and the SOC is 9.0F.
 - For equipment to be connected to DID facilities, the FIC is 02RV2-T and the SOC is AS.2.
 - □ For equipment to be connected to 1.544-Mbps digital service, the SOC is 6.0P and the FIC is:
 - 04DU9-BN for D4 framing format with AMI zero code suppression.
 - 04DU9-DN for D4 framing format with bipolar 8 zero code suppression (B8ZS).
 - 04DU9-IKN for extended superframe format (ESF) with AMI zero code suppression.
 - 04DU9-ISN with ESF and B8ZS.
 - □ For equipment to be connected to 56-Kbps or 64-Kbps digital facilities, the FIC is 02B1Q.
- The quantities and USOC numbers of the jacks required.
- For each jack, the sequence in which lines are to be connected, the line types, the FIC, and the REN by position when applicable.
- Ringer Equivalence Number (REN). The REN is used to determine the number of devices that may be connected to the telephone line. Excessive RENs on the line may result in the devices not ringing in response to an incoming call. In most, but not all, areas the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the local telephone company to determine the maximum REN for the calling area.
- **Disconnection.** You must also notify your local telephone company if and when this equipment is permanently disconnected from the line(s).

A Customer Support Information
Installation and Operational Procedures

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Installation and Operational Procedures

The manuals for your system contain information about installation and operational procedures.

- Repair Instructions. If you experience trouble because your equipment is malfunctioning, the FCC requires that the equipment not be used and that it be disconnected from the network until the problem has been corrected. Repairs to this equipment can be made only by the manufacturers, their authorized agents, or others who may be authorized by the FCC. In the event repairs are needed on this equipment, contact your authorized Lucent Technologies dealer or, in the USA only, contact the National Service Assistance Center (NSAC) at 1 800 628-2888.
- Rights of the Local Telephone Company. If this equipment causes harm to the telephone network, the local telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will also be informed of your right to file a complaint with the FCC.
- Changes at Local Telephone Company. Your local telephone company may make changes in its facilities, equipment, operations, or procedures that affect the proper functioning of this equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.
- Hearing Aid Compatibility. The custom telephone sets for this system are compatible with inductively coupled hearing aids as prescribed by the FCC.
- Automatic Dialers. WHEN PROGRAMMING EMERGENCY NUMBERS AND/OR MAKING TEST CALLS TO EMERGENCY NUMBERS:
 - Remain on the line and briefly explain to the dispatcher the reason for the call.
 - Perform such activities in off-peak hours, such as early morning or late evening.
- **Direct Inward Dialing (DID).** This equipment returns answer supervision signals to the Public Switched Telephone Network when:
 - Answered by the called station
 - Answered by the attendant
 - Routed to a recorded announcement that can be administered by the customer premises equipment user
 - Routed to a dial prompt

A Customer Support Information

DOC Notification and Repair Information

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This equipment returns answer supervision on all DID calls forwarded back to the Public Switched Telephone Network. Permissible exceptions are when:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

Allowing this equipment to be operated in such a manner as not to provide proper answer supervision signaling is in violation of Part 68 rules.

- New Network Area and Exchange Codes. The MERLIN LEGEND software does not restrict access to any new area codes or exchange codes established by a local telephone company. If the user has established toll restrictions on the system that could restrict access, then the user should check the lists of allowed and disallowed dial codes and modify them as needed.
- Equal Access Codes. This equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modifications of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

DOC Notification and Repair Information

NOTICE: The Canadian Department of Communications (DOC) label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The DOC does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to connect it to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring for single-line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or any equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

A Customer Support Information

Renseignements sur la notification du ministère des Communications du Canada

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Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected. This precaution may be particularly important in rural areas.



A CAUTION:

Users should not attempt to make such connections themselves, but should contact the appropriate electrical inspection authority or electrician, as appropriate.

To prevent overloading, the Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop used by the device. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100.

DOC Certification No.: 230 4095A CSA Certification No.: LR 56260

Load No.: 6

Renseignements sur la notification du ministère des Communications du Canada et la réparation

AVIS: L'étiquette du ministère des Communications du Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme à certaines normes de protection, d'exploitation et de sécurité des réseaux de télécommunications. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. Dans certains cas, les fils intérieurs de l'enterprise utilisés pour un service individuel à ligne unique peuvent être prolongés au moyen d'un dispositif homologué de raccordement (cordon prolongateur téléphonique interne). L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêchent pas la dégradation du service dans certaines situations. Actuellement, les entreprises de télécommunication ne permettent pas que l'on raccorde leur matériel à des jacks d'abonné, sauf dans les cas précis prévus pas les tarifs particuliers de ces entreprises.

A Customer Support Information

Renseignements sur la notification du ministère des Communications du Canada

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Les réparations de matériel homologué doivent être effectuées par un centre d'entretien canadien autorisé désigné par le fournisseur. La compagnie de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particuliérement importante dans les régions rurales.

AVERTISSEMENT: L'utilisateur ne doit pas tenter de faire ces raccordements luimême; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

L'indice de charge (IC) assigné à chaque dispositif terminal indique, pour éviter toute surcharge, le pourcentage de la charge totale qui peut être raccordée à un circuit téléphonique bouclé utilisé par ce dispositif. La terminaison du circuit bouclé peut être constituée de n'importe quelle combinaison de dispositifs, pourvu que la somme des indices de charge de l'ensemble des dispositifs ne dépasse pas 100.

No d'homologation: 230 4095A No de certification: CSA LR 56260

L'indice de charge: 6

Customer Support Information

Renseignements sur la notification du ministère des Communications du Canada

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MEKLIN LEGEND D.O.C. **Location Label Placement**

Ministère des Communications du Canada emplacement de l'étiquette

cause harmful interference, and (2) this device must accept any This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not interference received, including interference that may cause undesired operation.

Complies with Part 68, FCC Rules. See the SystemReference Manual for proper FCC Classification. FCC Reg. Nos. MF: ASS93M-72682-MF-E KF: AS593M-72914-KF-E PF: AS5USA-65646-PF-E

® LR 56260

WARNING: If equipment is

secondary protectors are required. See Installation Manual. nseq

CANADA

AVERTISSEMENT: Si l'equipment est utilisé pour des applications extérieures, l'installation d'un protector secondair est requise. Voir le manuel d'Installation

DR ID

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dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère Communications du Canada. Le présent appareil numérique n'émet pas de bruits radioélectriques

MERLIN LEGEND

Model 511A Control Unit

Lucent

EQUIPMENT

LISTED 538E

MADE IN U.S.A.

TELEPHONE

circuit modules, carrier assemblies, and power units, as specified in Use only Lucent Technologies manufactured MERLIN LEGEND the Installation Manual, in this product. There are no user serviceable parts inside. Contact your authorized agent for service and repair.

noise emissions set out in the radio interference reguations of the This digital apparatus does not exceed the Class A limits for radio Canadian Department of Communications.

A Customer Support Information Security of Your System: Preventing Toll Fraud

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Security of Your System: Preventing Toll Fraud

As a customer of a new telephone system, you should be aware that there is an increasing problem of telephone toll fraud. Telephone toll fraud can occur in many forms, despite the numerous efforts of telephone companies and telephone equipment manufacturers to control it. Some individuals use electronic devices to prevent or falsify records of these calls. Others charge calls to someone else's number by illegally using lost or stolen calling cards, billing innocent parties, clipping on to someone else's line, and breaking into someone else's telephone equipment physically or electronically. In certain instances, unauthorized individuals make connections to the telephone network through the use of the Remote Access features of your system.

The Remote Access features of your system, if you choose to use them, permit off-premises callers to access the system from a remote telephone by using a telephone number with or without a barrier code. The system returns an acknowledgment signaling the user to key in his or her barrier code, which is selected and administered by the system manager. After the barrier code is accepted, the system returns dial tone to the user. In Release 3.1 and later systems, barrier codes are by default restricted from making outside calls. In prior releases, if you do not program specific outward calling restrictions, the user will be able to place any call normally dialed from a telephone associated with the system. Such an off-premises network call is originated at, and will be billed from, the system location.

The Remote Access feature, as designed, helps the customer, through proper administration, to minimize the ability of unauthorized persons to gain access to the network. Most commonly, phone numbers and codes are compromised when overheard in a public location, through theft of a wallet or purse containing access information, or through carelessness (for example, writing codes on a piece of paper and improperly discarding it). Additionally, hackers may use a computer to dial an access code and then publish the information to other hackers. Enormous charges can be run up quickly. It is the customer's responsibility to take the appropriate steps to properly implement the features, evaluate and administer the various restriction levels, protect access codes, and distribute access codes only to individuals who have been fully advised of the sensitive nature of the access information.

Common carriers are required by law to collect their tariffed charges. While these charges are fraudulent charges made by persons with criminal intent, applicable tariffs state that the customer of record is responsible for payment of all long-distance or other network charges. Lucent Technologies cannot be responsible for such charges and will not make any allowance or give any credit for charges that result from unauthorized access.

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To minimize the risk of unauthorized access to your communications system:

- Use a nonpublished Remote Access number.
- Assign access codes randomly to users on a need-to-have basis, keeping a log of all authorized users and assigning one code to one person.
- Use random-sequence access codes, which are less likely to be easily broken.
- Use the longest-length access codes the system will allow.
- Deactivate all unassigned codes promptly.
- Ensure that Remote Access users are aware of their responsibility to keep the telephone number and any access codes secure.
- When possible, restrict the off-network capability of off-premises callers, using calling restrictions, Facility Restriction Levels (Hybrid/PBX mode only), and Disallowed List capabilities. In Release 3.1 and later systems, a prepared Disallowed List (number 7) is provided and is designed to prevent the types of calls that toll-fraud abusers often make.
- When possible, block out-of-hours calling.
- Frequently monitor system call detail reports for quicker detection of any unauthorized or abnormal calling patterns.
- Limit Remote Call Forwarding to persons on a need-to-have basis.
- Change access codes every 90 days.
- Use the longest-length barrier codes possible, following the guidelines for passwords. (See "Choosing Passwords.")

Toll Fraud Prevention

Toll fraud is the unauthorized use of your telecommunications system by third parties to make long distance telephone calls. Under the law, you, the customer, are responsible for paying part or all of those unauthorized calls. Thus, the following information is of critical importance.

Unauthorized persons concentrate their activities in two areas with the MERLIN LEGEND Communications System:

- They try to transfer out of the MERLIN LEGEND Communications System to gain access to an outgoing trunk and make long-distance calls.
- They try to locate unused or unprotected mailboxes and use them as dropoff points for their own messages.

The following is a discussion of how toll fraud is often perpetrated and ways to prevent unauthorized access that can lead to toll fraud.

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Physical Security, Social Engineering, and General Security Measures

Criminals called hackers may attempt to gain unauthorized access to your communications system and voice messaging system in order to use the system features. Hackers often attempt to trick employees into providing them with access to a network facility (line/trunk) or a network operator. This is referred to as social engineering. Hackers may pose as telephone company employees and employees of Lucent Technologies or your authorized dealer. Hackers will go through a company's trash to find directories, dialing instructions, and other information that will enable them to break into the system. The more knowledgeable they appear to be about the employee names, departments, telephone numbers, and the internal procedures of your company, the more likely it is that they will be able to trick an employee into helping them.

Preventive Measures

Take the following preventive measures to limit the risk of unauthorized access by hackers:

- Provide good physical security for the room containing your telecommunications equipment and the room with administrative tools, records, and system manager information. These areas should be locked when not attended.
- Provide a secure trash disposal for all sensitive information, including telephone directories, call accounting records, or anything that may supply information about your communications system. This trash should be shredded.
- Educate employees that hackers may try to trick them into providing them with dial tone or dialing a number for them. All reports of trouble, requests for moving extensions, or any other administrative details associated with the MERLIN LEGEND Communications System should be handled by one person (the system manager) or within a specified department. Anyone claiming to be a telephone company representative should be referred to this person or department.
- No one outside of Lucent Technologies needs to use the MERLIN LEGEND Communications System to test facilities (lines/trunks). If a caller identifies him or herself as an Lucent Technologies employee, the system manager should ask for a telephone number where the caller can be reached. The system manager should be able to recognize the number as an Lucent Technologies telephone number. Before connecting the caller to the administrative port of the MERLIN LEGEND Communications System, the system manager should feel comfortable that a good reason to do so exists. In any event, it is not advisable to give anyone access to network facilities or operators, or to dial a number at the request of the caller.

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- Any time a call appears to be suspicious, call the Lucent Technologies GBCS Fraud Intervention Center at 1 800 628-2888 (fraud intervention for System 25, PARTNER® and MERLIN® systems).
- Customers should also take advantage of Lucent Technologies monitoring services and devices, such as the NetPROTECTSM family of fraud detection services, CAS with HackerTracker®, and CAT Terminal with Watchdog. Call 1 800 638-7233 to get more information on these Lucent Technologies fraud detection services and products.

Security Risks Associated with Transferring through Voice Messaging Systems

Toll fraud hackers try to dial into a voice mailbox and then execute a transfer by dialing *T. The hacker then dials an access code (either 7 for Automatic Route Selection or a pooled facility code) followed by the appropriate digit string to either direct dial or access a network operator to complete the call.



NOTE:

In Release 3.1 and later systems, all extensions are initially and by default restricted from dial access to pools. In order for an extension to use a pool to access an outside line/trunk, this restriction must be removed.

Preventive Measures

Take the following preventive measures to limit the risk of unauthorized transfers by hackers:

- Outward restrict all MERLIN LEGEND voice mail port extensions. This denies access to facilities (lines/trunks). In Release 3.1 and later systems, voice mail ports are by default outward restricted.
- As an additional security step, network dialing for all extensions, including voice mail port extensions, should be processed through ARS using dial access code 7.



SECURITY ALERT:

The MERLIN LEGEND system ships with ARS activated with all extensions set to Facility Restriction Level 3, allowing all international calling. To prevent toll fraud, ARS Facility Restriction Levels (FRLs) should be established using:

- FRL 0 for restriction to internal dialing only
- FRL 2 for restriction to local network calling only
- FRL 3 for restriction to domestic long distance (excluding area code 809 for the Dominican Republic as this is part of the North American Numbering Plan, unless 809 is required)
- FRL 4 for international calling

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In Release 3.1 and later systems, default local tables are factory-assigned an FRL of 2. This simplifies the task of restricting extensions: the FRL for an extension merely needs to be changed from the default of 3.

Each extension should be assigned the appropriate FRL to match its calling requirements. All voice mail port extensions not used for Outcalling should be assigned to FRL 0 (the default setting in Release 3.1 and later).

- Deny access to pooled facility codes by removing pool dial-out codes 70, 890-899, or any others on your system.
- Create a Disallowed List or use the pre-prepared Disallowed List number 7 (Release 3.1 and later systems only) to disallow dialing 0, 11, 10, 1700, 1809, 1900, and 976 or 1(wildcard)976. In Release 3.1 and later systems, Disallowed List number 7 does not include 800 and 1800 and 411 and 1411, but Lucent Technologies recommends that you add them. Assign all voice mail port extensions to this Disallowed List. Lucent Technologies recommends assigning Disallowed List number 7. This is an added layer of security, in case outward restriction is inadvertently removed. (In Release 3.1 and later systems, voice messaging ports are assigned by default to Disallowed List number 7.)

If your system is part of a private network, assign Disallowed List 7 to Remote Access.

If Outcalling is required by voice messaging system extensions:

- Program an ARS Facility Restriction Level (FRL) of 2 on voice mail port extension(s) used for Outcalling. This allows calls to use the default local ARS table that is defaulted to an FRL of 2 and any other ARS routes with an FRL of 2 or less.
- If 800 and 411 numbers are used, remove 1800, 800, 411, and 1411 from Disallowed List number 7.
- If Outcalling is allowed to long distance numbers, build an Allowed List for the voice mail port extension(s) used for Outcalling. This list should contain the area code and the first three digits of the local exchange telephone numbers to be allowed.
- In a private network, if your switch is outcalling only to non-local network extensions, program the VMI ports with an FRL of 2.

Additional general security for voice messaging systems:

- Use a secure password for the General Mailboxes.
- The default administration mailbox, 9997, must be reassigned to the system manager's mailbox/extension number and securely password protected.
- All voice messaging system users must use secure passwords known only to the user.

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Security Risks Associated with the Automated Attendant Feature of Voice Messaging Systems

Two areas of toll fraud risk associated with the Automated Attendant feature of voice messaging systems are the following:

- Pooled facility (line/trunk) access codes are translated to a menu prompt to allow Remote Access. If a hacker finds this prompt, the hacker has immediate access. (In Release 3.1 and later systems, dial access to pools is initially factory-set to restrict all extensions: to allow pool access, this restriction must be removed by the system manager.)
- If the Automated Attendant prompts callers to use Remote Call Forwarding (RCF) to reach an outside telephone number, the system may be susceptible to toll fraud. An example of this application is a menu or Submenu that says, "To reach our answering service, select prompt number 5," and transfers a caller to an external telephone number.
- Remote Call Forwarding can only be used securely when the central office provides "reliable disconnect" (sometimes referred to as forward disconnect or disconnect supervision), which guarantees that the central office will not return a dial tone after the called party hangs up. In most cases, the central office facility is a loop-start line/trunk which does not provide reliable disconnect. When loop-start lines/trunks are used, if the calling party stays on the line, the central office will return a dial tone at the conclusion of the call, enabling the caller to place another call as if it were being placed from your company. Ground-start trunks provide reliable disconnect and should be used whenever possible.

Preventive Measures

Take the following preventive measures to limit the risk of unauthorized use of the Automated Attendant feature by hackers:

- Do not use Automated Attendant prompts for Automatic Route Selection (ARS) Codes or Pooled Facility Codes.
- Assign all unused Automated Attendant Selector Codes to zero, so that attempts to dial these will be routed to the system attendant.
- If Remote Call Forwarding (RCF) is required, MERLIN LEGEND Communications System owners should coordinate with their Lucent Technologies Account Team or authorized dealer to verify the type of central office facility used for RCF. If it is a ground-start line/trunk, or if it is a loop-start line/trunk and central office reliable disconnect can be ensured, then nothing else needs to be done.

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In most cases these will be loop-start lines/trunks without reliable disconnect. The local telephone company will need to be involved to change the facilities used for RCF to ground start lines/trunks. Usually a charge applies for this change. Also, hardware and software changes may need to be made in the MERLIN LEGEND Communications System. The MERLIN MAIL and MERLIN LEGEND MAIL Automated Attendant feature merely accesses the RCF feature in the MERLIN LEGEND Communications System. Without these changes being made, this feature is highly susceptible to toll fraud. These same preventive measures must be taken if the RCF feature is active for MERLIN LEGEND Communications System extensions whether or not it is accessed by an Automated Attendant menu.

Security Risks Associated with the **Remote Access Feature**

Remote Access allows the MERLIN LEGEND Communications System owner to access the system from a remote telephone and make an outgoing call or perform system administration, using the network facilities (lines/trunks) connected to the MERLIN LEGEND Communications System. Hackers, scanning the public switched network by randomly dialing numbers with war dialers (a device that randomly dials telephone numbers, including 800 numbers, until a modem or dial tone is obtained), can find this feature, which will return a dial tone to them. They can even employ war dialers to attempt to discover barrier codes.

Preventive Measures

Take the following preventive measures to limit the risk of unauthorized use of the MERLIN LEGEND Communications System Remote Access feature by hackers:

- The Remote Access feature can be abused by criminal toll fraud hackers, if it is not properly administered. Therefore, this feature should not be used unless there is a strong business need.
- It is strongly recommended that customers invest in security adjuncts, which typically use one-time passcode algorithms. These security adjuncts discourage hackers. Since a secure use of the Remote Access feature generally offers savings over credit-card calling, the break-even period can make the investment in security adjuncts worthwhile.
- If a customer chooses to use the Remote Access feature without a security adjunct, then multiple barrier codes should be employed, with one per user if the system permits. The MERLIN LEGEND system permits a maximum of 16 barrier codes.

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The maximum length should be used for each barrier code, and should be changed periodically. Barrier codes, like passwords, should consist of a random, hard-to-guess sequence of digits. While MERLIN LEGEND Release 3.0 permits a barrier code of up to 11 digits, systems prior to Release 3.0 permit barrier codes of up to only four digits.

If Remote Access is used, an upgrade to MERLIN LEGEND Communications System Release 3.0 is encouraged to take advantage of the longer barrier code.

Other Security Hints

Make sure that the Automated Attendant Selector Codes do not permit outside line selection.

Following are a number of measures and guidelines that can help you ensure the security of your communications system and voice messaging system.

Multiple layers of security are always recommended to keep your system secure.

Educating Users

Everyone in your company who uses the telephone system is responsible for system security. Users and attendants/operators need to be aware of how to recognize and react to potential hacker activity. Informed people are more likely to cooperate with security measures that often make the system less flexible and more difficult to use.

