

MERLIN LEGEND[®] Communications System Release 5.0

System Programming

555-650-111 Issue 1 June 1997

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Document 555-650-111 Issue 1 June 1997

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."

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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

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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 xii.

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.

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If you suspect you are being victimized by toll fraud and you need technical support or assistance, call BCS National Service Assistance Center at 1800 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."

Heritage Statement

Lucent Technologies—formed as a result of AT&T's planned restructuring—designs, builds and delivers a wide range of public and private networks, communications systems and software, consumer and business telephone systems, and microelectronic components. The world-renowned Bell Laboratories is the research and development arm for the company.

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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.
- The MERLIN LEGEND Communications System requires a supplementary ground.

IMPORTANT SAFETY INSTRUCTIONS

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- 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.



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

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.

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.

About This Book
Terms and Conventions Used

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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.

trunk module line/trunk module trunk jack line/trunk jack station extension station jack extension jack analog data station modem data station digital data station Terminal Adapter data station 7500B data station Terminal Adapter data station analog voice and analog data station analog voice and modem data digital voice and analog data station MLX voice and modem data analog data-only station modem data-only station digital data-only station Terminal Adapter data-only station digital data-only station Terminal Adapter data-only station digital voice and digital data station MLX voice and Terminal Adapter data station digital voice and 7500B data station MLX voice and Terminal Adapter data station

Typographical Conventions

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

Example	Purpose

It is *very* important that you follow these steps. You *must* attach the wristband before touching the connection.

Italics indicate emphasis.

About This Book

Terms and Conventions Used Page xi

The part of the headset that fits over one or both ears is called a *headpiece*.

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

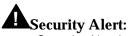
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Security

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.



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".

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 BCS Publications Fulfillment Center by calling 1 800 457-1235.

Document No.	Title
	System Documents
555-650-110	Feature Reference
555-650-111	System Programming
555-650-112	System Planning
555-650-113	System Planning Forms
555-650-116	Pocket Reference
	Telephone User Support
555-650-122	$MLX-5D^{TM}$, $MLX-10D$ ®, $MLX-10D$ P®, $MLX-16D$ P®,
	MLX-28D®, and MLX-20L® Display 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)
Document No.	Title
555-650-124	MLX-10® and MLX-5™ Nondisplay Telephone User's Guide

About This Book Related Documents

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555-630-151	MLX-10 and MLX-5 Nondisplay Telephone Tray Cards
	(6 cards)
555-650-120	Analog Multiline Telephones User's Guide
555-650-126	Single-Line Telephones User's Guide
555-650-138	MDC 9000 and MDW 9000 Telephones User's Guide
	System Operator Support
555-650-134	MLX Direct-Line Consoles Operator's Guide
555-650-132	Analog Direct-Line Consoles Operator's Guide
555-650-136	MLX Queued Call Console Operator's Guide
	Miscellaneous User Support
555-650-130	Calling Group Supervisor's Guide
555-640-105	Data/Video Reference
555-025-600	BCS Products Security Handbook
	Documentation for Qualified Technicians
555-650-140	Installation, Programming, & Maintenance (IP&M) Binder
	Includes: Installation, System Programming & Maintenance
	(SPM), and Maintenance & Troubleshooting

MERLIN LEGEND Communications System Release 5.0 System Programming *555-650-111*

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About This Book

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

1

This chapter covers the information you need to know before you begin the programming procedures covered in Chapter 3, "Common Administrative Procedures" or Chapter 4, "Programming Procedures", and includes the following:

- 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 telephone 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 telephones. 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".

Programming Basics
System Programming Console

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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.
 - 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 telephone users and system operators (except for QCC operators) to change their telephone 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 telephone 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 <u>Chapter 2, "Programming with SPM"</u> 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.

Programming Basics
System Programming Console

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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 telephones.

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

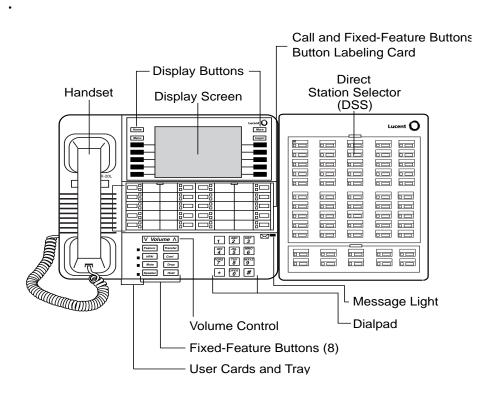


Figure 1-1. MLX-20L Telephone with Direct Station Selector (DSS)

Console Components

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

MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111 Issue 1 June 1997				
1 Programming Basics System Programming Console Page 1-5				
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	5 1 7			
	HFAI (Hands Free Answer on Intercom) for answering valls without the handset.	voice-announced		
	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 use different screens and select names, features, and optio screen. See "Console Buttons".			
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 but	uttons are		

programmable for one-step feature use.

feature codes.

ringer.