- Never program passwords or authorization codes onto Auto Dial buttons. Display telephones reveal the programmed numbers and internal abusers can use the Auto Dial buttons to originate unauthorized calls.
- Discourage the practice of writing down barrier codes or passwords. If a barrier code or password needs to be written down, keep it in a secure place and never discard it while it is active.
- Operators or attendants should tell their system manager if they answer a series of calls where there is silence on the other end or the caller hangs up.
- Users who are assigned voice mailboxes should frequently change personal passwords and should not choose obvious passwords.
- The system manager should advise users with special telephone privileges (such as Remote Access, Outcalling, and Remote Call Forwarding) of the potential risks and responsibilities.
- Be suspicious of any caller who claims to be with the telephone company and wants to check an outside line. Ask for a callback number, hang up and confirm the caller's identity.

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- Never distribute the office telephone directory to anyone outside the company; be careful when discarding it (shred the directory).
- Never accept collect telephone calls.
- Never discuss your telephone system's numbering plan with anyone outside the company.

Educating Operators

Operators or attendants need to be especially aware of how to recognize and react to potential hacker activity. To defend against toll fraud, operators should follow the guidelines below:

- Establish procedures to counter social engineering. Social engineering is a con game that hackers frequently use to obtain information that may help them gain access to your communications system or voice messaging system.
- When callers ask for assistance in placing outside or long-distance calls, ask for a callback extension.
- Verify the source. Ask callers claiming to be maintenance or service personnel for a callback number. Never transfer to *10 without this verification. Never transfer to extension 900.
- Remove the headset and/or handset when the console is not in use.

Detecting Toll Fraud

To detect toll fraud, users and operators should look for the following:

- Lost voice mail messages, mailbox lockout, or altered greetings
- Inability to log into voice mail
- Inability to get an outside line
- Foreign language callers
- Frequent hang-ups
- Touch-tone sounds
- Caller or employee complaints that the lines are busy
- Increases in internal requests for assistance in making outbound calls (particularly international calls or requests for dial tone)
- Outsiders trying to obtain sensitive information
- Callers claiming to be the "phone" company
- Sudden increase in wrong numbers

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Establishing a Policy

As a safeguard against toll fraud, follow these guidelines for your MERLIN LEGEND Communications System and voice messaging system:

- Change passwords frequently (at least quarterly). Changing passwords routinely on a specific date (such as the first of the month) helps users to remember to do so.
- Always use the longest-length password allowed.
- Establish well-controlled procedures for resetting passwords.
- Limit the number of invalid attempts to access a voice mailbox to five or less.
- Monitor access to the MERLIN LEGEND dial-up maintenance port. Change the access password regularly and issue it only to authorized personnel. Disconnect the maintenance port when not in use. (However, this eliminates Lucent Technologies 24-hour maintenance surveillance capability and may result in additional maintenance costs.)
- Create a communications system management policy concerning employee turnover and include these suggestions:
 - Delete all unused voice mailboxes in the voice mail system.
 - If a terminated employee had Remote Access calling privileges and a personal authorization code, remove the authorization code immediately.
 - If barrier codes and/or authorization codes were shared by the terminated employee, these should be changed immediately.
- Regularly back up your MERLIN LEGEND system files to ensure a timely recovery should it be required. Schedule regular, off-site backups.
- Keep the Remote Maintenance Device turned off when not in use by Lucent Technologies or your authorized dealer.
- Limit transfers to registered subscribers only.
- Use the Security Violations Notification options (Mailbox Lock or Warning Message) to alert you of any mailbox break-in attempts. Investigate all incidents.
- Review security policies and procedures and keep them up to date.

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Choosing Passwords

Passwords should be the maximum length allowed by the system.

Passwords should be hard to guess and should *not* contain:

- All the same numbers (for example, 1111, 666666)
- Sequential characters (for example 123456)
- Numbers that can be associated with you or your business, such as your name, birthday, business name, business address, telephone number, or social security number.
- Words and commonly used names.

Passwords should be changed regularly, at least on a quarterly basis. Recycling old passwords is not recommended. Never program passwords (or authorization codes or barrier codes) onto a speed dial button.

Physical Security

You should always limit access to the system console (or attendant console) and supporting documentation. The following are some recommendations:

- Keep the system console and supporting documentation in an office that is secured with a changeable combination lock. Provide the combination only to those individuals having a real need to enter the office.
- Keep telephone wiring closets and equipment rooms locked.
- Keep telephone logs and printed reports in locations that only authorized personnel can enter.
- Design distributed reports so they do not reveal password or trunk access code information.
- Keep the voice messaging system Remote Maintenance Device turned off.

Limiting Outcalling

When Outcalling is used to contact subscribers who are off-site, use the MERLIN LEGEND Communications System Allowed Lists and Disallowed Lists or Automatic Route Selection features to minimize toll fraud.

If the Outcalling feature will not be used, outward restrict all voice messaging system ports. If Outcalling will be used, ports not used for Outcalling should be Outward Restricted (for Merlin Mail Voice Messaging Systems, port 2 on a two-port system, port 4 on a four-port system, ports 5 and 6 on a six-port system). Use Outward Restriction, Toll Restrictions, Allowed Lists, Disallowed Lists and Facility Restrictions Levels, as appropriate to minimize the possibility of toll fraud.

A Customer Support Information

Limited Warranty and Limitation of Liability

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Limited Warranty and Limitation of Liability

Lucent Technologies warrants to you, the customer, that your MERLIN LEGEND Communications System will be in good working order on the date Lucent Technologies or its authorized reseller delivers or installs the system, whichever is later ("Warranty Date"). If you notify Lucent Technologies or its authorized reseller within one year of the Warranty Date that your system is not in good working order, Lucent Technologies will without charge to you repair or replace, at its option, the system components that are not in good working order. Repair or replacement parts may be new or refurbished and will be provided on an exchange basis. If Lucent Technologies determines that your system cannot be repaired or replaced, Lucent Technologies will remove the system and, at your option, refund the purchase price of your system, or apply the purchase price towards the purchase of another Lucent Technologies system.

If you purchased your system directly from Lucent Technologies, Lucent Technologies will perform warranty repair in accordance with the terms and conditions of the specific type of Lucent Technologies maintenance coverage you selected. If you purchased your system from an Lucent Technologies-authorized reseller, contact your reseller for the details of the maintenance plan applicable to your system.

This Lucent Technologies limited warranty covers damage to the system caused by power surges, including power surges due to lightning.

The following will not be deemed to impair the good working order of the system, and Lucent Technologies will not be responsible under the limited warranty for damages resulting from:

- Failure to follow Lucent Technologies' installation, operation, or maintenance instructions
- Unauthorized system modification, movement, or alteration
- Unauthorized use of common carrier communication services accessed through the system
- Abuse, misuse, or negligent acts or omissions of the customer and persons under the customer's control
- Acts of third parties and acts of God

LUCENT TECHNOLOGIES' OBLIGATION TO REPAIR, REPLACE, OR REFUND AS SET FORTH ABOVE IS YOUR EXCLUSIVE REMEDY.

EXCEPT AS SPECIFICALLY SET FORTH ABOVE, LUCENT TECHNOLOGIES, ITS AFFILIATES, SUPPLIERS, AND AUTHORIZED RESELLERS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIM ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

A Customer Support Information Remote Administration and Maintenance

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Limitation of Liability

Except as provided below, the liability of Lucent Technologies and its affiliates and suppliers for any claims, losses, damages, or expenses from any cause whatsoever (including acts or omissions of third parties), regardless of the form of action, whether in contract, tort, or otherwise, shall not exceed the lesser of: (1) the direct damages proven; or (2) the repair cost, replacement cost, license fee, annual rental charge, or purchase price, as the case may be, of the equipment that gives rise to the claim. Except as provided below, Lucent Technologies and its affiliates and suppliers shall not be liable for any incidental, special, reliance, consequential, or indirect loss or damage incurred in connection with the equipment. As used in this paragraph, consequential damages include, but are not limited to, the following: lost profits, lost revenues, and losses arising out of unauthorized use (or charges for such use) of common carrier telecommunications services or facilities accessed through or connected to the equipment. For personal injury caused by Lucent Technologies' negligence, Lucent Technologies' liability shall be limited to proven damages to person. No action or proceeding against Lucent Technologies or its affiliates or suppliers may be commenced more than twenty-four (24) months after the cause of action accrues. THIS PARAGRAPH SHALL SURVIVE FAILURE OF AN EXCLUSIVE REMEDY.

Remote Administration and Maintenance

The Remote Administration and Maintenance feature of your telecommunications system, if you choose to use it, permits users to change the system features and capabilities from a remote location.

The Remote Administration and Maintenance feature, through proper administration, can help you reduce the risk of unauthorized persons gaining access to the network. However, telephone numbers and access codes can be compromised when overheard in a public location, are lost through theft of a wallet or purse containing access information, or through carelessness (for example, writing codes on a piece of paper and improperly discarding them). Additionally, hackers may use a computer to dial an access code and then publish the information to other hackers. Substantial charges can accumulate quickly. It is your responsibility to take appropriate steps to implement the features properly, evaluate and administer the various restriction levels, and protect and carefully distribute access codes.

Under applicable tariffs, you will be responsible for payment of toll charges. Lucent Technologies cannot be responsible for such charges and will not make any allowance or give any credit resulting from unauthorized access. A Customer Support Information
Remote Administration and Maintenance

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To reduce the risk of unauthorized access through Remote Administration and Maintenance, please observe the following procedures:

- The System Administration and Maintenance capability of a Hybrid/PBX or Key system is protected by a password.
 - Change the default password immediately.
 - Continue to change the password regularly.
 - Only give the password to people who need it and impress upon them the need to keep it secret.
 - If anyone who knows the password leaves the company, change the password immediately.
- If you have a special telephone line connected to your Hybrid/PBX or Key system for Remote Administration and Maintenance, you should do one of the following:
 - Unplug the line when it is not being used.
 - Install a switch in the line to turn it off when it is not being used.
 - Keep the Remote Administration and Maintenance telephone number secret. Only give it to people who need to know it, and impress upon them the need to keep it a secret. Do not write the telephone number on the Hybrid/PBX or Key system, the connecting equipment, or anywhere else in the system room.
- If your Remote Administration and Maintenance feature requires that someone in your office transfer the caller to the Remote Administration and Maintenance extension, you should impress upon your employees the importance of only transferring authorized individuals to that extension.

B Menu Hierarchy

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Menu Hierarchy



The system programming menu hierarchy details the sequence of menu screens that appear when you select the system programming options. The choice of an option on the first menu screen leads to either a second menu screen or a dataentry screen. A secondary menu screen may lead to still another menu screen, and so on up to six screens, as shown in the following pages.

You can use the Inspect feature in system programming to display the telephone or line/trunk numbers that are programmed with a specific feature. Inspect is helpful when you must assign a feature to many lines/trunks or extensions and you do not have a Direct Station Selector (DSS) attached to the system programming console, or when you are programming using a PC with SPM.

Inspect can be used with the menu options on the following pages that have an asterisk (*) next to them. To use Inspect in system programming, choose an eligible option, and press Inspect or PgDn.

Issue 1 February 1998

B Menu Hierarchy

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LED Displays



Table C-1 indicates LED status on the MLX-20L console. LED status is indicated on the LEDs next to the 20 buttons below the display area on the system programming console. LED status is simulated on the computer screen when you use SPM.

<u>Table C–2</u> indicates LED status on the DSS console. LED status is indicated on the red LED next to the 50 extension buttons.

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Table C-1. Line or Trunk Feature Status

System		LED Status*											
Programming			Green LED			Red LED							
Menu Option		ON	OFF	FLASHING	ON	OFF	FLASHING						
Lines Trunks	Tie Lines												
	Inmode	Incoming tie line is touch-tone	Incoming tie line is rotary dial†										
	Outmode	Outgoing tie line is touch-tone	Outgoing tie line is rotary dial†										
	Dialtone	Remote dial tone†	Local dial tone										
Lines Trunks	TT/LS Disc												
	Outmode	Line/Trunk is touch-tone†	Line/trunk is rotary dial										
Lines Trunks	Pools				Trunk is in pool	Trunk is not in pool							
Lines Trunks	Toll Type	Must dial 1 + area code†	1 + dialing is not needed										
Lines Trunks	Hold Disconct	Long-450 ms†	Short-50 ms										
Lines Trunks	LS-ID Delay	LS-ID Delay is on	LS-ID Delay is off†										
Extensions	Lines Trunks	Line/trunk or pool is assigned to button	Line/trunk or pool is not assigned to button		Trunk is assigned to a pool								

^{*} LED Status is indicated on LEDs next to the 20 buttons below the display area of the system programming console or simulated on the computer screen when using SPM.

[†] This is the factory setting.

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Table C-2. Telephone Feature Status for DSS Console Only

System Programming		Red LED Status									
Menu Option	Option	ON	OFF	FLASHING	WINK						
Extensions	Account (FACE)	Forced Account Code Entry assigned	Forced Account Code Entry not assigned†								
Extensions	BIS/HFAI	Telephone has BIS/HFAI ability (factory setting analog multiline telephones)	Other								
Extensions	Call Pickup	Telephone is assigned to Call Pickup Group	Telephone is not assigned to Call Pickup Group†								
Extensions	VoiceSignI	Voice Announce to Busy assigned	Voice Announce to Busy not assigned†								
Extensions	Ext Status	Extension Status assigned	Extension Status not assigned	Extension Status can be assigned							
Extensions	Group Page	Telephone is in group	Telephone is not in group†								
Extensions	Group Cover	Telephone is in coverage group	Telephone is not in coverage group†								
Extensions	Group Calling Members	Telephone is assigned to group	Telephone is not assigned to group†								
Extensions	Mic Disable	Telephone microphone is disabled	Telephone microphone is enabled								
Extensions	Remote Frwd	Telephone can transfer calls to remote phone number	Telephone cannot transfer calls to remote phone number†								

This is the factory setting.

Page C-4

Table C-2. Continued

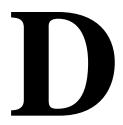
System Programming			Red LE	D Status	
Menu Option	Option	ON	OFF	FLASHING	WINK
Night Service	Group Assign	Telephone is in group	Telephone not in group†		
Night Service	Exclude List	Telephone is excluded	Telephone is not excluded†		
Aux Equip	Msg Waiting	A fax message-waiting extension	Not a fax message-waiting extension		
Aux Equip	Fax Extension	Extension is a fax machine	Extension not a fax machine		
Tables	AllowTo	Allowed List assigned to telephone	Allowed List not assigned to telephone†		
Tables	DisallowTo	Disallowed List assigned	Disallowed List not assigned†		
Data	Voice/Data	Voice/Data pair	Not Voice/Data pair†		
Operator	Direct Trunk Queued Call	Operator position	Other	Can be assigned as operator position	
Operator	Queued Call Message Center	Message Center position	Other	Can be assigned as Message Center	
Operator	In Queue Alert	Position receives In-Queue Alert for Thresh. 3	Other	Position receives In-Queue Alert for Thresh. 1	Position receives In-Queue Alert for Thresh. 2

This is the factory setting.

D General Feature Use and Telephone Programming General Feature Use Information

Page D-1

General Feature Use and Telephone Programming



This appendix contains information on the general use of features for the MLX, analog multiline, and single-line telephones. It covers telephone and operator features and the acceptable programming codes for each. It also describes how to program these features on MLX and analog multiline telephones.

General Feature Use Information

The following sections provide general instructions for feature use on MLX, analog multiline, and single-line telephones. Features can be used in the following ways:

- Press a dedicated feature button.
- Press a programmed button.

Fixed Features

All multiline telephones have a group of dedicated (or fixed) feature buttons that are programmed and labeled at the factory. The functions of these buttons, which include **Conf**, **Transfer**, and **Speaker**, cannot be changed. Press the button for the feature you want to use.

D General Feature Use and Telephone Programming General Feature Use Information

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Programmed Buttons

Any unlabeled line button on multiline telephones can be programmed with a feature for one-touch activation. See Tables $\underline{D-1}$ through $\underline{D-4}$ for additional information about programming features onto line buttons.

Some features, such as Auto Dial, must be programmed onto line buttons in order to function. Other features, such as Privacy, are best used if programmed onto line buttons—the LED next to the line button provides visual indication that the feature is in use. The following features must be programmed onto line buttons:

- Auto Answer All
- Auto Answer Headset
- Auto Dial
- Barge-In
- Coverage
 - Group Coverage
 - Primary Coverage
 - Secondary Coverage
 - Coverage Off
 - Coverage VMS Off
- Do Not Disturb
- Extension Status-Agent Login/Logout
- Feature Button (analog multiline telephones only)
- Headset/Handset Mute
- Headset Status
- Headset Hang Up
- Notify
- Posted Message (available from display on MLX display telephones)
- Saved Number Dial
- Signal

D General Feature Use and Telephone Programming Telephone and Operator Features

Page D-3

Feature Codes

Feature codes are 1-, 2-, and 3-digit codes that activate features. A feature code is used by first pressing the dedicated **Feature** button on MLX telephones, pressing a programmed Feature button on analog multiline telephones, or dialing # on single-line telephones. Each of these methods sends a signal to the system that a feature code is about to be dialed. When the code is dialed, the feature is activated.



Queued Call Console (QCC) system operators cannot use feature codes.

The following features can be used only by dialing feature codes:

- Pickup
- Forward/Follow Me—Cancel One
- Forward/Follow Me—Cancel All
- Message Cancel
- Personal Speed Dial
- System Speed Dial

NOTE:

Pressing the Conf, Transfer, Speaker, or Feature button while activating a feature cancels the process. Pressing any other button, such as the Mute, HFAI, Message Status, DSS Page, More, Message, Clock, analog multiline display keys, or analog multiline disconnect button does not cancel the feature activating process.

Telephone and Operator Features

Table D-1 lists the telephone and operator features that can be assigned to telephones or consoles either through centralized telephone programming or by users from their telephones.

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX- 10D/5D	MLX- 28D	MLX- 20L	MLX- 10/ 5	Single- Line	Analog Multi.
Account Code Entry	*B2	<i>B2</i> + code	Acct	AccountCode	KPB	KPB	KPB	ΚP	KPB	KPB
Alarm*	*75 9		Alarm	Alarm		KPB	KPB			KPB
Alarm Clock			A1C1k	Alarm Clock	KPB	KPB	KPB		KPB	KPB
Authorization Code	*80	80	Auth	Auth Code	KPB	KPB	KPB	KPB	KPB	KPB
Auto Answer All	*754			AutoAns All						KPB
Auto Answer Intercom	*753			AutoAnsIcom						KPB
Auto Dial Inside (ext., group, zone)	*22 + ext. no		AutoD In	Auto Dial Inside	KPB	KPB	KPB	KPB		KPB
Outside	*21₁ + tel. no.		Out	Outside						
Automatic Line Selection Begin Sequence End Sequence	*14 **14				КРВ	KPB	КРВ	KPB	КРВ	КРВ
Barge-In*†	*5B		Barge	Barge In	KPB	KPB	KPB	KPB		KPB
Callback Automatic On Off Selective Cancel selective	*12 **12 *55	55 *55	CbckA 0n 0ff CbckS	Cback Auto On Off Cback Sel	КРВ	КРВ	КРВ	КРВ	КРВ	КРВ
Camp-On	<i>*57</i>	57	Camp	Camp ≬n	KPB	KPB	КРВ	KPB		KPB
	erator feature o	•								

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D General Feature Use and Telephone Programming
Telephone and Operator Features

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX- 10D/5D	MLX- 28D	MLX- 20L	MLX- 10/ 5	Single- Line	Analog Multi.		D ,
Call Waiting On Off	*11 **11	<i>B</i> 7	CWait On Off	CallWaiting On Off	KPB	KPB	KPB	KPB	KPB	КРВ	elephone	eneral Fe
Carl Waiting Pickup	*77 2	772	Conf	Conference							and	ature
Conference	***	/ /E		Com erence	В	В	В	В		В	Ope	SU 6
Contrast			Ctrst		KPB	KPB	KPB			KPB	rato	e ar
Coverage Cover inside and outside calls	*48		Cover CvIns, On	Coverage CoverInside, On	KPB	KPB	KPB	KPB	КРВ	KPB	r Feature	nd Teleph
Cover outside calls only Receiver buttons Group Primary Secondary Sender buttons	*42 + ext. no. *40 + ext. no. *41 + ext. no		CvIns, Off Group Prmry Secnd	CoverInside, Off Group Primary Secondary	K P B K P B K P B	КРВ	K P B K P B K P B	Telephone and Operator Features	one Programm			
Coverage VMS Off	*49 *46		Cvoff	Coverage0ff	K P B K P B		K P B K P B	ú	inα			
Data Status	*å∃ + ext. no.				KPB	KPB	KPB	KPB		KPB		
Direct Voice Mail	*5L	5 L	DrcVM	Direct VM	ΚP	ΚP	ΚP	ΚP	ΚP	ΚP		
Directories Extension Directory Personal Directory System Directory	(display only) (display only) (sys. prog.)		Dir ExtDir SysDir	Directory Ext Dir Personal Dir System Dir	КРВ КРВ	КРВ КРВ	K P B K P B K P B					
Do Not Disturb	*47		DND	DoNotDistrb	KPB	KPB	KPB	KPB		KPB		
Drop	*773	773	Drop	Drop	В	В	В	В		В		
											Page D-5	

			2-Line		MLX-	MLX-		MLX- 10/	_	
Feature	Prog Code	Feature Code	Display	7-Line Display	10D/5D	28D	20L	5	Line	Multi.
Extension Status Direct-Line Console*										
Status Off	*7LO	7Ы□ + DSS button	OPES, ESOff	OperatorES, ESOff		KPB	KPB			KPB
Status 1	*761	7LL + DSS button	OPES, ESL	OperatorES, ESL						
Status 2	*7 Ь 2	7Ы2 + DSS button	SZ3 rZ390	OperatorES, ES2						
Telephones					KPB	KPB	KPB	KPB	KPB	KPB
(rooms or agents)										
`Status Off ´´		*44								
Status 1	* 45	<i>45</i>	EZ' EZJ	ES Status, ESl						
Status 2	*44	44	EZ_ EZZ	ES Status, ES2						
Feature Button	*20	-		Feature Btn						KPB
Forward and Follow Me Activate					KPB	KPB	КРВ	KPB	KPB	KPB
Forward (inside)	<i>*33</i>	33 + ext. no.	Forwd	Forward						
Remote Call	*33	33 + tel no.	Forwd	Forward						
Forward (outside)	22	22 / 10/7/0		1 01 # 01 0						
Follow Me		34 + ext. no.	FlwMe	Follow Me						
Cancel										
cancel sending from	1	33 + your ext.	_							
your telephone	•	no.	-							
cancel sending from	1	*34 + ext. no).	CanclFollow						
one extension	•			(QCC only)						
cancel sending from	1	*34 *		CanclFollow						
all extensions	•	- ·		(QCC only)						
all oxteriolorio				(QOO Only)						
* System ope	rator feature of	only								

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General Feature Use and Telephone Programming Telephone and Operator Features

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX- 10D/5D	MLX- 28D	MLX- 20L	MLX- 10/	Single- Line	Analog Multi.	·	D 0
Group Calling In-Queue Alarm	*22 + calling		GrpCl	Group Call	KPB	KPB	KPB	KPB		KPB		General Feature Use and Telephone Programming Telephone and Operator Features
button Calling group	group ext. no		F		2			2				l Fea
supervisor Enter supervisor		<i>3</i> 2 + Hold				KPB	KPB			KPB		ture Us
mode [*] Exit supervisor mode [*]		<i>3</i> 2 + Drop										lse an perato
Available (ES Status 2)	*7 L 2	7 Ŀ 2 + DSS bt	OPES, ES2	OperatorES, ES2								d Tele r <i>Feat</i>
Unavailable (ES Status Off)	*7 L O	760 + DSS bi	t.OPES, ESOff	OperatorES, ES Off								ephon ures
Calling group members					KPB	KPB	KPB	KPB	KPB	KPB		e Pro
Sign in (Available) Sign out (Unavailable)	*44	44 *44	ES ES ₇ 0ff	Status, ES2 ES Status, ES Off								gramı
After-call work state (CMS only)	*45	45	EZ ² EZT	ES Status, ES1								ning
Group Page Auto Dial Button	*22 + paging group ext. no		GrpPg	Group Page	КРВ	KPB	КРВ	KPB				
Headset Options Auto Answer	*780		Hdset Auto	Hdset Auto Answer	KPB	KPB	KPB	KPB				
Hang Up [†] Mute (Headset/ Handset)	*781 *783		Mute	Hang Up Mute								
Status	*782		Stat	Status								
Hold Hold release		77 1 **			B B	B B	B B	B B	В	B B		
	erator feature o	only										Page D-7
† Centralized	l telephone pro	gramming only	,									D-7

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX- 10D/5D	MLX- 28D	MLX- 20L	MLX- 10/	Single- Line	Analog Multi.	D
Intercom buttons	Trog code	Teatare cour	. Display	7 Eme Bispiny	K B	K B	K B	 КВ	Line	K B	Gen Tele
Assign buttons [*] ICOM (Default	*16			SysAccess	KB	KΒ	ΚĐ	ΚĐ	ΚВ	NΒ	eral Fe
Ring) ICOM Originate Only	*18			SysAcc-00					ΚВ		ature L
Change button type Ring	**19		Voice, Place. Ring	,Voice Annce, Place,Ring							Jse an
Voice	*19			Voice Annce, Place,Voice							d Telep
Language Choice English French Spanish		790 791 792			КРВ	KPB	KPB	КРВ			General Feature Use and Telephone Programming Telephone and Operator Features
Last Number Dial	* 8 4	<u>8</u> 4	Last#*	 LastNumDial	KPB	KPB	KPB	KPB	ΚP	KPB	gramı
Messaging			Msqs	Messages							ming
Leave Message After calling Without calling Cancel msg. left	*25	25 53 + ext no. *53 + ext no.	LvMsg	Msg Leave	КРВ	KPB	KPB	КРВ	KPB	КРВ	
Message LED off Posted Message Send/Remove Msg [†]	*54 *751 *38	54 3å + ext no.	Post SdMsg Msgs	Posted Msg Send/RmvMsg Messages	K P B K P B	K P B K P B K P B	K P B K P B K P B	K P B K P B		K P B K P B K P B	
Receiving messages Delete Message [‡] Next Message [‡] Return Call [‡] Scroll [‡]	*26 *28 *27 *29	26 28 27 29	Dlete Next Call	Delete Msg Next Msg Return Call	K P B K P B K P B	KPB KPB KPB	KPB KPB KPB			K P B K P B K P B K P B	
† System ope	erator feature	-		es are used with ar	nalog multil	ine teleph	ones onl	y.			Page D-8
											~

Feature	Prog Code	Feature Code	2-Line	7-Line Display	MLX- 10D/5D	MLX- 28D	MLX- 20L	MLX- 10/	Single- Line	Analog Multi.	7
					100/50				Line		Tel
Night Service*	*39	39	Night	Night Srvc		KPB	KPB			KPB	eph
Notify Send	*757 + ext.		Ntfy Send	Notify Send	KPB	KPB	KPB	KPB		KPB	ai real
Receive	no. *75å + ext. no.		Recv	Receive							nd Ope
Paging Group Paging Loudspeaker Paging	J		GrpPg LdsPg	Group Page Loudspkr Pg	КРВ	KPB	KPB	KPB		KPB	Telephone and Operator Features
Park	*86		Park	Park	KPB	KPB	KPB	KPB	ΚP	KPB	ures
Park Zone Auto Dial*	∗22 + park zone		PrkZn	Park Zone		KPB	KPB			КРВ	ne Pro
Personal Speed Dial	# + (D1–24) - *21 + tel no. + ##	+	PSpdD1	PersSpeedDl	КРВ			KPB	ΚP	KPB	gramming
Personalized Ringing	*32 + ring (1-8)		PRing, Pat #1 Pat*8	PersonalRng. Pattern #1 Pattern #8	КРВ	KPB	KPB	KPB		KPB	
Pickup General use Specific extension Specific line Group	*9 *9 + ext. no. *9 + line no. *88		Pkup Genrl Ext Line PkupG	Pickup General Extension Line PickupGroup	КРВ	КРВ	КРВ	КРВ	ΚP	КРВ	
Privacy On Off	*31	31 *31	Prvcy	Privacy	КРВ	KPB	KPB	КРВ	ΚP	KPB	
Recall	*775	775	Recll	Recall	КРВ	KPB	KPB	KPB		KPB	Ti
* System ope	erator feature o	only									Page D-9

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX- 10D/5D	MLX- 28D	MLX- 20L	MLX- 10/ 5	Single- Line	Analog Multi.
Reminder Service Set*	*81	81 + time + A	Rmind Set	Reminder Set	KPB	KPB	KPB	KPB	KPB	KPB
Operator Set*†		orP &L+ext.no.+ time+A orP								
Cancel Operator Cancel [†]	**81	*81 *81 + ext. no.	Cancl	Cancel						
Missed [†]	<i>∗752</i>	#BE I CAL IIO.	Missd	Missed						
Ringing/Idle Line Preference					KPB	KPB	KPB	KPB		KPB
On	*343		LnPrf, On	Line Preference, On						
Off	* 3 44		LnPrf, Off	Line Preference, Off						
Ringing Options			Rng≬p 1Line	RingOptions One Line	KDD	KDD	KDD	KDD		KDD
Individual lines Immediate ring	<i>*3</i> 7		Immed	Immed Ring	KPB	KPB	KPB	KPB		KPB
Delay ring	*3L		Delay	Delay Ring						
No ring	*35		No	No Ring						
All lines			AllLn	All Lines	KPB	KPB	KPB	KPB		КРВ
	*347		Immed	Immed Ring	KFB	KFD	KFD	KFD		KFD
Immediate ring	*34L		Delay	Delay Ring						
Delay ring	*345		No	No Ring						
No ring	*272		Abbrv	Abbreviated	KPB	KPB	KPB	KPB		KPB
Abbreviated ring	*341		0n		KPB	NPD	NPD	KPB		KPD
On Off	*342		Off	0n 0ff						
Off	*340				Б	_	_	Б	_	_
Send Ring (Shared			ShRng	SharedSARng	Р	Р	Р	Р	Р	Р
SA)	*15		۸۰۰	0n						
On Off	**15		0n 0ff	Of f						
* English only); French and Spani	sh: time is	s 24-hour	(0000-23	35 7).		

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General Feature Use and Telephone Programming Telephone and Operator Features

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX- 10D/5D	MLX- 28D	MLX- 20L	MLX- 10/ 5	Single- Line	Analog Multi.
Saved Number Dial	*85		Save#	SaveNumDial	KPB	KPB	KPB	KPB		КРВ
Send/Remove Message	*38	38 + ext. no.	SdMsg	Send/RmvMsg		KPB	KPB			KPB
Signal (manual)	*23 + ext. no.		Signl	Signal	KPB	KPB	КРВ	KPB		KPB
SA Originate Only Shared SA	*16 *18 *17 + primary ext. no.			SysAccess SysAcc-00 ShareSysAcc	Р	Р	Р	Р	P P P	P
Change type (SA or Shared SA) Ring Voice	**19 *19									
System Speed Dial	*24 + code (600-729)	<i>600</i> 0729	ZpdD1	SysSpeedD1	KPB	KPB	KPB	KPB	ΚP	KPB
Timer			Timer	Timer	KPB	KPB	КРВ	KPB		KPB
Transfer	* 774	774	Trans	Transfer	В	В	В	В		В
Voice Announce to Busy On	y *1.□		Voice Place Recv On	Voice Annce Place Receive On	КРВ	KPB	KPB	КРВ		КРВ
Off	**10		Off	Off						
	rator feature or telephone prog	•								

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D General Feature Use and Telephone Programming Telephone Programming

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Telephone Programming

The following describes how to program features on MLX and analog multiline telephones. Because Personal Speed Dial is the only feature that single-line telephone users can program, general programming instructions for single-line telephones are not provided.



Features cannot be programmed on QCCs in system operator positions.

Features assigned to these consoles are fixed and cannot be changed.

Programming Methods

Telephones can be programmed by dialing programming codes or, on MLX display telephones, by selecting features from the display. Analog multiline telephones cannot be programmed by selecting features from the display.

To program a telephone, first enter programming mode:

- On analog multiline telephones, slide the Test/Program (T/P) switch on the side of the telephone to P. or lift the handset, or press Spkrphone and dial #00.
- On MLX-10 and MLX-5 nondisplay telephones, press the Feature button and dial DD.
- On MLX display telephones, use the same procedures as for the MLX nondisplay telephones or enter programming mode by selecting Ext Program from the menu screen on the display.
- On MDC 9000 and MDW 9000 telephones, press the imprinted Feat button and dial DD.

See the appropriate user or operator guide for more information.



NOTE:

Features can also be programmed onto individual telephones through centralized telephone programming. The steps for using programming codes vary, depending on the telephone. Tables D-2 through D-5 list the basic steps for programming each telephone type.

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D General Feature Use and Telephone Programming *Telephone Programming*

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Table D-2. Programming Analog Multiline Telephones

Step		Action
1	Label the button. Note: Skip this step if the feature is not programmed on a button.	Remove the clear label cover from the phone: insert the end of a paper clip in the notch at the top of the cover. Write the feature name on the card next to the button to be programmed. Replace the cover.
2	Begin programming.	Slide the T/P switch on the side of the phone to P .
3	Select the feature or setting.	Press the button you labeled.
		If you have a display phone, it shows the name of the feature currently programmed on the button. If no feature is programmed, the display indicates that the button is blank.
		Note: If the feature does not get programmed onto a button, press any line button. This does not affect the button in any way.
		Dial the programming code.
		The feature is programmed.
4	End programming.	Slide the T/P switch to the center position.

Table D-3. Programming MLX-10 and MLX-5 Nondisplay Telephones

Action

Step

1	Label the button.	Remove the clear label cover from the phone: pull
	Note: Skip this step if the feature will not be programmed onto a button.	up on the tab that extends from the top of the cover.
		Write the feature name on the card next to the button to be programmed.
		Replace the cover.
2	Begin programming.	Press the Feature button and then dial 00.
3	Select the feature or setting.	Press the button you labeled.
		Note: If the feature is programmed onto a button, press any line button. This does not affect the button in any way.
		Dial the programming code.
		The feature is programmed.
4	End programming.	Press the Feature button and dial *□□.

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Table D-4. Programming MLX Telephones Using the Display

Step		Action
1	Label the button to be programmed. Note: Skip this step if the feature will not be programmed onto a button.	Remove the clear label cover from the telephone by pulling up on the tab that extends from the top of the cover. Write the feature name on the card next to the button to be programmed. Replace the cover.
2	Begin programming.	Press Menu.
		Select Ext Program from the display.
		Select Start from the display.
3	Identify the button to be programmed.	Press the button you labeled. Note: If the feature does not get programmed onto a button, press any line button. This does not affect the button in any way.
		The display identifies the feature currently programmed on the button. If no feature is programmed, the display indicates that the button is blank.
	To delete the features currently programmed on the button:	Select Delete from the display. The button is now blank.
		Press the button you labeled again to continue programming.
		Note: If the currently programmed feature was not deleted from the button, the new feature programmed onto it will replace it.
	To display features:	Select List Feature from the display.
		The screen lists feature names in alphabetical order.

Continued on next page

D General Feature Use and Telephone Programming Telephone Programming

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Table D-4. Continued

Step		Action	
4	Select the feature.		
	If the feature name is on the display:	Press the button next to or below the name of the feature to be programmed.	
	If the feature name is not on the display:	Press More.	
	To move through the list of features page by page,	Press More.	
	or		
	To jump to the screen that displays the feature name.	Select Find Feature from the display.	
		Select the range of letters from the display that corresponds to the first letter of the feature name (for example, it the feature begins with A, select ABC).	
		If the feature is not displayed on the page that you jumped to, press More .	
		When you find the feature you want, press the button next to or below it.	
5	Respond to any additional prompts on the display.	Select the appropriate prompt (for example, select 0n or 0ff to turn inside Coverage on or off), and/or enter required information (for example, dial a phone number for Auto Dial). Select Enter.	
6	End programming.		
	To return to the Home screen:	Press Home or lift and replace the handset.	
	To return to the Menu screen:	Press Menu.	



MLX display telephones can also be programmed using the method described for MLX-10 and MLX-5 nondisplay telephones. For example, the programming mode can be entered by pressing the Feature button and dialing \$\overline{D}\$, then referring to the display to continue the programming process. Or, enter programming by using the display and then dial a programming code to select the feature rather than selecting it from the display.

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D General Feature Use and Telephone Programming *Telephone Programming*

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Table D-5. Programming MDC 9000 and MDW 9000 Telephones

Step		Action	
1	Label the button to be programmed. Note: Skip this step if the feature will not be programmed onto a button.	Remove the clear label cover from the telephone by pulling up on the tab that extends from the top of the cover. Write the feature name on the card next to the button to be programmed. Replace the cover.	
2	Begin programming.	Press the imprinted Feat button. Dial \$\textit{DD}\$.	
3	Select the feature or setting.	Press the button you labeled. Note: If the feature does not get programmed onto a button, press any line button. This does not affect the button in any way. Dial the programming code. The feature is programmed.	
4	End programming.	Press the imprinted Feat button. Dial \$\pi\pi\$.	

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Button Diagrams



This appendix contains the button diagrams for Hybrid/PBX, Key, and Behind Switch systems.

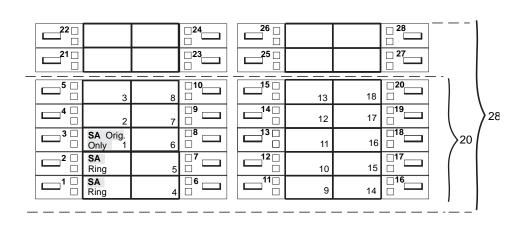


Figure E-1. MLX-20L and MLX-28D Telephone Button Diagram (Hybrid/PBX Mode)

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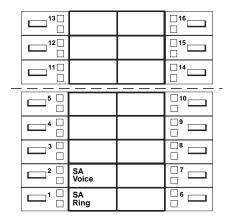


Figure E-2. MLX-16DP Telephone Button Diagram (Hybrid/PBX Mode)

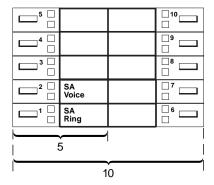


Figure E-3. MLX 5- and 10-Button Telephone Button Diagram (Hybrid/PBX Mode)

Page E-3

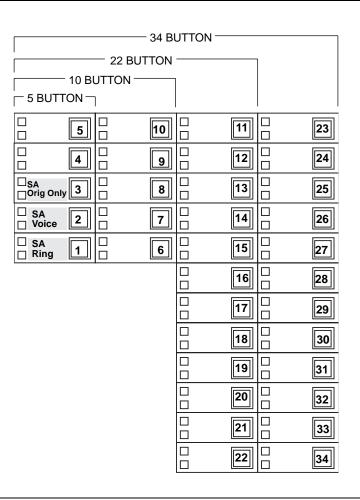
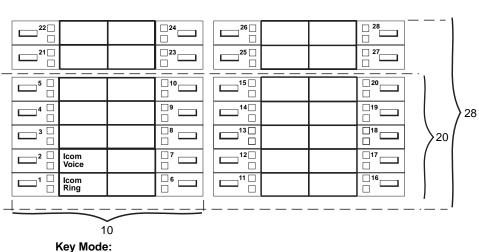


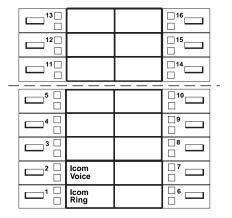
Figure E-4. Analog Multiline Telephone Button Diagram (Hybrid/PBX Mode)



Up to 8 personal line buttons are assigned beginning at button 3.

Behind Switch Mode: One prime line button is assigned to button 3.

Figure E-5. MLX-20L and MLX-28D Telephone Button Diagram (Key and Behind Switch Modes)



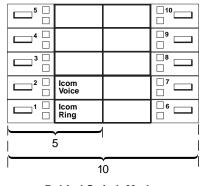
Key Mode:

Up to 8 personal line buttons are assigned beginning at button 3.

Behind Switch Mode: One prime line button is assigned to button 3.

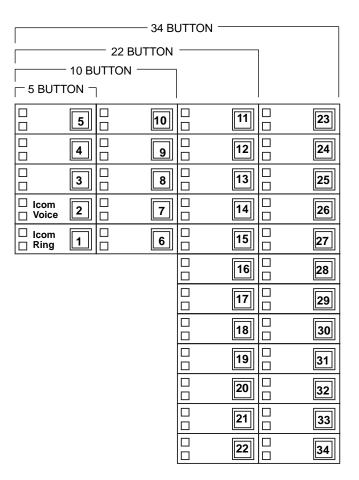
Figure E-6. MLX-16DP Telephone Button Diagram (Key and Behind Switch Modes)

Page E-5



Behind Switch Mode: One prime line is assigned to button 3

Figure E-7. MLX 5- and 10-Button Telephone Button Diagram (Key and Behind Switch Modes)



Key Mode:

Up to 8 Personal line buttons are assigned beginning at button 3.

Behind Switch Mode:

One prime line button is assigned to button 3.

Figure E-8. Analog Multiline Telephone Button Diagram (Key and Behind Switch Modes)

Page F-1

Sample Reports



This appendix includes samples of the print reports generated by the communications system. Table F-1 lists the system reports and the pages in this appendix where samples can be found.