A red light that signals a waiting message.

A slide-out drawer with erasable cards for noting telephone numbers and

A button for adjusting the volume of the speaker, handset, headset, and

Message Light

Volume Control

User Cards

and Tray

Programming Basics
System Programming Console

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DSS Components

Covers	Removable plastic covers to protect the designation cards. The top cover protects the 50 DSS button labels. The lower cover fits over 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' extensions 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 Voice Mail and three Page buttons. The five remaining buttons on the 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 not used.
	Fixed Message Status button used with fixed Page buttons to see which telephones have Message Lights on.
	Fixed Page Buttons are three buttons used to select the pages of extensions that the 50 DSS buttons represent.
LEDs	(Light-Emitting Diodes) The lights that assist in checking feature status.

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.

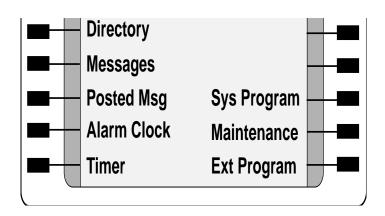


Figure 1-2. Display Buttons and Main Menu

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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.

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.

<u>Appendix E</u> 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

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System Programming Console

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buttons 1 to 20 to represent letters G through Z. These letters are also displayed on the top line of the console overlay.

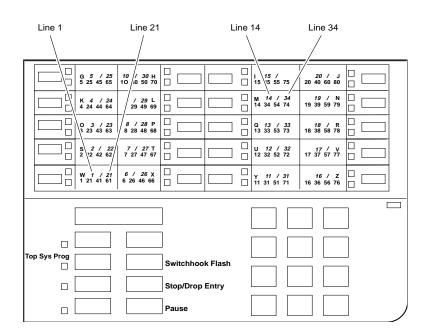


Figure 1-3. Console Overlay

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.

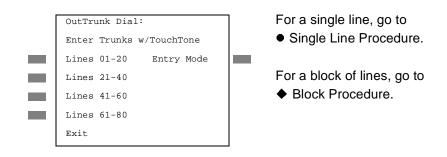


Figure 1-4. Selecting a Block of Lines/Trunks

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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 "Primary Rate Interface (PRI)" and then locate the network services procedure. For quick reference, see "System Programming Hierarchy" for a list of procedures, based on the menu hierarchy in Appendix B, that traces the menu path for a specific function.

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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 <u>"Using the Programming Procedures"</u> 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 xxxx xxxx xxxx

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

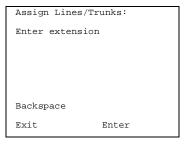
Figure 1-6. Menu Selection Screen

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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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 *x*'s.

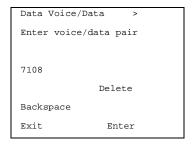
When information to be entered varies in the number of digits required (for example, a telephone number that can range from 7 to 20 digits), the data may be displayed as an uppercase *X* or *N*.

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 (Fto) on the PC).

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.

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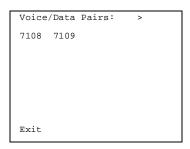


Selected Option Prompt

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 **Inspec** (FgDn) 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 \mathtt{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.

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.

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Programming Procedures

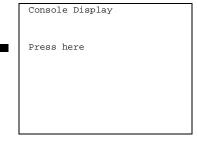
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Format

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

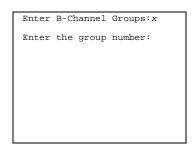
Console Display/Instructions Additional Information PC

■ 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).



x = B-channel entered in Step 1

Dial or type [nn].

C

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"</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.

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

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highlighting is shown. See "Additional Information and PC Headers" for more information 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 *x*s or *n*s 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 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.

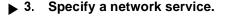
Branching

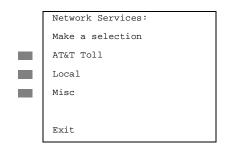
Many of the procedures contain features that have multiple programming options, while other procedures show more than one way to program a particular feature. To accommodate both of these programming methods, the procedures use branching. Branching separates the options from the main procedure and places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

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Programming Procedures

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•

• AT&T Toll Procedure.

If you select AT&T Toll, go to

F1

If you select Local, go to

◆ Local Procedure.

F2

If you select Misc, go to

■ Miscellaneous Procedure.

F3

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.

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 800

Exit Enter

xx = number entered in Step 5

Press the button or function key next to your selection.

2. Save your entry.

Select Enter.

(F10)

C

- ▶ 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.

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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 \mathtt{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 \mathtt{Exit} (F5) on the PC) one or more times to return to the system programming menu.

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).

B-Channel Group xx:

Assign lines

Lines 01-20 Entry Mode

Lines 21-40

Lines 41-60

Lines 61-80

Exit

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.

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Block of Lines Procedure

▶ 1. Specify the block of 20 lines associated with 20 buttons on the system programming console.