NOTE:

The system's Station Message Detail Recording (SMDR) feature reports incoming and outgoing call details.

Table F-1. **Sample Report Pages**

For	See
System Information Report	<u>F-6</u>
Dial Plan Report	<u>F–8</u>
Non-Local Dial Plan Report	<u>F–11</u>
Label Information Report	<u>F–11</u>
Tie Trunk Information Report	<u>F-13</u>
DID Trunk Information Report	F-14
GS/LS Trunk Information Report	<u>F-15</u>
General Trunk Information Report	<u>F-16</u>
DS1 Information Report	<u>F-18</u>
PRI Information Report	F-19

Continued on next page

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Table F-1. Sample Report Pages (Continued)

For	See
Remote Access (DISA) Information Report	F-22
Operator Information Report	F-23
Allowed Lists Report	F-25
Access to Allowed Lists Report	F-26
Disallowed Lists Report	F-27
Access to Disallowed Lists Report	F-28
Automatic Route Selection Report	F-29
Extension Directory Report	F-30
System Directory Report	F-31
Group Paging Report	F-32
Extension Information Report	F-33
Group Coverage Information Report	F-35
Direct Group Calling Information Report	F-36
Night Service Information Report	F-37
Group Call Pickup Report	F-38
Error Log Report	F-39
Authorization Code Information Report	F-40
BRI Information Report	F-41
Switch 56 Data Information Report	F-17

<u>Table F–2</u> lists all of the system reports and includes the print menu option used to print each report, the report name, and a brief description of each report.

To access the menu options in <u>Table F-2</u>, select the Print option on the System Programming menu.

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Table	F-2.	System	Reports
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Menu Option	Report Name	Description				
A11		Prints each of the reports available on the Print menu, from SysSet-up to Error Log.				
		Note: With All selected, four trunk information reports automatically print. See Trunk Info.				
SysSet-up	System Information	Systemwide information such as return intervals, system mode, system programming port, slot assignments, and so on.				
Dial Plan	Dial Plan	Extensions assigned to pools, paging zones, calling groups, lines or trunks, and stations (in the report); labels for lines/trunks and stations.				
Labels	Label Information	Labels assigned to stations (extensions), Posted Messages, and names and telephone numbers in MLX-20L Personal Directory.				
Trunk Info		Select to display four trunk options: Tie, DID, Loop/Ground, General.				
TIE	TIE Trunk Information	Extensions assigned to and signaling attributes associated with Tie trunks.				
DID	DID Trunk Information	Extensions assigned to and signaling attributes associated with DID trunks.				
Loop/ Ground	GS/LS Trunk Information	Extensions assigned to, signaling attributes for ground- and loop-start lines/trunks.				
General	General Trunk Information	All identified extensions and feature-related attributes of each extension.				
S5L Data	Switch 56 Data Information Report	Dial Plan Routing information and programmable options.				
Tl Info	DS1 information	Options (line, signal, and so on) assigned to T1 trunks or lines.				
PRI Info	PRI Information	PRI trunks assigned to B-channel groups.				
RmoteAccess	Remote Access (DISA) Information	Remote access dial code, class of restriction, barrier code information.				
Oper Info	Operator Information	For each system operator position: logical ID, extension number, label, type (DLC or QCC). All general system operator options, such as backup position; call types and priorities.				
AllowList	Allowed Lists	Telephone numbers included in Allowed Lists. Lists numbered 0–7; entries numbered 0–9.				

Continued on next page

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Table F–2.	ystem Reports (Continued)	
Menu Option	Report Name	Description
AllowListTo	Access to Allowed Lists	Lists numbered 0–7. If the Allowed List is assigned to remote access users and barrier codes are used, barrier codes are numbered 0–16. If no barrier codes are used, 17 means list is assigned to tie-trunk users and 18 means list is assigned to non-tie-trunk users.
DisallowLst	Disallowed Lists	Telephone numbers included in Disallowed Lists. Lists are numbered 0–7, and entries are numbered 0–9.
DisallowTo	Access to Disallowed Lists	Telephones to which Disallowed Lists are assigned. Lists are numbered 0–7. If the Disallowed List is assigned to Remote Access users and barrier codes are used, the barrier codes are numbered 0–16. If no barrier codes are used, 17 means the Disallowed List is assigned to tie-trunk users and 18 means the Disallowed List is assigned to non-tie-trunk users.
ZЯA	Automatic Route Selection	Access code; table types with area codes and exchanges; routes for subpatterns A and B, FRL, absorb digit, delete digit, Dial 0, and N11 tables.
Ext Direct	Extension Directory	Slot/port addresses, extensions, labels and feature-related attributes. Column headings are printed on the first page only and are not carried over to subsequent pages. Column headings 4 through 10 (and 14 through 20) should be read vertically. That is: FACE (Forced Account Code Entry); HBIS (HFAI/BIS); RCFW (Remote Call Forward); MICD (Microphone Disable); SIG (Voice Signal); RSTR (Calling Restrictions); ARSR (ARS Restriction Level); ZBDT (2B Data Capability).
Sys Direct	System Directory	System Speed Dial number, label and telephone number in System Directory, and whether number should display.
Group Page	Group Paging	Extension number for each group and the

extension number of each telephone assigned

to the group.

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Table F-2.	System	Reports	(Continued)
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Menu Option	Report Name	Description
Ext Info	Extension Information	For each specified station (extension), type of equipment connected, features assigned, ESS supervisor status, and features assigned to each button. On this report, MLX-16DP telephones are reported as MLX-28D. As of Release 5.0, MLX-5 and MLX-5D telephones are reported as 5-button telephone sets. In releases prior to Release 5.0, MLX-5 and MLX-5D telephones are reported as MLX-10 and MLX-10D telephones respectively.
GrpCoverage 	Group Coverage Information	Extension number for each group and the extension number for each telephone assigned to the group. Information is printed only for calling groups with members and/or lines/trunks assigned.
Grp Calling	Direct Group Calling Information	Group calling options (hunt, type, message waiting, station, delay announcements, alarm thresholds, and so on), the extension number for each telephone assigned to the group, and the lines or trunks assigned to the group.
Night Servce	Night Service Information	The operator, password required, time-of-day, and Emergency Allowed List extension numbers.
Call Pickup	Group Call Pickup	Extension numbers for telephones assigned to each group; pickup groups numbered 1–30.
Error Log	Error Log	Error message and code, time and day error occurred, frequency of error. See the <i>Maintenance and Troubleshooting</i> guide.
Auth Code	Authorization Code Information	Authorization Code and permissions for extensions to which authorization codes are assigned.
BRI Info	BRI Information Report	Service Profile ID and Directory Number for each BRI line, flexible timers, and fixed timers and counters.
NonLcl UDP	Non-Local Dial Plan	Ranges of extension numbers for non-local dial plan extensions connected to a networked external switch; pattern number associated with each range. For each pattern, shows Pool number, absorbed and prepended (other) digits, FRL, and call type (voice, data, or both).

Sample Reports System Information Report

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System Information Report

Print Menu Option: SysSet-up

SYSTEM INFORMATION

Current Date: 01/04/00 Current Time: 00:21:15

System: Mode AutoMaintBusy AutoBusyTie

: Hybrid/PBX Disable Disable

SystemLang Language: SMDR English English English

CTI Links : 15
Direct Line Operators : 14 18 22

: 10 Password : craftr4 SysProg Port

Transfer: Type Audible OneTouch(Complete) ReturnTimer
: Ring MusicOnHold Transfer(Auto) 5 rings

VMS Transfer Return Interval : 4 Paging System Lines Music On Hold Line : 804 : 90 sec Camp On Time Camp On Time : 90 sec
Call Park Return Time : 180 sec
Auto Callback Rings : 3
Extension Status (ESS) : Group Call / CMS

ESS Operators

SMDR : Min.CallTime CallReport Format : 40 sec In/Out Basic

Intercom Dial Tone : Inside
Reminder Service Cancel : :
Behind Switch Code : Drop

Inter-digit Timer (seconds) : 24 24 24 10 10 10 10 5 5

Recall Timer : 450 msec

Rotary Line Cut Through : Delay Unassigned Extension : 10
Automatic Backup : 200 msec

: Weekly - 04:30 Sunday

TI/PRI/BRI Clock Synchronization:

Primary Secondary Tertiary 02/01 Loop 04/01 Local 04/02 Local

F Sample Reports
System Information Report

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System Information Report— *Continued*

Slot	#	1:	008	MLX
Slot	#	2:	408	
Slot	#	3:	008	
Slot	#	4:	408	
Slot	#	5:	800	GS/LS
Slot	#	6:	008	GS/LS-MLX
Slot	#	7:	800	CO-BRI
Slot	#	8:	800	
Slot	#	9:	016	(Ringing Frequency - 25 Hz.)
Slot	#1	.0:	408	GS/LS
Slot	#1	1:	800	
Slot	#1	2:	800	
Slot	#1	.3:	800	DID
Slot	#1	4:	400	EM
Slot	#1	.5:	012	
Slot	#1	6:	800	MLX
Slot	#1	7:	408	* Not Present *

Dial Plan Report

Print Menu Option: Dial Plan

Sections: Pools; Telephone Paging Zones; Direct Group Calling

Group; Lines/Trunks; Stations

```
DIAL PLAN FOR POOLS
POOL.# 1:
            70
POOL.# 2: 890
POOL.# 3: 891
POOL.# 4: 892
POOL.# 5: 893
POOL.# 6: 894
POOL.# 4: 895
POOL.# 8: 896
POOL.# 9: 897
POOL.# 10: 898
POOL.# 11: 899
DIAL PLAN FOR TELEPHONE PAGING ZONES
TPZ # 1: 793
TPZ # 2: 794
TPZ # 2.
TPZ # 3: 795
TPZ # 4: 796
" 5: 797
TPZ # 6: 798
TPZ # 7: 799
DIAL PLAN FOR DIRECT GROUP CALLING GROUP
DGCG # 1:
            770
DGCG # 2:
              771
DGCG # 3: 772
DGCG # 4: 773
DGCG # 5: 774
DGCG # 32: 7929
DIAL PLAN FOR LINES/TRUNKS
LINE # 1: 801
                       OUTSIDE
                                       LINE # 2: 802 OUTSIDE
                                       LINE # 4: 804 OUTSIDE
LINE # 6: 806 OUTSIDE
LINE # 8: 808 OUTSIDE
LINE # 10: 810 OUTSIDE
           803
LINE # 3:
                        OUTSIDE
LINE # 5: 805
                       OUTSIDE
                   OUTSIDE
OUTSIDE
LINE # 7: 807
LINE # 9: 809
                    OUTSIDE
LINE # 75: 875
                                       LINE # 76: 876 OUTSIDE
```

F Sample Reports

Dial Plan Report

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Dial Plan Report—Continued

DIAL PL	AN FOR	R STATIONS						
STN #:	1	10	OPERATR	STN	#:	2	710	
STN #:	3	11		STN	#:	4	711	
STN #:	5	12		STN	#:	6	712	
STN #:	7	13	EXT 13	STN	#:	8	713	
STN #:	9	14	EXT 14	STN	#:	10	714	
STN #:	11	15		STN	#:	12	715	
STN #:	13	16		STN	#:	14	716	
STN #:	15	17		STN	#:	16	717	
STN #:	17	18	EXT 18	STN	#:	18	19	
STN #:	19	20		STN	#:	20	21	
STN #:	21	22	OPERATR	STN	#:	22	23	
STN #:	23	24		STN	#:	24	25	
STN #:	25	26		STN	#:	26	21	
STN #:	27	28		STN	#:	28	29	
STN #:	29	30	AUDIXVP	STN	#:	30	31	AUDIXVP
STN #:	31	32	AUDIXVP	STN	#:	32	33	AUDIXVP
STN #:	33	34		STN	#:	34	35	
STN #:	35	36		STN	#:	36	31	
STN #:	37	38		STN	#:	38	39	
STN #:	39	40		STN	#:	40	41	
STN #:	41	42	EXT 42	STN	#:	42	742	
STN #:	121	7198		STN	#:	122	7398	
STN #:	123	5555		STN	#:	124	7399	

Sample Reports

Dial Plan Report

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Dial Plan Report—Continued

COMPLETE	DIAL	PLAN	FOR	STATIONS	AND	ADJUNCTS	

ID #: 1	4000	7300	ID #: 2	4001	7301
ID #: 3	4002	7302	ID #: 4	4003	7303
ID #: 5	4004	7304	ID #: 6	4005	7305
ID #: 7	4006	7306	ID #: 8	4007	7307
ID #: 9	4008	7308	ID #: 10	4009	7309
ID #: 11	4010	3000	ID #: 12	4011	3001
ID #: 13	4012	3002	ID #: 14	4013	3003
ID #: 15	4014	3004	ID #: 16	4015	3005
ID #: 17	4016	3006	ID #: 18	4017	3007
ID #: 19	4018	3008	ID #: 20	4019	3009
ID #: 21	4020	3010	ID #: 22	4021	3011
ID #: 23	4022	3012	ID #: 24	4023	3013
ID #: 25	4024	3014	ID #: 26	4025	3015
ID #: 27	4026	3016	ID #: 28	4027	3017
ID #: 29	4028	3018	ID #: 30	4029	3019
ID #: 31	4030	3020	ID #: 32	4031	3021
ID #: 33	4032	3022	ID #: 34	4033	3023
ID #: 35	4034	3024	ID #: 36	4035	3025
ID #: 37	4036	3026	ID #: 38	4037	3027
ID #: 39	4038	3028	ID #: 40	4039	3029
ID #: 41	4040	3030	ID #: 42	4041	3031
ID #: 43	4042	3032	ID #: 44	4043	3033
ID #: 45	4044	3034	ID #: 46	4045	3035
ID #: 47	4046	3036	ID #: 48	4047	3037
ID #: 49	4048	3038	ID #: 50	4049	3039
ID #: 51	4050	3040	ID #: 52	4051	7351
ID #: 53	4052	3042	ID #: 54	4053	7353
ID #: 55	4054	7354	ID #: 56	4055	7355
ID #: 57	4056	7356	ID #: 58	4057	7357
ID #: 59	4058	7358	ID #: 60	4059	7359
ID #: 61	7160	7360	ID #: 62	7161	7361
ID #: 63	7162	7362	ID #: 64	7163	7363
ID #: 65	7164	7364	ID #: 66	7165	7365
ID #: 67	7166	7366	ID #: 68	7167	7367
ID #: 69	7168	7368	ID #: 70	7169	7369
•			•		
•			•		
		= 400			= 404
ID #:191	5151	7490	ID #:192	5152	7491
ID #:193	5153	7492	ID #:194	5154	7493
ID #:195	5155	7494	ID #:196	5156	7495
ID #:197	5156	7496	ID #:198	5158	7497
ID #:199	5158	7498	ID #:200	5160	7499

BOTH

Sample Reports

Non-Local Dial Plan Report

4)3870

00

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Non-Local Dial Plan Report

Print Menu Option: NonLc1 UDP (Release 6.0 and later systems only)
Sections: Ranges; Patterns

				,						
Range	Ptn		Range	Ptn		Range	Ptn		Range	Ptn
01) 2400-2449	01		5000-5049		27)	7000-7049	12	39)	-	15
02) 2550-2559	02	,	5050-5079			7050-7050	20	40)		03
03) 2560-2569	03	16)	5080-5099	01	29)	7051-7059	01	41)	8070-8099	04
04) 2570-2589	04	17)	5100-5199	02	30)	7060-7099	02	42)	8100-8199	05
05) 2590-2609	04	18)	5200-5200	11	31)	7100-7119	03	43)	8200-8229	06
06) 2610-2649	05	19)	5201-5202	12	32)	7220-7449	04	44)	8230-8259	16
07) 2650-2679	06	20)	5203-5204	13	33)	7450-7549	05	45)	8260-8289	17
08) 3100-3109	07	21)	5205-5206	14	34)	7550-7589	06	46)	8290-8389	18
09) 3110-3129	07	22)	5207-5209	15	35)	7590-7609	07	47)	8390-8429	19
10) 3130-3159	02	23)	5210-5230	03	36)	7610-7709	80	48)	8430-8459	20
11) 3160-3179	06	24)	5231-5250	17	37)	7710-7809	09	49)	8460-8489	03
12) 3180-3199	80	25)	5251-5270	18	38)	7810-7899	10	50)	8490-8499	02
13) 4000-4025	80	26)	6050-6079	14						
Pattern 01:										
Pool	Abso		Other	Digits			FRL	Call	type	
1)3870		00					0	BOT		
2)3892		00					0	BOT		
3)3893		00					0	BOI		
4)3894		00					0	BOI	'H	
D										
Pattern 02:	- 1	,	0.1	A				~ 11		
Pool	Abso		Other	Digits			FRL 2	Call		
1)4590		00					2	BOT		
2)4592		00					0	VOI		
3)3893		0.0					0	BOT BOT		
4)3894								БОІ	п	
•		•					•	•		
•		•					•	•		
Pattern 20:										
Pool	Abso	rh	Other	Digits			FRL	Call	type	
1)4591	11000	00	CCITCI	219100			3	DAT		
2)4592		00					3	DAT		
3)3894		00					3	BOT		
-,-===							_			

Sample Reports Label Information Report

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Label Information Report

Print Menu Option:

Labels

Sections:

Telephone Personal Directory; Posted Messages and

LABEL INFORMATION

Executive Telephone # 10: Personal Directory

Name Number Display

Executive Telephone # 14: Personal Directory

Number Display

Executive Telephone # 15: Personal Directory

Name MSG #	Number POSTED MESSAGE	Display
1	DO NOT DISTURB	
2	OUT TO LUNCH	
3	AT HOME	
4	OUT SICK	
5	IN A MEETING	
6	IN CONFERENCE	
7	WITH A CLIENT	
8	WITH A CUSTOMER	
9	AWAY FROM DESK	
10	OUT ALL DAY	
11	CUSTM MSG11	
12	CUSTM MSG12	
13	CUSTM MSG13	
14	CUSTM MSG14	
15	CUSTM MSG15	
16	CUSTM MSG16	
17	CUSTM MSG17	
18	CUSTM MSG18	
19	CUSTM MSG19	
20	CUSTM MSG20	

Sample Reports
Tie Trunk Information Report

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Tie Trunk Information Report

Print Menu Option: Trunk Info and TIE

TIE TRUNK INFORMATION

TRUNK 849 Direction: 2 Way InType : Wink OutType : Wink	Slot/Port : E&M Signal: InMode : OutMode :	Type1S Rotary	 Remote 300 ms 300 ms
TRUNK 850 Direction: 2 Way InType : Wink OutType : Wink		•	 Remote 300 ms 300 ms
TRUNK 851 Direction: 2 Way InType : Wink OutType : Wink	Slot/Port : E&M Signal: InMode : OutMode :	Type1S Rotary	Remote 300 ms 300 ms
TRUNK 852 Direction: 2 Way InType : Wink OutType : Wink	Slot/Part: E&M Signal: InMode: OutMode:	Type1S Rotary	Remote 300 ms 300 ms

Sample Reports

DID Trunk Information Report

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DID Trunk Information Report

Print Menu Option: Trunk Info and DID

DID TRUNK INFORMATION

Trk	SS/I	PΡ	Blk	DiscTime	Type	ExpDig	DelDig	AddDig	Signal	InvDest
841	13/	1	1	500ms	Wink	4	3	1	TouchTone	BkupExt
842	13/	2	1	500ms	Wink	4	3	1	TouchTone	BkupExt
843	13/	3	2	500ms	Wink	3	0		Rotary	BkupExt
844	13/	4	2	500ms	Wink	3	0		Rotary	BkupExt
845	13/	5	1	500ms	Wink	4	3	1	TouchTone	BkupExt
846	13/	6	1	500ms	Wink	4	3	1	TouchTone	BkupExt
847	13/	7	2	500ms	Wink	3	0		Rotary	BkupExt
848	13/	8	1	500ms	Wink	4	3	1	TouchTone	BkunExt

Sample Reports

GS/LS Trunk Information Report

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GS/LS Trunk Information Report

Print Menu Option: Trunk Info and Loop/Ground

GS/LS TRUNK INFORMATION

Trk	SS/PP	Type	OutMode	RelDisc	ChannelUnit	LS-ID Delay
801	2/ 1	Loop	TouchTone	Yes	N/A	N/A
802	2/ 2	Loop	TouchTone	Yes	N/A	N/A
803	2/ 3	Loop	TouchTone	Yes	N/A	N/A
804	2/ 4	Loop	TouchTone	Yes	N/A	N/A
805	4/ 1	Loop	Rotary	Yes	N/A	N/A
806	4/ 2	Loop	Rotary	Yes	N/A	N/A
807	4/ 3	Loop	Rotary	Yes	N/A	N/A
808	4/ 4	Loop	Rotary	Yes	N/A	N/A
809	5/ 1	Ground	TouchTone	N/A	N/A	N/A
810	5/ 2	Ground	TouchTone	N/A	N/A	N/A
811	5/ 3	Loop	Rotary	Yes	N/A	N/A
812	5/4	Loop	Rotary	Yes	N/A	N/A
813	5/5	Loop	Rotary	Yes	N/A	N/A
814	5/6	Loop	Rotary	Yes	N/A	N/A
815	5/ 7	Loop	TouchTone	Yes	N/A	N/A
816	5/8	Loop	Rotary	Yes	N/A	N/A
817	6/ 1	Ground	Rotary	N/A	N/A	N/A
879	15/ 7	LS-ID	Rotary	Yes	N/A	Yes
880	15/ 8	LS-ID	Rotary	Yes	N/A	No