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

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.

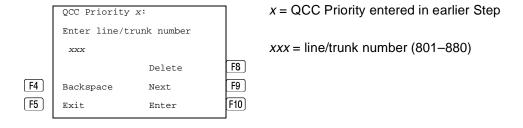


Figure 1-10. Screen Keys

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.
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 (19 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.

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Using Enter

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

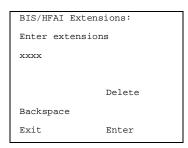
- The next screen in the procedure appears. See Steps 4 and 5 in the sample procedure below.
- The screen does not change and you can enter another extension or line/trunk. In most of these cases, Delete is also an option. Enter is used either to assign the extension to a group or to assign a feature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

Console/Display Instructions

Additional Information

PC

1. Specify the extension.



SP: "Entering an Extension"

2. Assign or remove BIS/HFAI capability.

Select Enter or Delete.

F10

[F8]

You may continue to assign or remove BIS/HFAI capability to additional extensions by repeating Steps 3 and 4.

▶ 3. Return to the System Programming menu.

Select Exit twice.

F5 F5

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Programming Procedures

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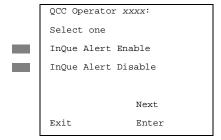
Using Next

When you are programming a feature that can apply to a sequence of extensions, lines/trunks, or groups, the screen key \mathtt{Next} appears on the console display. \mathtt{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 \mathtt{Next} until you finish programming the entire sequence. When the last number in the sequence displays on the screen, press \mathtt{Enter} (F10) or $\mathtt{Enter} \longrightarrow$ on the PC) to save the final entry and move to the next step of the procedure. Procedures that allow the use of \mathtt{Next} direct you to the correct screen to continue programming as shown in Step 6 in the example below 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 Of F1
InQue Alert Disable. F2

2. Save your entry.

Select Enter or

[F10] [F9]

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]

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.

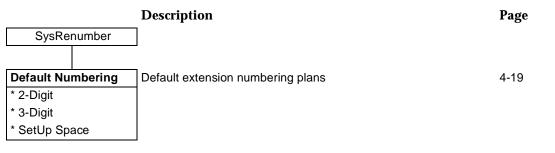
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Programming Procedures Page 1-22

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	3-3
Mode	Sets the system mode. See Equipment	4-7
* Key	and Operations	
* Hybrid/PBX		
* BehindSwitch		
Board Renum	Renumber boards that have already been installed	4-5
MaintenBusy	Enable Automatic Maintenance Busy	4-9
* Enable		
- Auto Busy Tie Trunks		
- Enable		
- Disable		
* Disable	Disable Automatic Maintenance Busy	
Date	System date	3-7
Time	System time	3-9
Back/Restore		
* Backup	Back up system programming to a memory card	3-241
* Restore	Restore system programming from a memory card	4-377
* Auto Backup	Automatic backup	3-245
- Off	Turn off automatic backups	
- Daily	Daily backups of system programming	
- Weekly	Weekly backups of system programming	



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Programming Procedures		Page 1-23	
	Description	Page	
SysRenumber	Continued		
Gysteriamber	Continued		
	1		
Single	Single extension renumbering	3-13	
* Lines * Extensions	Lines/Trunks		
* Pools	Extensions 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	3-16	
* Lines			
* Extensions			
* Adjuncts			
	Description	Page	
Operator]	J	
Operator			
	1.		
Positions	System operator positions	3-18	
* Direct Line*	Direct-Line Console (DLC)	3-22	
* Queued Call*	Queued Call Console (QCC)	3-20	
Queued Call	QCC optional features (Hybrid/PBX mode only)	3-28	
* Hold Rtrn	Hold Return	3-28	
- Return to Queue - Remain on Hold			
* HoldRelease	Automatic hold or release	3-30	
- Auto Hold	Automatic floid of felease	3-30	
- Auto Release			
* Threshold	Queue over threshold	3-32	
* ElvatePrior	Elevate priority	3-33	
* InQue Alert*	Calls-In-Queue Alert	3-35	
- InQue Alert Enable			
- InQue Alert Disable			

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Programming Procedures		Page 1-24	
Description Pag			
Operator	Continued		
	-		
* Call Types - Dial 0 - Priority - Operator	QCC Operator to Receive Call Types Dial 0 Calls	3-37	
- Follow/Frwd	Forward/Follow Me Calls		
- Unassign DID - Priority - Operator*	DID call to invalid destinations		
- ListedNumber - Priority - Operator	Calls to the Listed Directory Number		
- QCC Ext	QCC Extension calls		
- Returning - Priority - Operator	Returning calls		
- GrpCoverage - Priority - Operator*	Group Coverage calls		
* Msg Center*	Message center operation	3-46	
* ExtndComplt - Automatic Complete - Manual Complete	Extended call completion	3-48	
* Return Ring	Return Ring	3-49	
* QCC Backup	Position Busy Backup	3-51	
* Voice Anno	Voice Announce for QCC	3-53	
Hold Timer	Systemwide hold timer for QCCs and DLCs	3-25	
DLC Hold	DLC Operator Automatic Hold	3-26	
* Auto Hold Enable			
* Auto Hold Disable			

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Programming Procedures		Page 1-25
	Description	Page
Line - Toronto	_	rage
LinesTrunks	Lines/Trunks options	
	1	
LS/GS/DS1	Loop-start, ground-start or DS1 options	
* (DS1)	DS1 options	
- Type	Type of DS1 facility	4-73
- T1		
- GroundStart	Ground-start emulation on selected channels	
- Loop Start	Loop-start emulation on selected channels	
- TIE	Tie Trunk emulation on selected channels	
- TIE-PBX - Toll	Tie-PBX transmit/receive loss parameter	
- 1011 - S56	Toll transmit/receive loss parameter 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 S56Data	All Switched 56 Data	
- Direction		
- Intype		
- Outtype		
- AnsSupv		
- Disconnect		
- Inmode		
- Outmode		

1 Programming Basics Programming Procedures		
		.
	Description	Page
LinesTrunks	Continued	
-PRI	Primary Rate Interface	4-94
- Frame Format		
- D4 Compatible		
- Extended Super Frame		
-Suppression	Type of zero code suppression	4-96
- AMI ZCS		
- B8ZS		
- Signaling	Signaling mode	4-98
- Robbed Bit		
- Common Channel		
- Line Comp	Line Compensation	
- ChannelUnit	Type of equipment provided by local telephone company	
- Foreign Exchange		
- Special Access		
* (4xx GS/LS)	Line/Trunk type for 4xx GS/LS module	
- GroundStart		
- LoopStart		
- All Ground		
- All Loop		
* (8xx GS/LS)	Line/Trunk type for 8xx GS/LS module	
- GroundStart		
- LoopStart		
- All Ground		

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- All Loop

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LinesTrunks	Continued	
Lincorranko	Joshanasa	
	1	
Tie Lines		
* Direction	Tie trunks direction	4-105
- Two Way		
- OutGoing		
- Incoming		
* Intype	Signaling type: incoming tie trunk.	4-107
- Wink		
- Delay		
- Immed		
- Auto		
* Outtype	Signaling type: outgoing tie trunk	4-107
- Wink		
- Delay		
- Immed		
- Auto		
* E&M Signal	Type of tie trunk signal	4-110
- Type 1S		
- Type 1C		
- Type 5		
* Inmode	Set incoming tie trunk to touch tone or rotary	4-112
* Outmode	Set outgoing tie trunk to touch tone or rotary	4-112
* Dialtone	Tie trunk dial tone	4-115
* AnsSupvr	Tie trunk answer supervision time	4-118
* Disconnect	Tie trunk disconnect time	4-120

1 Programming Basics Programming Procedures		
	Description	Page
LinesTrunks	Continued	Ö
	1	
TT/LS Disc]	
* OutMode	Outmode Signaling for loop- or ground-start trunks	4-29
* LS Disconnect	Disconnect signaling reliability	4-38
- Yes		
- No		
DID	DID Trunk Options	
* Block		4-123
* Type	DID trunk type	4-127
- Immed		
- Wink		
* Disconnect	DID trunk disconnect time	4-129
* ExpectDigit	Expected digits	4-132
* DeleteDigit	Delete digits	4-134
* Add Digits	Add digits	4-136
* Signaling	Type of dialing signal	4-139
- Rotary		
- Touch Tone * InvaIDstn	Directing outside calle on invalid extension	4-141
- Send To Backup	Directing outside calls on invalid extension	4-141
Extension		
- Return Fast Busy		
PRI	Primary Rate Interface (PRI) trunk options	
* PhoneNumber	Telephone number to each PRI channel	4-143
* B-ChannelGRP	Assign B-channel groups.	4-147
- Lines	Assign lines to B-channel groups	
- Network Serv	Network service	4-153
- AT&T Toll	AT&T toll service	
- MegacomWATS		
- ACCUNET SDS		
- SoftDefNetw		
- Megacom 800		
- MULTIQUEST		
- LongDistnce		

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1	Ū	nming Basic Inming Proce		
			Description	
	Lines	Trunks	Continued	
	- Local - OUTV - 56/64		Local service	

- VirtPrivNet - INWATS - Misc

- Copy PhnNum to NumToSend - Do Not Copy Phone Number - IncomingRtg

- Routing by Dial

- Route by Line Appearance * NumberToSend

- Extension Only - Base Number with

- T200 Timer - T203 Timer - N200Counter - N201Counter - K Counter - T303 Timer - T305 Timer - T308 Timer - T309 Timer - T310 Timer - T313 Timer - T316 Timer

- Line Telephone Number * Test TelNum

Plan

Ext.