Sample Reports

General Trunk Information Report

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General Trunk Information Report

Print Menu Option: Trunk Info and General

GENERAL TRUNK INFORMATION

Trk	SS/PP	RemAccess	Pool	TlPrfx	HldDisc	Principal		QCC Oper	Extern Switch	Extern SMDR
801	2/ 1	No Remote	70	Yes	Long		4	01.00	60	BOTH
802	2/2	No Remote	70	Yes	Long		4		60	IN
803	2/ 3	No Remote	70	Yes	Long		4		60	OUT
804	2/4	No Remote		Yes	Long		4			
805	4/ 1	No Remote		Yes	Long		4			
806	4/ 2	No Remote		Yes	Long		4			
807	4/ 3	No Remote		Yes	Long		4			
808	4/ 4	No Remote		Yes	Long		4			
809	5/ 1	No Remote	890	Yes	Long		4	10		
810	5/ 2	No Remote		Yes	Long		4			
811	5/3	No Remote		Yes	Long		4			
812	5/4	No Remote		Yes	Long		4			
813	5/5	No Remote		Yes	Long		4			
814	5/6	No Remote		Yes	Long		4			
815	5/7	No Remote		Yes	Long		4			
816	5/8	No Remote		Yes	Long		4			
817	6/ 1	Dedicated		Yes	Long	42	4			
		•								
						•				
912	10/1	No Remote	891	Yes	Long		4		12	OUT
913	10/2	No Remote	891	Yes	Long		4		12	BOTH

Sample Reports
Switch 56 Data Information Report

Trk

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Switch 56 Data Information Report

Print Menu Option: Trunk Info and S56 Data

Dial Plan Routing for Network Service

Expected Digits: 3
Digits to Delete: 0
Digits to Add: 0

801	02/01	2 Way	Wink	Wink	120	180	T-Tone	T-Tone	TIE	
802	02/02	Outgoing	Delay	Delay	160	180	Rotary	T-Tone	S56	
803	02/03	Incoming	Auto	Auto	100	140	Rotary	Rotary	S56	
808	02/08	2 Way	Wink	Wink	120	180	Rotary	Rotary	TIE	

ss/pp Dirction InType OutType AnsSup Discnt Inmode Outmode Service

Sample Reports

DS1 Information Report

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DS1 Information Report

Print Menu Option: Tl Info

DS1 SLOT ATTRIBUTES

Slot	Type	Format	Supp	Signal	LineComp	ClkSync	Src	Active
3	T1	D4	ZCS	Rob Bit	1	Prim	Loop	Yes
3	Т1	D4	ZCS	Rob Bit	1	None	Local	Yes

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PRI Information Report

Print Menu Option: PRI Info

Sections: Network Selection, Special Service, Call-by-Call and Dial

Plan Routing Tables; PRI Information

NOTE:

The B-Channels are printed in the order in which they are searched.

```
PRI INFORMATION
Slot 5
       Switch: DMS-100
Slot 11 Switch: Legend-PBX
Slot 12 Switch: Legend-PBX
System: By line
BchnlGrp #: Slot: TestTelNum: NtwkServ: 5 5 CallbyCall
                                                   Incoming Routing:
                                                   By Dial Plan
Channel ID: 23 22 21 20 19 18 17 16 15 14
           13 12 11 10 9 8 7 6 5 4
            3 2 1
Line
          PhoneNumber
                          NumberToSend
801
802
803
821
822
823
BchnlGrp #: Slot: TestTelNum: NtwkServ: Incoming Routing:
            12
                                     ElecTandNtwk
                                                   Route Directly to UDP
Channel ID: 1 2 3 4 5 6 7 8 9 10
           11 12 13 14 15 16 17 18 19 20
           21 22 23
Line
           PhoneNumber
                          NumberToSend
849
850
851
869
870
871
```

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PRI Information Report—Continued

BchnlGrp #: 80 Channel ID:	Slot: 11 1 2 3 11 12 13 21 22 23	4 5 6 3 14 15 16	TelNum: 7 8 17 18 1	ElecTa 9 10	erv: andNtwk		oming R Le Dire		
Line 825 826 827 845 846 847	PhoneNut	mber	Number?	FoSend					
Network Sele	ection Ta	able							
Entry Number Pattern to N		0 101****	1 10***	2	3				
Special Serv	vice Tabl	.e							
Entry Number	r:	0	1	2	3	4	5	6	7
Pattern to 1		011	010	01	00	0	1		
Operator:		none	OP	OP	OP/P	none	none	none	none
Type of Numb	ber:	I	I	I	N	N	N	N	N
Digits to De		3	3	2	2	1	0	0	0
Call-By-Cal	l Service	e Table							
Entry Number	r:	0	1		2		3		4
_):	957	7		4		3		1
	1:	237	1						
	2:		2						
	3:		3						
	4:		4						
	5:		5						
	5:		6						
	7:		7						
	3 :		8						
	9:		9						
Call Type:		BOTH	BOTH		BOTH		BOTH		BOTH
NtwkServ:		DMS-Priva		rivate					
DeleteDigit	s:	0	0		0		0		0
To be 27 2		_	_		7		0		0
Entry Number	r·	5	6		7		8		9
Call Type:		BOTH	BOTH		BOTH		BOTH		BOTH
NtwkServ: DeleteDigits	s:	0	0		0		0		0
		•	-		-		•		-

Sample Reports
PRI Information Report

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PRI Information Report—Continued

Dial Plan Routing Table

Entry Number:	0	1	2	3
NtwkServ:		Any service	Any service	Any service
Expected Digits:	4	7	10	0
Pattern to Match:				
Digits to Delete:	0	7	10	0
Digits to Add:		13	13	
Dra harra Marrila and	4	5	6	7
Entry Number: NtwkServ:	4	5	6	/
Expected Digits:	0	0	0	0
Pattern to Match:				
Digits to Delete:	0	0	0	0
Digits to Add:				
Entry Number:	8	9	10	11
NtwkServ:				
Expected Digits:	0	0	0	0
Pattern to Match:				
Digits to Delete:	0	0	0	0
Digits to Add:				
Entry Number:	12	13	14	15
NtwkServ:				
Expected Digits:	0	0	0	0
Pattern to Match:				
Digits to Delete:	0	0	0	0
Digits to Add:				
Digits to Add.				

Remote Access (DISA) Information Report

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Remote Access (DISA) Information Report

Allowed Lists : Disallowed Lists :

Print Menu Option: RmoteAccess

Sections: General Options; System Default Class of Restrictions

(Non-TIE); System Default Class of Restrictions (TIE);

Barrier Code Administration

```
GENERAL OPTIONS (ACCESS CODE 889)
Barrier Code required for Non-TIE DISA lines : Yes
Barrier Code required for TIE DISA lines :No
Automatic Queuing enabled for DISA lines
System Wide Barrier Code Length: 07
Date And Time of Last Barrier Code Length Change: 09:23:94, 09:45 PM
SYSTEM DEFAULT CLASS OF RESTRICTIONS (NON-TIE)
Restriction : UNRESTRICTED
ARS Restriction Level: 3
Allowed Lists :
Disallowed Lists
SYSTEM DEFAULT CLASS OF RESTRICTIONS (TIE)
Restriction : UNRESTRICTED
ARS Restriction Level: 3
Allowed Lists :
Disallowed Lists
BARRIER CODE ADMINISTRATION
Barrier Code number : 1
Barrier Digits : 2468345
Restriction : OUTWARD RESTRICTED
ARS Restriction Level: 3
Allowed Lists : Disallowed Lists :
Barrier Code number : 2
Barrier Digits : 1234693
Restriction : UNRESTRICTED
ARS Restriction Level: 3
Allowed Lists :
Disallowed Lists :
Barrier Code number : 16
Barrier Digits : 9876115
Restriction : OUTWARD RESTRICTED
ARS Restriction Level: 0
```

Sample Reports

Operator Information Report

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Operator Information Report

Print Menu Option: Open Info

Sections: Operator Positions; General Options; DSS Options; QCC

Operator Options: QCC Call Types

OPERATOR POSITIONS

PORT			CALL ALERT
ADDR.	EXT # LABEL	TYPE	(QCC ONLY)
====	===== =====	====	=======
1/ 1	10 OPERATR	QCC	No
1/ 5	14 EXT 14	DLC	N/A
2/ 1	18 EXT 18	DLC	N/A
2/ 5	22 OPERATR	DLC	N/A
6/ 1	42 EXT 42	DLC	N/A

GENERAL OPTIONS

Length of hold reminder timer: 60 sec DLC Automatic hold enabled : No

DIRECT STATION SELECTOR (DSS) OPTIONS

FIRST
DIAL CODE
=======
0
50
100

Operator Call Park codes: 881 882 883 884 885 886 884 888

QCC OPERATOR OPTIONS

Listed Directory Number for queue: 800
Held calls return to queue: No
Automatic hold enabled: No
Calls-in-queue alarm threshold: 0
Time until priorities are elevated: 0 sec

Message Center Operators :
One Touch Extend : AUTOMATIC

Rings before extended calls return: 4
Backup operator station :

Voice Announce on Call 5 button : Disable

Operator Information Report— *Continued*

QCC CALL TYPES:		
CALL TYPE	PRIORITY	OPERATORS
=======================================	======	===========
Dial 0 Operator	4	10
Follow Forward	4	N/A
Unassigned DID	4	10
Listed Directory Number	4	10
Operator's Extension	4	N/A
Returning	4	0
Group Coverage		
Group # 1	4	
Group # 2	4	
Group # 3	4	
Group # 4	4	
Group # 5	4	
Group # 6	4	
Group # 7	4	
Group # 8	4	
Group # 9	4	
Group # 10	4	
Group # 11	4	
Group # 12	4	
Group # 13	4	
Group # 14	4	
Group # 15	4	
Group # 16	4	
Group # 17	4	
Group # 18	4	
Group # 19	4	
Group # 20	4	
Group # 21	4	
Group # 22	4	
Group # 23	4	
Group # 24	4	
Group # 25	4	
Group # 26	4	
Group # 27	4	
Group # 28	4	
Group # 29	4	
Group # 30	4	

Sample Reports

Allowed Lists Report

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Allowed Lists Report

Print Menu Option: AllowList
Sections: Lists 1 through 7

ALLOWED LISTS

List: 0

Entry 0: ----Entry 1: ----Entry 2: ----Entry 3: ----Entry 5: ----Entry 6: ----Entry 7: ----Entry 9: ----
List: 7

Entry 0: ----Entry 1: ----Entry 1: ----Entry 2: ----Entry 3: ----Entry 4: ----Entry 5: ----Entry 5: ----Entry 6: ----Entry 6: ----Entry 7: ----Entry 7: ----Entry 8: ----Entry 9: -----

Sample Reports

Access to Allowed Lists Report

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Access to Allowed Lists Report

Print Menu Option: AllowListTo

ACCESS TO ALLOWED LISTS

FOR REMOTE ACCESS 17 & 18 MEAN TIE & NON-TIE RESTRICTIONS

List 1 STNS 10

RACC 1 17 18

List 3 STNS 33

RACC

Sample Reports
Disallowed Lists Report

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Disallowed Lists Report

Print Menu Option: DisallowLst Sections: Lists 1 through 7

DISALLOWED	LISTS
List: 0	
Entry 0:	
Entry 1:	
Entry 2:	
Entry 3:	
Entry 4:	
Entry 5:	
Entry 6:	
Entry 7:	
Entry 8:	
Entry 9:	
•	
•	
•	
List: 7	
Entry 0:	
Entry 0: Entry 1:	
Entry 0:	
Entry 0: Entry 1:	
Entry 0: Entry 1: Entry 2:	
Entry 0: Entry 1: Entry 2: Entry 3:	
Entry 0: Entry 1: Entry 2: Entry 3: Entry 4:	
Entry 0: Entry 1: Entry 2: Entry 3: Entry 4: Entry 5:	
Entry 0: Entry 1: Entry 2: Entry 3: Entry 4: Entry 5: Entry 6:	

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Sample Reports

Access to Disallowed Lists Report

List

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Access to Disallowed Lists Report

Print Menu Option: DisallowTo

ACCESS TO DISALLOWED LISTS

FOR REMOTE ACCESS 17 & 18 MEAN TIE & NON-TIE RESTRICTIONS

33

List 1 STNS 33

RACC 9

RACC

STNS

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Automatic Route Selection Report

Print Menu Option: ARS Sections: Tables

AUTOMATIC ROUTE SELECTION

ARS IS: ACTIVE ACCESS CODE: 9

TABLE 17: Default Toll Output Table

Pool Absorb	Other Digits	FRL	Call type	Start	Pattern			
1)70 00		3	BOTH	:	A			
2)		_		:	A			
3)		_		:	A			
4)		_		:	A			
5)		_		:	В			
6)		_		:	В			
• ,								
Pool Absorb	Other Digits	FRL	Call type	Start	Pattern			
1)70 00		3	BOTH	:	В			
2)		_		:	В			
3)		_		:	В			
4)		_		:	В			
5)		_		:	В			
6)		_		:	В			
0 /				•	Б			
TABLE 18: Default	t Local Output Table							
INDEE 10. Delaar	i local oacpac labic							
Pool Absorb	Other Digits	FRL	Call type	Start	Pattern			
1)70 00		3	BOTH	:	A			
2)		_		:	A			
3)		_		:	A			
4)		_		:	A			
5)		_		:	В			
6)		_		:	В			
0)				·	В			
Pool Absorb	Other Digits	FRL	Call type	Start	Pattern			
1)70 00		3	ВОТН	:	В			
2)		-		:	В			
3)		_		:	В			
4)		_		:	В			
5)		_		:	_			
5)		_			В			
TADIE 10. Dial 0	Output Table							
TABLE 19: Dial 0	Output Table							
Pool Absorb	Other Digita	FRL	Call tymo	Ctart	Pattern			
	Other Digits	3	Call type	Start :				
1)70 00		3	BOTH		A			
тлрг	rut Table							
TABLE 20: N11 Out	_							
01)411 02)611 03)811 04)911								
Pool Absorb	Other Digits	FRL	Call tyme	Start	Pattern			
1)70 00	Other Digits	3	Call type	:				
•		3	BOTH	:	A			
1)70 00		3	BOTH		A			

Sample Reports
Extension Directory Report

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Extension Directory Report

Print Menu Option: Ext Direct

EXTENSION DIRECTORY

Port	Ext #	Label	FHRMV	7 R A 2	Port	Ext #	Label	FHRMVRA2
Addr			ABCIS	SSRB	Addr			ABCISSRB
			CIFCI	TSD				CIFCITSD
			ESWDO	RRT				ESWDGRRT
1/ 1	10	OPERATR	NNNN	U 3 N	1/21	710		N N N N U 3 N
1/ 2	11		NNNN	O 3 Y	1/22	711		N N N N U 3 N
1/ 3	12		NNNN	U 3 Y	1/23	712		NNNN U3N
1/ 4	13	EXT 13	NNNN	U 3 N	1/24	713		NNNN U3N
1/5	14	EXT 14	NNNN	U 3 N	1/25	714		N N N N U 3 N
1/6	15		NNNN	U 3 N	1/26	715		NNNN U3N
1/ 7	16		NNNN	U 3 N	1/27	716		NNNN U3N
1/8	17		NNNN	U 3 N	1/28	717		N N N N U 3 N
2/ 1	18	EXT 18	NYNN	U 3 N	2/ 2	19		NYNN U3N
2/ 3	20		NYNN	U 3 N	2/ 4	21		NYNN U3N
2/ 5	22	OPERATR	NYNN	U 3 N	2/ 6	23		NYNN U3N
2/ 7	24		NYNN	U 3 N	2/8	25		NYNN U3N
3/ 1	26		NYNN	U 3 N	3/ 2	27		NYNN U3N
3/ 3	28		NYNN	U 3 N	3/ 4	29		NYNN U3N
3/5	30	AUDIXVP	NYNN	U 3 N	3/6	31		NYNN U3N
3/ 7	32	AUDIXVP	NYNN	U 3 N	3/8	33		NYNN U3N
4/ 1	34		NYNN	U 3 N	4/ 2	35	AUDIXVP	N Y N N U 3 N
4/ 3	36	AUDIXVP	NYNN	U 3 N	4/ 4	37		NYNN U3N
4/5	38		NYNN	U 3 N	4/6	39		N Y N N U 3 N
4/7	40		NYNN	U 3 N	4/8	41		NYNN U3N
6/ 1	42	EXT 42	N N N N	U 3 N	6/21	742		N N N N U 3 N
7/1	54	EXT 54	NNNN	U 3 N	7/2	754		NNNN U3N

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Sample Reports
System Directory Report

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System Directory Report

Print Menu Option: Sys Direct

SYSTEM DIRECTORY

Code	Name	Number	Display
600	ABC Company	555-9999	YES
601	Jacques Smith	5551212	YES
605	Travel Agency	912015556677	YES

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Sample Reports

Group Paging Report

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Group Paging Report

Print Menu Option: Group Page

GROUP PAGING

Group # 793 STNS : 20 21 22 23 24 25

Group # 794 STNS : 15 16 17 18 19

Sample Reports

Extension Information Report

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Extension Information Report

Print Menu Option: Ext Info plus extension number

```
EXTENSION INFORMATION
: NO Alarms: ACTIVE (SUSPENDED)
: 70 890 891 892 893 894 895 896 897 898 899
:
CTI Link
Pool Access
Page Group
Primary Coverage :
Secondary Coverage :
Coverage Group : 5
Group Coverers : 773
NS Groups : 10
Group Calling Member :
Pickup Groups :
Pickup Groups :
Allowed Lists :
Disallowed Lists :
Restrictions : UNRESTRICTED
ESS Sup. Status : ACTIVE
ESS Restrictions : ESS-0 -NO RESTRICTION
Auto Callback : OFF
Call Waiting : ON
Abbreviated Ring : ON
Line Preference : ON
Shared SA Ring : ON
Page ive Voice Calls : ON
Receive Voice Calls : ON
Coverage Inside : OFF
Forwarding to
Delay Forwarding : 0
3 Postriction : 3
Forced Account Code : No
Microphone Disable : No
Remote Forward Allow : No
Trunk Transfer Allow : No
NS Exclusion : No
Voice Announce Pair : No
Voice Announce Pair : No
Voice/Data Pair : No
BIS/HFAI : No
Language : English
Authorization Code : 3134
2B Data Port : No
Primary Ring Delay : 2
Secondary Ring Delay : 2
Group Cover Delay : 3
HotLine Extension
                             : No
Display Preference : NAME
```

Extension Information Report— *Continued*

Extn	SS/P	P Type		
10	1/	1 MLX-20L + 1 DSS		
Button	34	Blank	Status	
Button	33	Blank	Status	
Button	32	Blank	Status	
Button	31	Blank	Status	None
Button	30	Blank	Status	None
Button	29	Blank	Status	None
Button	28	Blank	Status	None
Button	27	Blank	Status	None
Button	26	Blank	Status	None
Button	25	Blank	Status	None
Button	24	Blank	Status	None
Button	23	Blank	Status	None
Button	22	Blank	Status	None
Button	21	Blank	Status	None
Button	20	Forced Release	Status	None
Button	19	Pool Inspect	Status	None
Button	18	Headset Auto Answer	Status	Off
Button	17	Join	Status	None
Button	16	Cancel	Status	None
Button	15	Alarm Status	Status	Off
Button	14	Night Service	Status	Off
Button	13	Headset Status	Status	Off
Button	12	Destination	Status	None
Button	11	Release	Status	None
Button	10	Position Busy	Status	Off
Button	9	Send/Remove Message	Status	None
Button	8	Handset/Headset Mute	Status	Off
Button	7	Source	Status	None
Button	6	Start	Status	None
Button	5	Call 5	Status	None
Button	4	Call 4	Status	None
Button	3	Call 3	Status	None
Button	2	Call 2	Status	None
Button	1	Call 1	Status	None

Sample Reports

Group Coverage Information Report

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Group Coverage Information Report