* Protocol - Timers

- TEI

- Other - CallByCall - Copy Number

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Continued	o .
Local service	
Miscellaneous network service	
Copy telephone number to send	4-157
Incoming Routing	4-160
Telephone number to send to the network	4-162
Line/trunk test telephone number	4-166
Timers and counters	4-169
Terminal equipment identifier	4-173

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		•	
*D	PialPlanRtg	Dial Plan Routing	4-176
-	Service	Service	
	- AT&T Toll	AT&T toll service	
	- Megacom 800		
	- ACCUNET SDS		
	- SoftDefNetw		
	- MULTI QUEST		
	- MegacomWATS		
	- LongDistnce		
	- Local	Local service	
	- INWATS		
	- 56/64 Digit - VirtPrivNet		
	- OUTWATS		
	- Misc	Miscellaneous service	
	- Other	TVIIOCOIIGITICO GO SCI VICO	
	- Any Service		
	- No Service		
	- Patterns		
	- TotalDigits		
	 DeleteDigit 		
	 Add Digits 		
	DutgoingTbl	Outgoing tables	
	NetwkSelect	Network selection	4-189
-	SpecialServ	Special services	4-192
	- Pattern		
	- Operator		
	Local OperatorPresubscribed		
	Carrier		
	- No Operator		
	- Typeof		
	Number		
	- National		
	 International 		
	- DeleteDigit		

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LinesTrunks	Continued	
- CBC Service	Call by Call service	4-199
- Patterns		
- 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	Manallanasana	
- Misc	Miscellaneous service	
- Other		
- No Service	Number of digits to delete	
- Delete Digit Copy	Copy options for lines/trunks	4-68
* Single	Copy options for lines/trutiks	1 -00
* Block		
Remote Access	Remote Access options	
* LinesTrunks	Remote Access trunk assignment	4-296
- Dedicated	Tromoto / toooso traint assignment	. 200
- Shared		
- 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		
- Outward Restrict		
- Toll Restrict		

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	Description	Page
LinesTrunks	Continued	J
- ARS Restrict	Non-Tie trunk ARS Facility Restriction Level	
- Allow List	Non-Tie trunk Allowed Lists assignment	
- DisallowLst	Non-Tie trunk Disallowed Lists assignment	
* TIE Lines	Tie lines: Remote Access options	
- BarrierCode	Barrier code requirements	4-305
- Barrier Code	Barrior code requirements	. 000
Required		
- BarrierCode Not		
Required		
- Restriction	Tie trunk restriction	
- Unrestricted		
 Outward Restrict 		
- Toll Restrict		
- ARS Restrict	Tie and DID trunk ARS Facility Restriction Level	
- Allow List	Tie and DID trunk Allowed Lists assignment	
- Disallow List	Tie and DID trunk Disallowed Lists assignment	
* BarrierCode	Barrier code options	4-311
- SProg/Maint	Not currently available	
- Code Info	Barrier code information	
- Code Length	Barrier code length	
- Code Entry	Barrier code assignment	
- Restriction	Remote Access with barrier code: restrictions	
- Unrestricted		
- Outward Restrict		
- Toll Restrict - ARS Restrict	Remote Access with barrier code: ARS Restriction	
- ARS Restrict	Remote Access with barrier code: ARS Restriction Remote Access with barrier code: Allowed Lists	
- Allow List	Remote Access with barrier code: Allowed Lists Remote Access with barrier code: Disallowed Lists	
* AutoQueuing	Automatic Callback on busy pools or extensions	4-298
- Enable	Automatic Caliback on busy pools of extensions	4-230
- Disable		
Pools	Trunk to Pools assignment	4-65
Toll Type	Toll prefix (1 or 0) requirement	4-40
HoldDiscnct	Hold disconnect interval	4-43
PrncipalUsr	Principal user for personal line	4-46
QCC Prior	QCC queue priority level	4-49
QCC Oper	QCC operator to receive calls	4-52
LS-ID Delay	LS-ID delay for 800 LS-ID module	4-56

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Clock Sync	Clock Synchronization (100D or 800 CO-BRI modules)	4-59
* Primary	Primary Clock	
- Loop		
- Local		
* Secondary	Secondary Clock	
- Loop		
- Local		
* Tertiary	Tertiary Clock	
- Loop		
- Local	Dania Data Interfero	
BRI * SPID/DN	Basic Rate Interface	4-210
* Timers	Service Profile Identifier (SPID) and Directory Number (DN) BRI Timers	
- T200 Timer	DRITIMEIS	4-213
- T200 Timer		
- T203 Timer		
- T305 Timer		
- T308 Timer		
T1 Data NW	Switched 56 Dial Plan Routing	4-90