Print Menu Option: GrpCoverage

```
GROUP COVERAGE INFORMATION
Group # 2 Senders : Group # 5 Senders :
                               6802 6804
                                10 11 12 13 14 18 19 20 42
                                 44 45 47 6810
DIRECT GROUP CALLING INFORMATION
Group # : 770 Group Type : AutoLogout
Call Distribution Type : CIRCULAR
Delay Announcement Ext # : 11
Message Waiting Station : 20
Calls-in-queue Threshold : 1
External Alert ext # : 21
Overflow Threshold (#) : 1
Overflow to DGC group # :
Group Coverage : 1
    EXT # LABEL
No.
 1
 2
 3
 4
 5
 6
 7
 8
 9
10
11
12
13
14
15
16
17
18
```

Sample Reports

Direct Group Calling Information Report

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Direct Group Calling Information Report

Print Menu Option: Grp Calling

Sections: Each programmed group

```
DIRECT GROUP CALLING INFORMATION
Group # : 782
                Group Type : AutoLogout
Call Distribution Type : CIRCULAR
                        LABEL
PryAnn No.
            Ext #
      1
             27
                        ANN1
              28
                         ANN2
Secondary Announcement Ext # : 29
Time Between Delay Announcements: 0
Repeat Secondary Announcement: NO
Message Waiting Station : NONE
Queue Control Limit:
Calls-in-queue Threshold 1: 1
Calls-in-queue Threshold 2: 1
Calls-in-queue Threshold 3: 1
External Alert ext # : NONE
Overflow Threshold (#)
Overflow Threshold (Time): 0
Prompt Based Overflow Option: NO
Overflow to DGC group # : NONE
Group Coverage: 1
Member No.
            EXT #
                         LABEL
       1
             12
       2
             13
       3
       4
       5
       6
       7
       8
       9
      10
      11
      12
      13
      14
      15
      16
      17
       18
      19
       20
LINES:
```

Sample Reports
 Night Service Information Report

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Night Service Information Report

Print Menu Option: Night Servce

```
NIGHT SERVICE INFORMATION
OPERATOR 10 DGCG #:
STNS : 10
LINES : 801

OPERATOR 14 DGCG #:
STNS : 14
LINES : 804

OPERATOR 18 DGCG #:
STNS : 18
LINES : 808

OPERATOR 22 DGCG #:
STNS : 22
LINES : 822

OPERATOR 42 DGCG #:
STNS : 42
LINES : 842

Password :
Password :
Current Day : OFF
Turn off at:
                                                                 Turn on at:
                    :
   Sunday
   Monday
   Tuesday
   Wednesday
Thursday
   Friday : Saturday :
Emergency Allowed List:
  1)
  2)
  3)
  4)
  5)
  7)
  8)
  9)
NS Excluded STNS:
   61 62 63 64 65
Coverage Control Enabled: YES
```

Sample Reports

Group Call Pickup Report

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Group Call Pickup Report

Print Menu Option: Call Pickup

GROUP CALL PICKUP

Group # 10 STNS : 37

Group # 1 STNS : 10 11 12 13 14 15 16

Group # 2 STNS : 17 18 19 20

Group # 3 STNS : 21 22 23 24 25 26 27 28 29 30

Group # 4 STNS : 31

Group # 5 STNS : 32

Group # 6 STNS : 33

Group # 7 STNS : 34

Group # 8 STNS : 35

Group # 9 STNS : 36

Sample Reports

Error Log Report

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Error Log Report

Print Menu Option: Error Log

ERROR LOG

Last 30 System Errors:

Message	ss/pp	Cnt	First	Last	Code
PRI SVC AUDIT TIMEOUT	00/00	_	_	01/08 00:00:53	7001
TIMEOUT COLD START	00/00	_	_	01/11 00:04:08	0001
PRI SVC AUDIT TIMEOUT	00/00	_	_	01/11 00:04:14	7001
TIMEOUT COLD START	00/00	_	_	01/21 00:22:14	0001
PRI SVC AUDIT TIMEOUT	00/00	_	_	01/03 00:22:14	7001
PRI SVC AUDIT TIMEOUT	00/00	_	_	01/04 00:22:14	7001
SOFTWARE COLD START	00/00	_	_	01/04 00:21:14	0003
SOFTWARE COLD START	00/00	_	_	01/04 00:21:14	0003
PRI SVC AUDIT TIMEOUT	00/00	_	_	01/04 00:21:14	7001
SOFTWARE COLD START	00/00	_	_	01/04 00:22:11	0003
PRI SVC AUDIT TIMEOUT	00/00	_	_	01/08 00:00:53	7001
TIMEOUT COLD START	00/00	_	_	02/11 00:04:08	0001
PRI SVC AUDIT TIMEOUT	00/00	_	-	02/11 00:04:14	7001
TIMEOUT COLD START	00/00	_	_	02/21 00:22:14	0001
PRI SVC AUDIT TIMEOUT	00/00	_	_	02/03 00:22:14	7001
PRI SVC AUDIT TIMEOUT	00/00	_	_	02/04 00:22:14	7001
SOFTWARE COLD START	00/00	_	-	02/04 00:21:14	0003
SOFTWARE COLD START	00/00	_	-	02/04 00:21:14	0003
PRI SVC AUDIT TIMEOUT	00/00	_	_	02/04 00:21:14	7001
SOFTWARE COLD START	00/00	_	-	02/04 00:22:11	0003
PRI SVC AUDIT TIMEOUT	00/00	_	-	02/08 00:00:53	7001
TIMEOUT COLD START	00/00	_	-	03/11 00:04:08	0001
PRI SVC AUDIT TIMEOUT	00/00	_	-	03/11 00:04:14	7001
TIMEOUT COLD START	00/00	_	-	03/21 00:22:14	0001
PRI SVC AUDIT TIMEOUT	00/00	_	-	03/03 00:22:14	7001
PRI SVC AUDIT TIMEOUT	00/00	_	-	03/04 00:22:14	7001
SOFTWARE COLD START	00/00	_	-	03/04 00:21:14	0003
SOFTWARE COLD START	00/00	-	-	03/04 00:21:14	0003
PRI SVC AUDIT TIMEOUT	00/00	-	-	03/04 00:21:14	7001
SOFTWARE COLD START	00/00	_	=	03/04 00:22:11	0003

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Sample Reports

Authorization Code Information Report

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Authorization Code Information Report

Print Menu Option: Auth Code

SMDR Option for the Account Code Field is Home Extension

Extension	Authorization Cod	£
10	3124	
15	1357921	
20	6578	
23	443796	

Sample Reports **BRI Information Report**

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BRI Information Report

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Print Menu Option: BRI Info

BRI INFORMATION

```
Flexible Timers:
T200 = 1000 \text{ ms} T203 = 33 \text{ sec} T303 = 4 \text{ sec} T305 = 30 \text{ sec} T308 = 4 \text{ sec}
Fixed Timers and Counters:
T202 = 2 \text{ sec} T309 = 90 \text{ sec} T310 = 60 \text{ sec} T313 = 4 \text{ sec}
K Cntr = 1 N200 = 3 N201 = 260 N202 = 3
       Line Service Profile ID
                                           Directory Number
        801
               908555100001
                                            9085551000
        802
                908555100101
                                            9085551001
       803
               908555100201
                                           9085551002
        804
               908555100301
                                           9085551003
              908555100401
908555100501
908555100601
908555100701
        805
                                           9085551004
        806
                                            9085551005
        807
                                           9085551006
```

9085551007

MERLIN LEGEND Communications System Release 6.0 System Programming 555-660-111

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F Sample Reports
BRI Information Report

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G General System Programming Sequence

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General System Programming Sequence



This appendix lists the basic procedures, in the order in which they must be performed, to program a new system. In some instances, you may need to rearrange the system planning forms to match this order.



NOTE:

If your MERLIN LEGEND System is part of a private network, contact the Network Engineering Group for assistance. Refer to the Network Reference for additional programming that is required.

Basic System Operating Conditions

Select the system programming position.

 $System \rightarrow SProg\ Port$

Select the system language.

More→*Language*→*SystemLang*

Select the system mode.

 $System \rightarrow Mode$

Enable Automatic Maintenance Busy.

System→*MaintenBusy*

Set the system time.

 $System \rightarrow Time$

Set the system date.

System
ightarrow Date

Schedule automatic backups.

System→Backup/Restore→Auto Backup

System Renumbering

Select the system numbering plan.

SysRenumber→Default Numbering

Single renumbering.

SysRenumber
ightarrow Single

Block renumbering.

 $SysRenumber \rightarrow Block$

DSS console page buttons.

SysRenumber \rightarrow Single \rightarrow **More** \rightarrow DSS Buttons

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Identify System Operator Positions

Identify QCC system operator positions.

Operator→Positions→Queued Call

Identify DLC system operator positions.

Operator→*Positions*→*Direct Line*

Lines and Trunks

■ Specify type of trunk on 400 or 800 GL/LS module.

LinesTrunks →LS/GS/DS1

Identify dial signaling for loop-start/ground-start trunks.

LinesTrunks→TT/LS Disc→Outmode

Classify disconnect signaling reliability for loop-start trunks.

LinesTrunks→TT/LS Disc→LS Disconnect

Specify toll prefix requirements.

LinesTrunks→Toll Type

Specify Hold Disconnect interval.

LinesTrunks→More→HoldDiscnct

Assign the QCC queue priority.

LinesTrunks→More→QCC Prior

Identify QCC operator to receive calls.

LinesTrunks→More→QCC Oper

Assign trunks to pools.

LinesTrunks→Pools

G General System Programming Sequence Complex Lines

Page G-4

Complex Lines

Program DS1 trunks.

LinesTrunks—LS/GS/DS1

Program tie lines.

LinesTrunks→TIE Lines

Program DID trunks.

LinesTrunks→DID

Program PRI trunks.

LinesTrunks→PRI

Program BRI trunks.

LinesTrunks→BRI

Telephones

Many system managers prefer to program auxiliary equipment before programming telephones.

Assign trunks to telephones.

Extensions—>LinesTrunks

Copy trunk assignments.

Extensions—>Line Copy

Identify principal user for personal line.

LinesTrunks→**More**→*PrncipalUsr*

Assign ring, voice, outgoing only, shared buttons.

More→Cntr Prg

Copy telephone button assignments.

More→*Cntr Prq*

Identify analog multiline telephones with BIS or HFAI.

Extensions—>BIS/HFAI

Identify analog multiline telephones requiring Voice Announce to Busy.

Extensions→VoiceSingl

G General System Programming Sequence Auxiliary Equipment

Page G-5

Auxiliary Equipment

Program Music On Hold.

AuxEquip→MusicOnHold

Program loudspeaker paging.

AuxEquip→Ldspkr Pq

Program a fax port.

AuxEquip→Fax

Identify the jack used for maintenance alarms.

AuxEquip→*MaintAlarms*

Program voice mail and automated attendant.

AuxEquip→VMS/AA→TransferRtn

Print Reports

 Print system reports to simplify checking your work and to provide a paper copy of system configuration.

More→*Print*

MERLIN LEGEND Communications System Release 6.0 System Programming *555-660-111* **G** General System Programming Sequence

Print Reports

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Issue 1 February 1998 Programming Special Characters Single-Line Telephones

Page H-1

Programming Special Characters



This appendix provides the special characters used in dialing sequences for numbers dialed automatically, such as on Auto Dial buttons. The characters allowed depend on the type of telephone.

Single-Line Telephones

Some dialing sequences need special characters. For example, the user presses and releases either the **Recall** or **Flash** button or the switchhook to insert a Pause character in a dialing sequence after a dial-out code to allow the system to seize an outside line/trunk before dialing the number

Table H–1. Special Characters for Single-Line Telephones

Press	Means
Recall, Flash or switchhook	*
#	End of Dialing. Used to signal the end of the dialing sequence or to separate one group of dialed digits from another, such as an account code from a telephone number.
	single-line telephones with positive or timed disconnect (such as the 00YMGL) the Recall or Flash button, instead of the switchhook, must be d.

H Programming Special Characters Analog Multiline Telephones

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Analog Multiline Telephones

Some dialing sequences need special characters. For example, the user presses **Hold** to insert a Pause character after the dial-out code in a dialing sequence to allow the system to seize an outside line before dialing the number. A Pause character can also be used to separate a telephone number from an extension number.

Table H-2. Special Characters for Analog Multiline Telephones

Press	See [*]	Means
Drop [†]	S	Stop. Inserts a Stop within a sequence of automatically dialed numbers. For example, an outside Auto Dial button may be programmed with a password, then a Stop, then a telephone number. To use Auto Dial with a Stop in the sequence, the user presses the button to dial the password, listens for the dialing and connection, and presses the button again to dial the number.
Hold	р	Pause. Inserts a 1.5-second pause in the dialing sequence. Multiple consecutive pauses are allowed.
Conference	† f	Flash. Sends a switchhook flash. Must be the first entry in the dialing sequence.
##	#	End of Dialing for Auto Dial buttons. Used at the end of a dialing sequence to indicate that the user has finished dialing or to separate one group of dialed digits from another.
#	#	End of Dialing. Used at the end of a dialing sequence to indicate that the user has finished dialing or to separate one group of dialed digits from another.
* [Display telepho	nes only
•	Not available or cordless/wireles	n MLC-5, MDC 9000, and MDW 9000 cordless and ss telephones

H Programming Special Characters *MLX-10 and MLX-5 Nondisplay Telephones*

Page H-3

MLX-10 and MLX-5 Nondisplay Telephones

Some dialing sequences need special characters. For example, the user presses **Hold** to insert a Pause character after the dial-out code in a dialing sequence to allow the system to seize an outside line before dialing the number. A Pause character can also be used to separate a telephone number from an extension number.

Table H-3. Special Characters for MLX-10 and MLX-5 Nondisplay Telephones

Press	Means
Drop	Stop. Halts the dialing sequence to allow for system response.
Hold	Pause. Inserts a 1.5-second pause in the dialing sequence. Multiple consecutive pauses are allowed.
Conf	Flash. Sends a switchhook flash. Must be the first entry in the dialing sequence.
#	End of Dialing for extension programming only. Used at the end of a dialing sequence to indicate that the user has finished dialing or to separate one group of dialed digits from another.
##	End of Dialing. Used to signal the end of the dialing sequence or to separate one group of dialed digits from another.

H Programming Special Characters *MLX Display Telephones*

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MLX Display Telephones

Some dialing sequences need special characters. For example, the user presses **Hold** to insert a Pause character in a dialing sequence after a dial-out code to allow the system to seize an outside line before dialing the number. A Pause character can also be used to separate a telephone number from an extension number.

Table H-4. Special Characters for MLX Display Telephones

Press	See	Means
Drop	S	Stop. Halts the dialing sequence to allow for system response.
Hold	р	Pause. Inserts a 1.5-second pause in the dialing sequence. Multiple consecutive pauses are allowed.
Conf	f	Flash. Sends a switchhook flash. Must be the first entry in the dialing sequence.
#	#	End of Dialing for extension programming only. Used at the end of a dialing sequence to indicate that the user has finished dialing or to separate one group of dialed digits from another.
##	#	End of Dialing. Used to signal the end of the dialing sequence or to separate one group of dialed digits from another.

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Glossary

Italics

The use of italics in the glossary denotes multiple usage of the italicized text throughout the glossary.

Numerics

2B data Digital information carried by two *B-channels* for better

performance and quality; the bit rate is twice that of one

B-channel used alone.

7500B data module See ISDN 7500B Data Module

account code Code used to associate incoming and outgoing calls with

corresponding accounts, employees, projects, and clients.

ACCUNET AT&T's switched digital service for 56-kbps, 64-kbps

restricted, and 64-kbps clear circuit-switched data calls.

address A coded representation of the destination of data or of the

data's originating terminal, such as the dialed extension number assigned to the data terminal. Multiple terminals on

one communications line must each have a unique

address.

ADDS (Automated Document Delivery System) Computer-based

application that stores documents in a database and

automatically faxes them on request.

adjunct Optional equipment used with the communications system,

such as an alerting device or modem that connects to a

multiline telephone or to an extension jack.

ALS (Automatic Line Selection) Programmed order in which the

system makes outside lines available to a user.

ambiguous numbering

Numbering of extension ranges, remote access codes, or other system components that causes conflicts in network

operations. These numbers can be unique and still be ambiguous. For example, Extension 441 is different from Extension 4410. However, for UDP routing purposes, the two numbers are ambiguous and a call intended for

Extension 4410 is misrouted on the first three digits sent, to

Extension 441. See also unambiguous numbering.

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Glossary

AMI

(alternate mark inversion) Line coding format in which a binary one is represented by a positive or negative pulse, a binary zero is represented by no line signal, and subsequent binary ones must alternate in polarity; otherwise, a bipolar violation occurs. AMI is used in the DS1 interface.

Analog data station

See modem data station.

analog transmission Mode of transmission in which information is represented in continuously variable physical quantities, such as amplitude, frequency, phase, or resistance. See also digital transmission.

ANI

(Automatic Number Identification) Process of automatically identifying a caller's billing number and transmitting that number from the caller's local central office to another point on or off the public network.

application

Software and/or hardware that adds functional capabilities to the system. For example, MERLIN Identifier is an application that provides caller identification information (if available in the local area or jurisdiction).

ARS

(Automatic Route Selection) System feature that routes calls on outside facilities according to the number dialed and line/trunk availability. To initiate ARS, the user dials a dial-out code, also called an "ARS access code."

ASCAP

(American Society of Composers, Artists, and Producers)

ASN

(AT&T Switched Network) AT&T telecommunications services provided through an Integrated Digital Services Network Primary Rate Interface (ISDN-PRI) trunk, Accunet switched digital service, Megacom, Megacom 800, Software Defined Network (SDN), Multiquest, and Shared Access for Switch Services (SASS).

asynchronous data transmission

A method of transmitting a short bitstream of digital data, such as printable characters represented by a 7- or 8-bit ASCII code. Each string of data bits is preceded by a start bit and followed by a stop bit, thus permitting data to be transmitted at irregular intervals. See also *synchronous* data transmission.

AT&T Attendant

Application with equipment that connects to one or more tip/ring extension jacks and automatically answers incoming calls with a recorded announcement; directs calls in response to touch tones.

AT&T Switched Network

See ASN.

AUDIX Voice Power

A voice-processing application, part of IS II/III, that provides Automated Attendant, Call Answer, Information Service, Message Drop, Voice Mail, and, optionally, Fax Attendant

System for use with the system.

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Glossary

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Automated Attendant IS II/III, MERLIN LEGEND MAIL, and Lucent Technologies Attendant application that automatically answers incoming calls with a recorded announcement and directs callers to a department, an extension, or the system operator.

Automated Document Delivery System See ADDS.

automatic immediate cycling

Process that occurs in private network when all available routes for a call specify systems with matching *switch identifiers*. The call is routed from the originating system to the destination system and back to the originating system in a continuous loop. *Switch identifiers* labelling systems must be unique across a network.

Automatic Line Selection See ALS.

Automatic Number Identification

See ANI.

automatic ringdown tie-trunk

See automatic-start tie trunk.

Automatic Route Selection

See ARS.

automatic-start tie trunk

Tie trunk on which incoming calls are routed to an operator or other designated destination without a start signal, as soon as the trunk is seized; the destination is specified during programming. Also called "automatic ringdown" or "auto-in" tie trunk.

auxiliary power unit

Device that provides additional power to the system.

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Glossary

B

B8ZS (bipolar 8 zero substitution) Line-coding format that

encodes a string of eight zeros in a unique binary sequence

to detect bipolar violations.

backup Procedure for saving a copy of system programming onto a

floppy disk or memory card. See also restore.

bandwidth Difference, expressed in hertz, between the highest and

lowest frequencies in a range that determines channel

capacity.

Password used to limit access to the Remote Access barrier code

> feature of the system. In a *private network*, it is especially important that barrier codes be required for all types of

remote access.

basic carrier Hardware that holds and connects the *processor module*,

power supply module, and up to five other modules in the

system. See also expansion carrier.

baud rate Strictly speaking, a measurement of transmission speed equal to the number of signal level changes per second. In

practice, often used synonymously with bit rate and bps.

B-channel (Bearer-channel) 64- or 56-kbps channel that carries a variety of digital information streams, such as voice at

64 kbps, data at up to 64 kbps, wideband voice encoded at

64 kbps, and voice at less than 64 kbps, alone or combined.

Basic Rate Interface

See BRI.

Bearer-channel See B-channel.

Behind Switch

One of three modes of system operation, in which the mode control unit is connected to (behind) another telephone

switching system, such as Centrex or DEFINITY, which provides features and services to telephone users. See

also Hybrid/PBX mode and Key mode.

binary code Electrical representation of quantities or symbols

expressed in the base-2 number system, which includes

zeros and ones.

bipolar 8 zero substitution

See B8ZS.

bipolar signal Digital signal in which pulses (ones) alternate between

positive and negative. See also AMI, B8ZS, and bipolar

violation.

bipolar violation Condition occurring when two positive or two negative

pulses are received in succession. See also AMI and

B8ZS.

BIS (Built-In Speakerphone) Part of the model name of some

analog multiline telephones.

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Glossary

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bit (binary digit) One unit of information in binary notation; it

can have one of two values, zero or one.

bit rate Speed at which bits are transmitted, usually expressed in

bps. Also called "data rate."

blocking Condition in which end-to-end connections cannot be made

on calls because of a full load on all possible services and

facilities. See also glare.

BMI (Broadcast Music Incorporated)

board A module, for example, 100D or 408 MLX GS/LS, that

allows you to connect lines/trunks and extensions to the

communications system.

System Programming and Maintenance (SPM) procedure board assignment

for assigning line/trunk and extension modules to slots on

the control unit.

board renumbering

System programming procedure for renumbering boards that have already been assigned to specific slots on the

control unit.

BRI (Basic Rate Interface) A standard protocol for accessing

Integrated Service Digital Network (ISDN) services.

broadband Transmission path having a bandwidth greater than a

voice-grade channel.

BTMI (basic telephone modem interface)

Multiconductor electrical path used to transfer information bus

over a common connection from any of several sources to

any of several destinations.

button Key on the face of a telephone that is used to access a line,

activate a feature, or enter a code on a communications

system.

byte Sequence of bits (usually eight) processed together. Also

called "octet."

Call Accounting

System

See CAS.

Call Accounting

Terminal

See CAT.

Caller ID A service provided by some local telephone companies (if

local regulations allow) that supplies the calling party

telephone number. In Release 3.0 and later, an 800 GS/LS-ID module on the system can capture this information and display it on the screens of MLX telephones. See also ANI.

Team of individuals who answer the same types of calls. Calling group

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------	------

Call Management System	See CMS.
CAS	(Call Accounting System) DOS- or UNIX System-based application that monitors and manages telecommunications costs.
CAT	(Call Accounting Terminal) Standalone unit with a built-in microprocessor and data buffer that provides simple call accounting at a low cost.
CCITT	(International Telegraph and Telephone Consultative Committee)
ccs	(common-channel signaling) Signaling in which one channel of a group of channels carries signaling information for each of the remaining channels, permitting each of the remaining channels to be used to nearly full capacity. In the system's 100D module, channel 24 can be designated as the signaling channel for channels 1–23.
centralized telephone programming	Programming of features on individual telephones; performed at a central location by the system manager. See also system programming and extension programming.
central office	See CO.
Centrex	Set of system features to which a user can subscribe on telephone trunks from the local telephone company.
channel	Telecommunications transmission path for voice and/or data.
channel service unit	See CSU.
checksum	Sum of ones in a sequence of ones and zeros used to detect or correct errors in data transmission.
circuit-switched data call	Data call made through an exclusively established and maintained connection between data stations.
class of restriction	See COR.
clear data channel	Clear data channels (also called unrestricted data channels) allow the transmission of occurrences of more than seven contiguous zero bits. If a clear data channel is requested and only restricted channels are available, the call will be rejected. See also restricted data channel.

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clock synchronization

When digital signals are transmitted over a communications link, the receiving end must be synchronized with the transmitting end to receive the digital signals without errors using clock synchronization. A system synchronizes itself by extracting a timing signal from an incoming digital stream. All the digital facilities in a network operate from a single common clock, preferably a port connected to a digital PSTN facility on a hub system or a system that connects two network systems. In this case, all digital facilities specify a loop clock source. One system in a network may be specified as a local clock source when no functioning digital facility in the network is connected to the PSTN. All other digital facilities then use this clock and specify their clock sources as loop. Primary, secondary, and tertiary clock sources are specified to allow backup synchronization in the event that the primary source is out of service.

CMS

(Call Management System) DOS-based application that simulates the actions of a system operator by answering and distributing calls. Also produces reports for call analysis.

CO

(central office) Location of telephone switching equipment that provides local telephone service and access to toll facilities for long-distance calling.

coaxial cable

Cable consisting of one conductor, usually a small copper tube or wire within and insulated from another conductor of larger diameter, usually copper tubing or copper braid.

codec

(coder-decoder) Device used to convert analog signals such as speech, music, or television to digital form for transmission over a digital medium and back to the original analog form.

collected digits

Digits that a caller dials in response to an integrated voice response application's menus (also called *prompted digits*); collected digits may be used to initiate *screen pop* at a system extension. See also *CTI link*.

combination configuration

A *private network* arrangement that combines characteristics of *Virtual Private Network* (*VPN*), a *series configuration*, and a *star configuration*.

common channel signaling

See CCS.

communications system

Software-controlled processor complex that interprets dialing pulses, tones, and/or keyboard characters and makes the proper interconnections both inside and outside. Consists of a computer, software, a storage device, and carriers with special hardware to perform the actual connections. Provides voice and/or data communications services, including access to public and private networks, for telephones and other equipment. Also referred to in this guide as "system," short for MERLIN LEGEND Communications System.

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control unit Processor module, power supply module, other modules,

carriers, and housing of the system.

console Telephone and *adjuncts* (if any) at operator or system

programmer extension.

CONVERSANT Entry-level voice response application that automatically

answers and routes calls and executes telephone

transactions.

conversion resource See modem pool.

coordinating system manager

In a *private network* that includes more than two systems, the system manager who acts as a clearinghouse for any changes made on local systems, that effect the network, assuring that all system managers work together and that local system changes do not have undesirable effects on

the network as a whole.

COR (class of restriction) Various types of restrictions that can

be assigned to *remote access* trunks or barrier codes. These restrictions consist of calling restrictions, *ARS* Facility Restriction Levels (*FRL*s), Allowed Lists, Disallowed Lists, and Automatic Callback queuing.

Coverage Set of system features that can determine how extensions'

calls are covered when the person at the extension is busy

or not available.

CRC (cyclic redundancy check) An error-detection code used on

DS1 facilities with the extended superframe format (*ESF*).

CSU (channel service unit) Equipment used on customer

premises to provide DS1 facility terminations and signaling

compatibility.

CTI link (Computer Telephony Integration) link. A

hardware/software feature that is part of the PassageWay Telephony Services application. It allows the use of Lucent Technologies-certified software applications on a *LAN* running Novell NetWare software in a *Hybrid/PBX mode* system. These applications may provide special features for client control of such calling activities as power dialing.

See also screen pop.

cyclic redundancy

check

See CRC.

D

D4 framing format Framing format consisting of a sequence of individual

frames of 24 eight-bit slots and one signal bit (193 bits) in a

12-frame superframe. See also *ESF*.

Data-channel See *D-channel*.

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data communications equipment

See DCE.

data module

A type of ISDN terminal adapter that acts as the DCE at a data workstation that communicates over high-speed digital

facilities.

data rate

See bps.

data station

Special type of extension where data communications take place; includes *DTE* and *DCE*; sometimes a telephone is

also part of a data station.

data terminal

An input/output device (often a personal computer) that can

be connected to the control unit via an interface.

data terminal equipment

See DTE and data terminal.

data workstation

Special type of extension where data communications take place; includes *DTE* and *DCE*; sometimes a telephone is

also part of a data workstation.

DCE

(data communications equipment) Equipment such as *modems* or ISDN terminal adapters used to establish, maintain, and terminate a connection between the system and data terminal equipment (*DTE*), such as printers, personal computers, host computers, or network workstations.

DCP

(Digital Communications Protocol) AT&T proprietary protocol to transmit digitized voice and data over the same communications link.

D-channel

(Data-channel) 16- or 64-kbps channel that carries signaling information or data on a *PRI* or *BRI*.

dedicated feature buttons

The imprinted feature buttons on a telephone: **Conf** or **Conference**, **Drop**, **Feature**, **HFAI** (Hands Free Answer on Intercom), **Hold**, **Message**, **Mute** or **Microphone**, **Recall**, **Speakerphone** or **Spkrphone**, and **Transfer**.

delay-start tie trunk

Tie trunk or tandem tie trunk on which the originating end of the tie trunk transmits an off-hook signal to the receiving end and waits for the receiving end to send an off-hook signal followed by an on-hook signal. Also called "dialrepeating tie trunk."

desktop

videoconferencing system

A system application that allows face-to-face,

simultaneous video and voice communications between individuals and requires high-speed data transmission facilities. See also *group videoconferencing system*.

DFT (direct facility termination) See *personal line*.

DHG

(data hunt group) Group of analog or digital *data stations* that share a common access code. Calls are connected in a round-robin fashion to the first available data station in the group.

dial access See feature code.

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Dialed Number
Identification
Service

See DNIS.

Digit (usually a 7) or digits dialed by telephone users to get dial-out code

an outside line.

dial plan Numbering scheme for system extensions, lines, and

trunks.

dial-repeating tie

trunk

Tie trunk on which the originating end of the tie trunk transmits an off-hook signal to the receiving end and waits for the receiving end to send an off-hook signal followed by an on-hook signal. Also called "dial-repeating tie trunk."

DID (Direct Inward Dial) Service that transmits from the

> telephone company central office and routes incoming calls directly to the called extension, calling group, or outgoing

line/trunk pool, bypassing the system operator.

DID trunk Incoming trunk that receives dialed digits from the local

> exchange, allowing the system to connect directly to an extension without assistance from the system operator.

digital Representation of information in discrete elements such as

off and on or zero and one. See also analog transmission.

Digital

Communications

Protocol

See DCP.

digital data station See ISDN terminal adapter data station.

Digital Signal 0 See DS0. **Digital Signal 1** See DS1. See DSL.

digital subscriber line

digital switch

See DSE.

element

digital Mode of transmission in which the information to be transmission transmitted is first converted to digital form and then transmitted as a serial stream of pulses. See also analog

transmission.

DIP switch (dual in-line package) Switch on a 400EM module used to

select the signaling format for tie-line transmission. Also used on other equipment for setting hardware options.

direct facility termination

(DFT) See personal line.

Direct Inward Dial See DID. See DLC.

Direct-Line Console

Direct Station See DSS.

Selector

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display buttonsButtons on an MLX display telephone used to access the

telephone's display.

DLC (Direct-Line Console) Telephone used by a system

operator to answer outside calls (not directed to an individual or a group) and inside calls, transfer calls, make outside calls for users with outward calling restrictions, set up conference calls, and monitor system operation.

DNIS (Dialed Number Identification Service) Service provided by

AT&T and MCI; it routes incoming 800 or 900 calls

according to customer-selected parameters, such as area

code, state, or time of call.

door answering

unit

Device connected to a basic telephone jack and used at an

unattended extension or front desk.

DOS (disk operating system)

drop-and-insert equipment

A device that can be installed between systems connected by tandem PRI trunks or T1-emulated tandem tie trunks to allow fractional use of the facility, that is, use of fewer than 23 of the PRI *B-channels* or fewer than 24 of the T1 channels. In a PRI facility, the equipment must never drop Channel 24, the *D-channel*. All channels must still be programmed and all count towards the system maximum of 80 lines.

DS0 (Digital Signal 0) Single 64-kbps voice or data channel.

DS1 (Digital Signal 1) *Bit*-oriented signaling interface that

multiplexes twenty-four 64-kbps channels into a single

1.544-Mbps stream.

DSL (Digital Subscriber Line) A Digital Subscriber Line provides

full-duplex service on a single twisted metallic pair (2-wire) at a rate sufficient to support ISDN Basic Rate Access.

DSS (Direct Station Selector) 60-button *adjunct* that enhances

the call-handling capabilities of an MLX-20L or MLX-28D

telephone used as an operator console.

DTE (data terminal equipment) Equipment that makes the

endpoints in a connection over a data connection; for example, a data terminal, personal computer, host

computer, or printer.

DTMF signaling (dual-tone multifrequency signaling) Touch-tone signaling

from telephones using the voice transmission path. DTMF signaling provides 12 distinct signals, each representing a dialed digit or character, and each composed of two

voiceband frequencies.

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Glossary

E

E&M signaling Trunk supervisory signaling, used between two

communications systems, in which signaling information is transferred through two-state voltage conditions (on the Ear and Mouth leads) for analog applications and through two

bits for digital applications. See also tie trunk.

EIA (Electronic Industries Association)

EIA-232-D Physical interface, specified by the *EIA*, that transmits and

receives asynchronous data at speeds of up to 19.2-kbps

over cable distances of 50 feet (15 m).

Electronic

Switching System

See ESS.

endpoint Final destination in the path of an electrical or

telecommunications signal.

ESF (extended superframe format) *PRI* framing format

consisting of individual frames of 24 eight-bit slots and one signal bit (193 bits) in a 24-frame extended superframe.

ESS (Electronic Switching System) Class of central office (CO)

switching systems developed by Lucent Technologies in which the control functions are performed principally by electronic data processors operating under the direction of

a stored program.

expansion carrier Carrier added to the control unit when the basic carrier

cannot house all of the required modules. Houses a power

supply module and up to six additional modules.

ExpressRoute

1000

Data communications device that allows connection

between an RS-232 *DTE* device and the control unit using MLX extension jacks on the 008 MLX or 408 GS/LS-MLX

module.

extended superframe format

See ESF.

extension An endpoint on the internal side of the communications

system. An extension can be a telephone with or without an adjunct. Also called "station." See also *data workstation*.

extension jack An analog, digital, or *tip/ring* physical interface on a module

in the control unit for connecting a telephone or other

device to the system. Also called "station jack."

extension programming

Programming performed at an extension to customize telephones for personal needs; users can program features on buttons, set the telephone ringing pattern, and so on.

See also centralized telephone programming and system

programming.

F

facility Equipment (often a *line/trunk*) constituting a

telecommunications path between the system and the

telephone company central office (CO).

Facility Restriction

Level

See FRL.

factory setting Default state of a device or feature when an optional setting

is not programmed by the user or system manager.

fax (facsimile) Scanning and transmission of a graphic image

over a telecommunications facility, or the resulting

reproduced image, or the machine that does the scanning

and transmitting.

Fax Attendant

System

Fax handling and processing application available with

AUDIX Voice Power.

FCC (Federal Communications Commission)

feature Function or service provided by the system.

feature code Code entered on a dialpad to activate a feature.

feature module Prior to Release 3.0, a circuit pack inserted into the

processor module, used to provide system features and

replaced when the system is upgraded.

Feature screen Display screen on MLX display telephones; provides quick

access to commonly used features.

ferrite core Attachment to the AC power cord and ground wire of the

carrier power supply for compliance with FCC, part 15

requirements.

Flash ROM Beginning with Release 3.0, a type of read-only memory

provided on the *processor module*, used to supply system

features.

foil shield Copper foil sheet (for power units) used to prevent

excessive noise on the module.

forced idle Condition of the system during certain programming or

maintenance procedures; system prevents initiation of new

calls.

foreign exchange See FX.

Fractional-T1 A digital transmission facility consisting of at least one, and

fewer than 24 DS0 channels using robbed-bit signaling and

connecting a *PBX* and a *central office* or toll office.

frame One of several segments of an analog or digital signal that

has a repetitive characteristic. For example, a *DS1* frame consists of a framing *bit* and 24 bytes, which equals 193

bits.

framing format Pattern of *frames* used in transmissions.

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frequency See ring generator.
generator

FRL (Facility Restriction)

FRL (Facility Restriction Level) Calling restriction type that

restricts calls to certain specified ARS and UDP routes.

FX (Foreign exchange) Central office (*CO*) other than the one

that is providing local access to the public telephone

network.

 \mathbf{G}

General Purpose See *GPA*. Adapter

glare Condition that occurs when a user tries to call out on a

loop-start line at the same time that another call arrives on

the same line.

GPA (General Purpose Adapter) Device that connects an analog

multiline telephone to optional equipment such as an

answering machine or a fax machine.

ground-start trunk Trunk on which the communications system, after verifying

that the trunk is idle (no ground on tip lead), transmits a request for service (puts ground on ring lead) to the

telephone company central office (CO).

Group IV (G4) fax

machine

A fax unit, offering 400 by 100 dots per inch (DPI) in fine mode, that can operate at any speed for communication with a Group III (G3) fax machine or another Group IV (G4)

fax machine.

group

videoconferencing

system

A system application that allows face-to-face,

simultaneous video and voice communications between groups and requires high-speed data transmission facilities.

See also desktop videoconferencing system.

Н

Hands Free Answer on Intercom

See HFAI.

hands-free unit See HFU.

headset Lightweight earpiece and microphone used for hands-free

telephone operation.

HFAI (Hands Free Answer on Intercom) Feature that allows a

user to answer a voice-announced call.

HFU (Hands-Free Unit) Unit for analog multiline telephones that

allows users to make and receive calls on the speakerphone without using the handset.

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Home screen Display normally shown on an MLX display telephone;

shows time, date, and call information, and shows when

some features are in use.

host Telephone company or other switch providing features and

services to the system users, usually when the system is

operating in Behind Switch mode.

hub system In *private network* that is arranged in a *star configuration*,

the communications system through which all calls across

the network pass.

Hybrid/PBX mode One of three modes of system operation, in which the

system uses line/trunk *pools* and *ARS* in addition to *personal lines*. Provides a single interface (**SA** buttons) to users for both internal and external calling. See also *Behind*

Switch mode and Key mode.

T

ICLID (Incoming Call Line Identification) See Caller ID.

ICOM buttons (intercom buttons) Telephone buttons that provide access

to inside system lines for calling other extensions or

receiving calls from them.

immediate-start tie trunk

Tie trunk on which no start signal is necessary; dialing can

begin immediately after the trunk is seized.

in-band signaling

See robbed-bit signaling.

inside dial tone

A tone users hear when they are off-hook on an ${\it SA}$ or

ICOM button.

Inspect screen

Display screen on an MLX display telephone that allows the user to preview incoming calls and see a list of the features

programmed on line buttons.

Integrated Administration

Capability of *IS III* that simplifies the programming of common information for the system, *AUDIX Voice Power*,

and, if it is also installed, Fax Attendant System.

Integrated Services Digital Network See *ISDN*.

Integrated Solution II/III

See IS II/III.

Integrated Voice Power Automated Attendant IS II application that automatically answers incoming calls with a recorded announcement and directs callers to a department, an extension, or the system operator.

intercom buttons

See *ICOM* buttons.

interface

Hardware and/or software that links systems, programs, or

devices.

intersystem calls

In a private network, calls between a local extension and a

local or non-local dial plan extension.

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intuity	
CONVERSANT	

Voice response application that automatically answers and routes calls and executes telephone transactions.

I/O device

Intuity

(input/output device) Equipment that can be attached to a computer internally or externally for managing a computer system's input and output of information.

IROB protector

(In-Range Out-of-Building protector) Surge-protection device for off-premises telephones at a location within 1000 feet (305 m) of cable distance from the control unit.

IS II/III

(Integrated Solution II or Integrated Solution III) Set of UNIX System-based applications that augments and provides additional services using the system.

ISDN

(Integrated Services Digital Network) Public or private network that provides end-to-end digital connectivity for all services to which users have access by a limited set of standard multipurpose user and *network interfaces*; provides digital circuit-switched or packet-switched connections within the network and to other networks for national and international digital connectivity.

ISDN 7500B Data Module Data communications device that allows connection between an RS-232 *DTE* device and the control unit by MLX extension jacks on the 008 MLX or 408 GS/LS-MLX module.

ISDN terminal adapter

(Integrated Services Digital Network terminal adapter) A device that connects the communications system with data terminal equipment (DTE); for example, an ISDN terminal adapter or modem acting as data communications equipment (DCE) for a PC.

ISDN terminal adapter data station

A type of data station that includes an ISDN terminal adapter as its DCE. It may also include an MLX telephone for simultaneous voice and data (ISDN terminal adapter data-only station). These data stations connect to MLX extension jack modules for digital transmission of data over a DS1 facility.

jack

Physical connection point to the system for a telephone, line/trunk, or other device. Also called "port."

K

kbps (kilobits per second)

Key mode

One of three modes of system operation, in which the system uses personal lines on line buttons for outside calls, with a separate interface (*ICOM* buttons) for inside calling. See also *Behind Switch mode* and *Hybrid/PBX mode*.

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LAN	(local area network) Arrangement of interconnected

personal computers or terminals, sometimes accessing a host computer, sometimes sharing resources such as files

and printers.

LDN (Listed Directory Number)

LED (light-emitting diode) Semiconductor device that produces

light when voltage is applied; light on a telephone.

line Connection between extensions within the

communications system; often, however, used

synonymously with trunk.

line and trunk assignment

Assignment of lines and trunks connected to the system control unit to specific buttons on each telephone.

line coding Pattern that data assumes as it is transmitted over a

communications channel.

line compensation Adjustment for the amount of cable loss in decibels (dB),

based on the length of cable between a 100D module and a channel service unit (*CSU*) or other far-end connection

point.

line/trunk Refers to inside system lines and outside lines/trunks in

general terms. See also line and trunk.

line/trunk jack Physical interface on a module in the control unit for

connecting an outside line/trunk to the communications

system. Also called "trunk jack."

line/trunk and extension module

Module on which the jacks for connecting central office lines/trunks and/or the jacks for connecting the extensions

are located.

local dial plan In a system that is part of a *private network*, a list of

extension ranges that the local system references in order

to route local intersystem calls via UDP.

local host

computer access

A method for connecting an extension jack to an on-site computer for data-only calls through a *modem* or *ISDN*

terminal adapter.

local loop The two-way connection between a customer's premises

and the central office (CO).

local user In a *private network*, a person whose extension is

connected to the local control unit.

logical ID Unique numeric identifier for each *extension* and *line/trunk*

jack in the system control unit.

loop-start line Line on which a closure between the tip and ring leads is

used to originate or answer a call. High-voltage 20-Hz AC ringing current from the central office signals an incoming

call.