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Line Copy	Copy outside line/trunk options	3-59
* Single * Block		
Dial OutCd	Pool dial-out code restrictions	3-84
Restriction	Outward/toll restrictions	3-86
* Unrestricted		
* Outward Restrict		
* Toll Restrict		
RestrctCopy	Copy calling restrictions, Allowed Lists, and Disallowed	3-89
* Single	Lists	
* Block		
Account	Account code entry	3-95
BIS/HFAI	Built in Speakerphone/Hands Free Answer on Intercom	3-71
Call PickUp	Call pickup group	3-113
VoiceSign1	Assign voice pair to provide Voice Announce to Busy	3-73
Ext Status	Extension status: hotel or Group Calling/CMS	3-173
Group Page	Paging group members	3-115
Group Cover	Coverage group members	3-118

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Extensions		
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Grp Calling	Calling group members and options	3-123
* Hunt Type	Hunt Type	3-129
- Circular		
- Linear		
- Most Idle		
* Delay Announce	Group Calling delay announcement	3-131
- Primary Announcement		
- Secondary		
Announcement		
- Announcement		
Interval		
- Repeat		
Announcement		
* GrpCoverage	Group Coverage receiver	3-139
* Message	Group Calling message waiting indicator	3-147
* Queue Alarm	Group Calling Calls-In-Queue Alarm threshold	3-149
- Alarm Threshold 1		
- Alarm Threshold 2		
- Alarm Threshold 3		0.440
* Xtnl Alert	Group Calling external alert for Calls-In-Queue Alarms	3-149
* Overflow	Group Calling overflow and thresholds	3-142
- Number Based		
- Time Based	Calling average are and	0.400
* Members * Line/Pool	Calling group members	3-123
* Group Type	Group Calling line/trunk or pool assignment Group type	3-126 3-155
	Group type	3-155
- Auto Login - Auto Logout		
- Integ VMI		
- Generic VMI		
ARS Restrict		3-93
Mic Disable	Limit the use of speakerphone on an MLX telephone	3-97
Remote Frwd	Allow or disallow call forwarding to outside number	3-101
Auth Code	Authorization codes	3-99
Delay Frwd	Delayed Call Forwarding	3-104
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Transfer	Transfer options	
* Return Time	Transfer return time (number of rings)	3-159
* One Touch	One Touch Transfer/One Touch Hold	3-161
- Transfer	One rough transfer/one rought floid	3-101
- Manual		
- Automatic		
- Hold		
*Audible	Transfer audible	
- Music On Hold	Transfer addible	3-164
- Ringback		5 10 1
* Type	Type of transfer	3-166
- Voice Announce	Type of transfer	3-100
- Ring		
CampOn	Camp-On return time	3-167
CallParkTrn	Call Park return time	3-169
Delay Ring	Number of rings for the Delay Ring interval	3-170
Callback	Callback request number of rings	3-172
Ext Status	Extension status mode	3-173
* Hotel	Extension states mode	0 170
* GrpCall/CMS		
SMDR	SMDR options	
* Format	SMDR format	3-176
- Basic SMDR		
- ISDN SMDR		
* Call Length	Minimum length of time before a call is recorded	3-178
* Call Report	SMDR call report type	3-180
- In/Out	Incoming and outgoing calls	
- Out Only	Outgoing calls only	
* New Page		
* Auth Code		
Inside Dial	System dial tone	3-184
* Inside		
* Outside		
Reminder Srv	Time of day reminder service calls are canceled	3-186
Unassigned	Extension number to receive redirected calls made	3-188
* QCC Queue	to an unassigned extension	
* Extension		
* Grp Calling		
BehndSwitch	Host system (Behind Switch mode) dial codes	3-192
* Transfer	for Transfer, Conference, or Drop	
* Conference		
* Drop		

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Options	Continued	
Recall Timer	Length of timed flash sent when Recall is used	3-194
* 350 ms		
* 450 ms		
* 650 ms		
* 1 sec		
Rotary	Dialed digits on rotary dial trunks	4-32
* Delay		
* No Delay		
Cover Delay	Number of rings before a call is sent to group coverage	3-121
Inter-Digit	This option is not yet implemented. See "Interdigit Timers."	3-196
Ringing Freq	Ringing Frequency for 016 Module	4-34
SecDT Timer	Second Dial Tone Timer	4-36
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Disallow	Establish a Disallowed List	3-200
Disallow To	Assign a Disallowed List to a given extension	3-202
ARS	Program Features for Automatic Route Selection (ARS)	
* ARS1+7Dial	1 + 7-Digit Dialing Requirements	4-317
- Within Area Code		
- Not Within		
Area Code * ARS Input	Create/Change ARS Tables	4-319
- 6-Digit	Create/Criange ANS Tables	4-319
- 6-Digit - Area Code		
- Exchange		
- 1+7		
* Sub A Pools	Subpattern A pool routing	4-326
* Sub A FRL	Subpattern A Facility Restriction Level (FRL)	4-330
* SubA Absorb	Subpattern A digit absorption	4-333
* Sub A Digit	Subpattern A other digits	4-337
* Sub B Start	Subpattern B start time	
* Sub B Stop	Subpattern B stop time	
* Sub B Pool	Subpattern B pool routing	4-326
* Sub B FRL	Subpattern B Facility Restriction Level (FRL)	4-330
* SubB Absorb	Subpattern B digit absorption	4-333
* Sub B Digit	Subpattern B other digits	4-337
* SpeclNumber	N11 Special Numbers Table	4-340
- ARS FRL		
- ARS Digit		