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Lucent Technologies Attendant Application with equipment that connects to one or more *tip/ring* (T/R) extension jacks and automatically answers incoming calls with a recorded announcement; directs calls in response to touch tones.

M

Magic on Hold A Lucent Technologies Music On Hold enhancement that

promotes a company's products or services.

Mbps (megabits per second)

Megacom The AT&T tariffed digital *WATS* offering for outward calling.

Megacom 800 The AT&T tariffed digital 800 offering for inward calling.

memory card Storage medium, similar in function to a floppy disk, that

allows information to be added to or obtained from the communications system through the PCMCIA interface

slot on the processor module.

MERLIN Identifier Adjunct that allows users to receive, store, and use

information provided by Caller ID.

MERLIN and MERLIN LEGEND MAIL Voice Messaging Systems Applications that provide automated attendant, call answering, and voice-mail services on the system.

MFM (Multi-Function Module) Adapter that has a *tip/ring* mode

for answering machines, modems, fax machines, and tip/ring alerts, and an *SAA* mode for -48 VDC alerts. It is installed inside an MLX telephone and is used to connect optional equipment to the telephone. The optional

equipment and the telephone operate simultaneously and

independently.

MLX-5 or MLX-5D telephone

5-line button digital telephone offered with (MLX-5D) or without (MLX-5) a 2-line by 24-character display.

without (WEX 0) a 2 line by 24 character display.

MLX-10, MLX-10D or MLX-10DP telephone 10-line button digital telephone offered with (MLX-10D) or without (MLX-10) a 2-line by 24-character display. The MLX-10DP allows connection of *Passageway Direct*

Connection Solution.

MLX-16DP telephone

16-line button digital telephone offered with a 2-line by 24-character display, allowing connection of *Passageway*

Direct Connection Solution.

MLX-20L 20-line button digital telephone with a 7-line by

telephone 24-character display.

MLX-28D 28-line button digital telephone with a 2-line by

telephone 24-character display.

mode codes Streams of touch-tone codes used by voice messaging

applications to communicate with the system's control unit.

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modem

Device that converts digital data signals to analog signals for transmission over a telephone line, and analog signals received on a telephone line to digital signals.

modem data station

A type of data station that includes a modem as its DCE. It may also include an MLX telephone for simultaneous voice and data (MLX voice and modem data station), an analog multiline telephone (analog voice and modem data station), or a single-line telephone for dialing only (modem data-only station). These data stations connect respectively to MLX, analog, or tip/ring extension jack modules. They provide analog transmission of data.

modem pool

Pair, or group of pairs, of *modems* and data modules with interconnected RS-232 interfaces that converts digital signals to analog, or analog signals to digital, thereby allowing users with *ISDN terminal adapter data stations* to communicate with users who have analog *modem data stations*.

module

Circuit pack in the control unit that provides the physical jacks for connection of telephones and/or outside lines/trunks to the communications system. In the name of a module, the first digit indicates the number of *line/trunk jacks* it contains; the last digit indicates the number of *extension jacks* it contains. If no letters appear after the number, a line/trunk module provides *loop-start lines* or an extension jack module provides analog or *tip/ring* jacks. For example, a 408 GS/LS MLX module contains four line/trunk jacks and eight digital (MLX) extension jacks, and provides either *loop-start* (LS) or *ground-start* (GS) *trunks*.

monitored extension

Extension for which one or more CTI applications is receiving call information. The CTI application does not have to be directly attached to the equipment at the extension in order to monitor calls. The call information may appear on the PC screen of another extension that has been programmed to receive it. See also *CTI link* and *unmonitored extension*.

Multi-Function Module

See MFM.

multiline telephone

An analog or digital (MLX) telephone that provides multiple line buttons for making or receiving calls or programming features.

multiplexing

The division of a transmission channel into two or more independent channels, either by splitting the frequency band into a number of narrower bands or by dividing the channel into successive time slots.

Music On Hold

Customer-provided music source or Magic on Hold connected to the system through a *loop-start* jack.

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1	N

network Configuration of communications devices and software

connected for information interchange.

network interface Hardware, software, or both that links two systems in an

interconnected group of systems, for example, between the

local telephone company and a PBX.

NI-1 BRI (National Integrated Services Digital Network 1 Basic Rate

Interface) A type of digital facility that carries the equivalent of three lines. Two are called *B-channels* and provide voice and data communications services. A third D-channel controls signaling and maintains operations on the

B-channels.

non-local user In a private network, a user who is connected to another

system in the network and not to the local system.

non-local dial plan In a system that is part of a private network, a list of

extension ranges that the local system references in order

to route non-local intersystem calls via UDP.

non-satellite

In a private network, a communications system that is directly connected to and located more than 200 miles from system

the local system.

off-hook Telephone is said to be off-hook when the user has lifted

> the handset, pressed the **Speakerphone** button to turn on the speakerphone, or used a headset to connect to the communications system or the telephone network.

off-premises telephone

See OPT.

ones density Requirement for channelized *DS1* service to the public

network that eight consecutive zeros cannot occur in a

digital data stream.

on-hook Telephone is said to be on-hook when the handset is hung

> up, the speakerphone is turned off, and the user is not using a headset to connect to the communications system

or the telephone network.

OPT (off-premises telephone) Single-line telephone or other

> tip/ring device connected to the system via a 008 OPT module in the control unit. Appears as an inside extension to the system, but may be physically located away from the

system.

OPX (off-premises extension)

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out-of-band signaling

Signaling that uses the same path as voice-frequency transmission and in which the signaling is outside the band used for voice frequencies.

P

parity The addition of a bit to a bit string so that the total number

of ones is odd or even, used to detect and correct

transmission errors.

PassageWay Direct Connection Solution

Set of software applications that provides an interface between a personal computer and an MLX telephone.

PBX (private branch exchange) Local electronic telephone

> switch that serves local stations (for example, extensions within a business) and provides them with access to the

public network.

PC personal computer

PCMCIA memory card

(Personal Computer Memory Card International Association memory card) See memory card.

peripheral system In a *private network*, a system that does not connect to

more than one other system, sometimes called an "end node."

personal line Central office line/trunk that terminates directly at one or

more extensions. In Hybrid/PBX mode, a personal line cannot be part of a line/trunk pool. Also called "DFT" (direct

facility termination).

PFT (Power Failure Transfer) Feature that provides continuity

> of telephone service during a commercial power failure by switching some of the system's line/trunk connections to telephones connected to specially designated extension

jacks.

phantom An extension that is not actually plugged into the system extension but is used, for example, as a calling group member

covered by a voice messaging system.

In Hybrid/PBX mode, a group of outside lines/trunks that pool

users can access with a Pool button or by dialing an access code on an SA button. Also used by the ARS feature when choosing the least expensive route for a call.

point-to-point

facility

In a private network, a line/trunk that passes through the *PSTN* without using the switching capabilities of the PSTN.

See jack. Also, refers to extension or line/trunk jacks before port

these are numbered according to the dial plan during programming. The lowest jack on a module is always

Port 1.

Power Failure Transfer

See PFT.

PSTN trunk

public switched telephone network

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	1 age 32 22
nower supply	Davisa that directs electricity to modules and telephones on
power supply module	Device that directs electricity to modules and telephones on the system. One power supply module is needed for each carrier, and an <i>auxiliary power unit</i> is added if needed.
PRI	(Primary Rate Interface) Standard interface that specifies the protocol used between two or more communications systems. As used in North America, it provides twenty-three 64-kbps <i>B-channels</i> for voice and/or data and one 16-kbps <i>D-channel</i> , which carries multiplexed signaling information for the other 23 channels.
primary system operator position	First jack on the first MLX or analog multiline extension module in the control unit, that is, the extension jack with the lowest logical ID in the system.
prime line	Individual extension number assigned to a telephone in a system operating in <i>Behind Switch mode</i> . Each telephone user has his or her own prime line and is automatically connected to that line when he or she lifts the handset.
private communications network or private network	An interconnected group of <i>communications systems</i> , which may consist of MERLIN LEGEND Communications Systems, DEFINITY Enterprise Communications Servers (ECS), and/or DEFINITY ProLogix Solutions.
private network trunks	The facilities that connect <i>communications systems</i> in a <i>private network</i> . See also <i>tandem tie trunks</i> and <i>tandem PRI trunks</i> .
processor module	Module in the second slot of the control unit (Slot 0, to the right of the <i>power supply module</i>). Includes the software and memory that runs the system.
programming port reassignment	Reassignment of the system programming jack position to any of the first five extension jacks on the first MLX module in the control unit.
protocol	Set of conventions governing the format and timing of message exchanges between devices, such as an MLX telephone and the control unit.
PSTN	Network that is commonly accessible for local or long- distance calling. Also called "public network" or "public switched network."

See PSTN.

In a *private network*, a facility that connects a networked system to the public switched telephone network.

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L	J

QCC (Queued Call Console) MLX-20L telephone used by a

> system operator in *Hybrid/PBX mode* only. Used to answer outside calls (directed to a system operator position) and inside calls, direct inside and outside calls to an extension or an outside telephone number, serve as a message center, make outside calls for users with outward calling restrictions, set up conference calls, and monitor system

operation.

R

RAM (random-access memory) Computer memory in which an

> individual byte or range of bytes can be addressed and read or changed without affecting other parts of memory.

read-only memory See ROM.

Remote Access System feature that allows an outside caller to gain access

> to the system, almost as if at a system extension. In a private network, remote access settings are used to control calls routed via ARS or UDP routing across the network.

Procedure whereby saved and archived system restore

programming is reinstated on the system, from a floppy

disk or memory card. See also backup.

restricted data

channel

Restricted data channels do not allow the transmission of occurrences of more than seven contiguous zero bits. See

also unrestricted data channel.

Circuit pack added to the power supply that generates a ring generator

high-voltage, 20-30 Hz signal to ring a telephone.

riser cable Cable that runs between floors in a multistory building and

connects wiring closets.

RS-232 Physical interface, specified by the Electronics Industries

Association (EIA), that transmits and receives

asynchronous data at distances of up to 50 feet (15 m).

robbed-bit Signaling in which the least significant bit of every sixth

signaling frame per channel is used for signaling in that channel.

ROM (read-only memory) Computer memory that can be read

but cannot be changed.

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	e.
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L	J

SAA	(Supplemental Alert Adapter) Device that permits alerting equipment to be connected to an analog multiline telephone jack so that people working in noisy or remote areas of a building can be alerted to incoming calls.
SA buttons	Telephone buttons that provide access to both inside and outside calls.
satellite system	In a <i>private network</i> , a <i>communications system</i> that is directly connected to and located within 200 miles of the local system.
screen pop	Refers to a computer-telephony software application that takes caller information (for example, provided by Caller ID service), queries a database, and displays a screen with information about the caller onto a user's PC screen. Screen pop requires that an identifying number or code be available to identify the calling party. See also <i>CTI link</i> .
SDN	(Software Defined Network) AT&T private networking service created by specialized software within the public network.
series configuration	A <i>private network</i> arrangement where either two or four or more communications systems are connected in a line, with no particular system acting as the <i>hub system</i> . See also <i>star configuration</i> .
SID	[station (extension) identification]
signaling	Sending of information between devices to set up, maintain, or cease a connection such as a telephone call.
signaling simplex signaling	
	maintain, or cease a connection such as a telephone call. Transmission of signals in one direction only across a
simplex signaling	maintain, or cease a connection such as a telephone call. Transmission of signals in one direction only across a telecommunications channel. Industry-standard touch-tone or rotary-dial telephone that handles one call at a time and is connected to the system
simplex signaling single-line telephone	maintain, or cease a connection such as a telephone call. Transmission of signals in one direction only across a telecommunications channel. Industry-standard touch-tone or rotary-dial telephone that handles one call at a time and is connected to the system via an <i>extension jack</i> on a 012, 016, or 008 OPT module.
simplex signaling single-line telephone slot	maintain, or cease a connection such as a telephone call. Transmission of signals in one direction only across a telecommunications channel. Industry-standard touch-tone or rotary-dial telephone that handles one call at a time and is connected to the system via an extension jack on a 012, 016, or 008 OPT module. Position in a carrier for a module; numbered from 0. (Station Message Detail Recording) Feature that captures
simplex signaling single-line telephone slot SMDR	maintain, or cease a connection such as a telephone call. Transmission of signals in one direction only across a telecommunications channel. Industry-standard touch-tone or rotary-dial telephone that handles one call at a time and is connected to the system via an extension jack on a 012, 016, or 008 OPT module. Position in a carrier for a module; numbered from 0. (Station Message Detail Recording) Feature that captures usage information on incoming and outgoing calls. Printer used to produce SMDR reports. Connected to the
simplex signaling single-line telephone slot SMDR SMDR printer Software Defined	maintain, or cease a connection such as a telephone call. Transmission of signals in one direction only across a telecommunications channel. Industry-standard touch-tone or rotary-dial telephone that handles one call at a time and is connected to the system via an <i>extension jack</i> on a 012, 016, or 008 OPT module. Position in a <i>carrier</i> for a module; numbered from 0. (Station Message Detail Recording) Feature that captures usage information on incoming and outgoing calls. Printer used to produce SMDR reports. Connected to the system via an RS-232 jack on the <i>processor module</i> .
simplex signaling single-line telephone slot SMDR SMDR printer Software Defined Network	maintain, or cease a connection such as a telephone call. Transmission of signals in one direction only across a telecommunications channel. Industry-standard touch-tone or rotary-dial telephone that handles one call at a time and is connected to the system via an extension jack on a 012, 016, or 008 OPT module. Position in a carrier for a module; numbered from 0. (Station Message Detail Recording) Feature that captures usage information on incoming and outgoing calls. Printer used to produce SMDR reports. Connected to the system via an RS-232 jack on the processor module. See SDN. Pause, Stop, or End-of-Dialing signal in a programmed

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star configuration

A *private network* arrangement where either three or more communications systems are connected with one system acting as the *hub system*. See also *series configuration*.

station

See extension.

station jack

See extension jack.

Station Message Detail Recording See SMDR.

Supplemental Alert Adapter See SAA.

switch

See communications system.

Switched 56 service

DS1 Switched 56 Service is an end-to-end digital, 56-kbps, full duplex, synchronous, circuit-switched service offering. The service is offered by network service providers and by some Local Exchange Carriers (LECs) as circuit-switched, 56-kbps service.T1-emulated tandem tie trunks in a private network can be programmed for data.

switchhook flash

Momentary (320 ms to 1 second) on-hook signal used as a control; may be directed to the control unit or to a *host* switch outside the system. Also called "Recall" or "timed flash."

switch identifier

A number assigned to a *tandem trunk* in a *private network*. It identifies the system connected to the far end of the trunk. Switch identifiers are based on the type of system and its distance from the system where the identifier is assigned. See also *satellite system* and *non-satellite system*.

synchronous data transmission

Method of transmitting a continuous digital data stream in which the transmission of each binary *bit* is synchronized with a master clock. See also *asynchronous data transmission*.

system acceptance test

Test of all trunks, telephones, data terminals, and features after installation to ensure that they are working correctly.

System Access buttons

See SA buttons.

system date and time

Date and time that appear on MLX display telephones and *SMDR* reports.

system programming

Programming of system functions and features that affect most users, performed from an MLX-20L telephone or a computer using *SPM*. See also *extension programming* and *centralized telephone programming*.

System
Programming and
Maintenance

See SPM.

system renumbering

Procedure used to change the numbers assigned to telephones, adjuncts, *calling groups*, paging groups, park zones, *Remote Access*, and lines/trunks.

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T1 Type of digital transmission facility that in North America transmits at the *DS1* rate of 1.544 Mbps.

T1-emulated dataA T1 tie trunk programmed for S56DATA for use by data calls at speeds up to 56 kbps. These trunks may be used

for tandem and non-tandem operation.

T1-emulated voice A T1 tie trunk programmed for Tie-PBX or Tie-Toll for use

by voice calls.

T1 Switched 56 service

T1 digital data transmission over the *public network* or over a *private network* at 56 *kbps*. See *Switched 56 service*.

tandem switching The capability of *private network* communications systems

that allows them to direct outside calls from one facility to another facility, rather than just to an extension. Calls may be sent, for example, from a *PSTN* facility to a *tandem*

trunk or vice versa.

tandem trunk An private outside facility (as opposed to an inside system

line) that connects two communications systems in a private network and can carry calls to another outside facility through tandem switching. The trunk is not

connected to the PSTN.

providing a single line/trunk per facility and allowing *analog* transmission of voice and low-speed data. Or a T1 facility

offering 24 channels on emulated tie trunks and

programmed for voice or data

tandem PRI trunk (tandem Primary Rate Interface trunk) A private network

trunk.

TAPI Telephony Application Programming Interface. An

application programming interface that allows computer telephony applications to be used. TAPI is not yet supported by the MERLIN LEGEND Communications

System. See also TAPI, CTI

telephone power

supply unit

Equipment that provides power to an individual telephone.

terminal adapter See ISDN terminal adapter.

tie trunk Private trunk directly connecting two telephone switches.

timed flash See switchhook flash.

tip/ring Contacts and associated conductors of a *single-line*

telephone plug or jack.

touch-tone receiver

See TTR.

T/R See tip/ring.

Glossary

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trunk Telecommunications path between the communications

system and the telephone company central office (*CO*) or another switch. Often used synonymously with *line*.

trunk jack See line/trunk jack.

trunk pool See pool.

TSAPI Telephony Services Application Programming Interface.

An application programming interface that allows computer telephony applications to be used. TSAPI is supported by the MERLIN LEGEND Communications System Release

5.0. See also TAPI, CTI.

TTR (touch-tone receiver) Device used to decode *DTMF* touch-

tones dialed from single-line or Remote Access telephones.

T T

UDP (Uniform Dial Plan) Composed of the *local dial plan* and

non-local dial plan. A dial plan that allows a caller at any extension in a private network to dial the same number of digits to reach any other extension in the private network, even if the originating extension is physically connected to one communications system and the terminating extension is physically connected to a different communications

system.

unambiguous numbering

The practice of numbering of extension ranges, remote access codes, or other system components to avoid routing conflicts in network or local calling. For example, Extension 441 is unique when compared to Extension 4410. However it is ambiguous, because a system routes as soon as it matches the digits sent for a call with the digits in a local plan or in a non-local dial plan extension range. When a caller dials 4410, a system routes the call to Extension 441 immediately, without considering the last dialed digit.

Uniform Dial Plan See UDP.

uninterruptible power supply

See UPS.

unit load Measure of the power load drain of a module, telephone, or

adjunct.

unmonitored An extension for which no CTI application is receiving call **extension** information. See also *CTI link* and *monitored extension*.

extension information. See also *CTI link* and *monitored extension*.

unrestricted data
Unrestricted data channels (also called clear data

unrestricted data
channel

Unrestricted data channels (also called clear data
channels) allow the transmission of occurrences of more
than seven contiguous zero bits. If an unrestricted data
channel is requested and only restricted channels are
available, the call will be rejected. See also restricted data
channel.

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UPS

(uninterruptible power supply) Device that connects to the system to provide 117 VAC to the equipment when the commercial power source fails.

V

VAC (alternating-current voltage)
VDC (direct-current voltage)

VMI (voice messaging interface) An enhanced *tip/ring* port.

videoconferencing

system

System application that allows face-to-face meetings, with voice and video, to occur between individuals or groups. This application requires high-speed data transmission facilities. See also *desktop videoconferencing* and *group videoconferencing*.

virtual private network

See VPN.

VPN (virtual private network) A type of *private network* that uses

the switching capabilities of the *PSTN*, rather than *tandem*

switching, to direct calls between connected

communications systems. A VPN may constitute a part of a

private network.

voice-band channel

A transmission channel, generally in the 300-3400-Hz

frequency band.

voice mail Application that allows users to send messages to other

system extensions, forward messages received with

comments, and reply to messages.

voice messaging

interface

See VMI.

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Glossary

W

WATS (Wide Area Telecommunications Service) Service that

allows calls to certain areas for a flat-rate charge based on

expected usage.

wink-start tie trunk Tie trunk on which the originating end transmits an off-hook

signal and waits for the remote end to send back a signal (a

wink) that it is ready for transmission.

MERLIN LEGEND Communications System Release 6.0 System Programming *555-660-111*

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