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* Dial 0	Dial O Table	4 2 4 2
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- ARS Pool		
- ARS FRL		
- ARS Digits		
* Sub A Data	Voice and/or data routing for Subpattern A	4-347
- Voice Only		
- Data Only		
- Voice/Data		
* Sub B Data	Voice and/or data routing for Subpattern B	4-347
- Voice Only		
- Data Only		
- Voice/Data		
	_	
	Description	Page
AuxEquip]	
	_	
MusicOnHold	Line/trunk jack for a music source	4-227
Ldspkr Pg	Loudspeaker Paging equipment	4-229
Fax	Loudspeaker raging equipment	3-75
* Extensions	Extension jack to be used for a fax machine	J-73
* Msg Waiting	Message waiting indication	
* Threshold	Fax threshold duration	
MaintAlarms	Maintenance alarms	4-232
VMS/AA	Voice Messaging System and Automated Attendant	4-233
* TransferRtn	Tranfer Return (number of rings)	
* TT Duration	Touch-tone duration	
* TT Interval	Touch-tone interval	
CTI Link	Computer Telephony Integration Link port	4-238
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NightSrvce]	
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GroupAssign	Night Service group assignment	3-205
* Extensions	Thigh Solvido group addignitions	3 200
* Calling Grp		
OutRestrict	Password for use with out of hours calls	3-209
Emergency	Emergency numbers free from password requirement	
ExcludeList	Extensions exempt from Night Service restrictions	
Start	Time of day Night Service is activated	3-213
Stop	Time of day Night Service is de-activated	3-213
Time Control	Turn Night Service Time Control on or off	3-213
* On		
* Off		
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Labeling	Labeling Options	
Directory		3-218
* System	System directory and internal speed dial numbers	3-228
* Extension	Extensions to identify internal callers	3-218
* Personal	Personal Directory listings	
LinesTrunks	Label used to identify line or trunk	3-221
PostMessage	Change posted messages	3-224
Grp Calling	Calling groups	3-226
	Description	Page
Data	Data Options	
		
Voice/Data	Analog Multiline Telephones with voice and data	4-362
2B Data	Enable 2B Data at MLX port	4-365

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Print	Print system reports	3-232
	1 , ,	
All	Print all reports	
SysSet-up	System Information report	
Dial Plan	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 AllowList	Operator Information report 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 BRI	Authorization report BRI Information report	
DIXI	Dia miorination report	
	Description	Page
Cntr-Prg	Centralized telephone programming	
Program Ext	Extension programming	5-3
Copy Ext	Copy extension programming	5-9

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	Description	Page
Language	Language options	
	•	
SystemLang	System language	3-5
* English		
* French		
* Spanish		
Extensions	Language for a single extension or block of	3-80
* Single	extensions	
- English		
- French		
- Spanish		
* Block		
- English		
- French		
- Spanish		
SMDR	SMDR language	3-175
* English		
* French		
* Spanish		
Printer	Language for printed reports	3-232
* English		
* French		
* Spanish		

Access to System Programming from the MLX-20 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".

Programming Basics

Access to System Programming from the MLX-20 Console

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Console Display/Instructions Additional Information

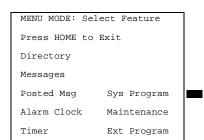
PC

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.

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

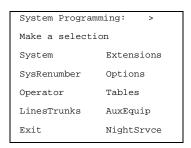
On the System Set-up screen, system information appears in place of the xs.

Type = Voice/Data

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

Select Exit.

▶ 4. Make a selection.



Press the button next to vour selection.

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Programming Basics

Access to System Programming from the MLX-20 Console

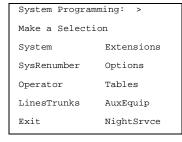
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System Programming Menu

M Sy

Option

Figure 1-11 shows the two screens that make up the System Programming menu.



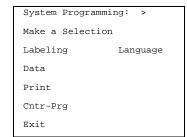


Figure 1-11. System Programming Menu Screens

Description

<u>Table 1-3</u> lists the System Programming menu options and provides a description of each.

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

Programming Basics Idle States

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Exiting System Programming

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

Table 1-3. 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

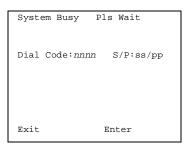
Idle States

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*.



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

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.



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

Figure 1-12. System Busy Screen

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Programming Basics Idle States

no longer busy.

The screen changes to the appropriate programming screen when the system is

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 telephones with voice signal pairs for the Voice Announce to Busy feature
- Identify telephones 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.

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

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Extension Forced Idle

Programming Basics

Idle States

When a telephone or data terminal is forced idle, no calls can be made or received on that telephone or data terminal. The following procedures can be performed only when the telephone or data terminal 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 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

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. 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.

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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

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

Programming Basics
Product Enhancements

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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.

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 AUDIXTM Voice Power.

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- 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.
- 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.

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Fax Attendant System™

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.

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

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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.
- 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 a telephone 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.

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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 camped-on, 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.

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)

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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.

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 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

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

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- 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
- Stations 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.

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.

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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.

Additional Application Packages, Adjuncts, and Adapter Enhancements

PassageWay Direct Connection Solution

PassageWay Direct Connection Solution (Release 2.0) is a computer telephone integrated product that links a desktop Windows PC to the MERLIN LEGEND'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 (station programming interface), and Log Viewer (call log application). PassageWay Direct Connection Solution (Release 2.0) is the version supported on MERLIN LEGEND 3.0.

PagePal™

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

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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 Video Conferencing

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

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

Beginning with Release 3.1, 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 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.

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Trunk-to-Trunk Transfer on a per-station basis

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

Programmable Second Dial Tone Timer

Beginning with Release 3.1, 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.

A Disallowed List containing numbers frequently associated with toll fraud

Beginning with Release 3.1, Disallowed List #7 now 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.

Pool Dial-Out Code restriction for all extensions by default

Beginning with Release 3.1, 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

Beginning with Release 3.1, 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.



SecurityAlert:

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

New default Facility Restriction Level (FRL) for VMI ports

Beginning with Release 3.1, the default FRL for VMI ports has changed to 0, restricting all outcalling.

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New default FRL for the Default Local Route Table

Beginning with Release 3.1, 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.

New maintenance procedure for testing outgoing trunk problems

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



A SecurityAlert:

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

Release 4.0 Enhancements

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

Equipment

New 016 tip/ring module

This new module supports the 200-station 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.

New 800 NI-BRI module

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

System Features

Support for up to 200 stations

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 video conferencing and other

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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 (stations) that are enabled to use 2B Data. The endpoints that support these applications connect to an MLX-port on the MERLIN LEGEND 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.

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.

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Time-based option for overflow on Calling Group

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).

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 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.

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■ 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.

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

Beginning with Release 4.2, 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. A call is not answered by an Auto Login or Auto Logout calling group agent and is abandoned while waiting for an agent.
 - b. 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.

Release 5.0 Enhancements

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

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Computer Telephony Integration (CTI)

Beginning with Release 5.0, 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.

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.

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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



NOTE:

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:

- 1. 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 non-monitored.
- 2. 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.

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

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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.



A SecurityAlert:

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.

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 Group Calling Options in Chapter 4 for guidelines on setting the delay.)

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



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.

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Issue 1

MLX-5 and MLX-5D Telephones

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> 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.

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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). It is available on a 3.5-inch diskette for DOS or UNIX, or on a 5.25 inch diskette for DOS.



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.

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

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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)
- 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

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- 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.



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

DOS Installation

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

NOTE:

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.

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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)
- 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.

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

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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."

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:

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- If you typed install (the command for DOS installation) instead of instal95, 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.

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 the 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

NOTE:

Because English is the factory-set language, <code>instal95</code> and <code>instal95 english</code> 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 <code>instal95</code> may be in uppercase or lowercase letters.

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

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- 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.
- 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 . . .

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- 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.
- 8. If the print.exe file was copied to your PC in Step 5, you must reboot your PC.
- You should now configure a PIF file for SPM. Use the instructions that follow

Configuring a PIF file for DOS SPM

Refer to the Windows 95 help topic on "PIF" for details on 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:

- 1. 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.

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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 <u>Table 2-1</u> 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.)

NOTE:

The DEBUG attribute is also specified in ams.cfg as DEBUG=O (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 -com1	Specifies COM1 as the serial communications port used by SPM
spm -com2	Specifies COM2 as the serial communications port used by SPM
spm -s1200	Specifies modem speed of 1200 bps
spm -s2400	Specifies modem speed of 2400 bps
spm -color	Specifies color monitor
spm -mono	Specifies monochrome monitor
spm -1 english	Specifies English as the PC language
spm -1 french	Specifies French as the PC language
spm -1 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.

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■ Make your entry at the A:> prompt if you are using the floppy drive.

2. Press any key.



X.XX = current version of SPM

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 - .

COMM PORT:

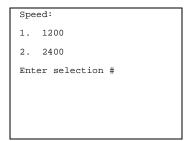
1. Comm 1

2. Comm 2

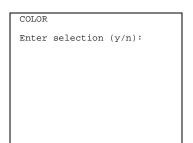
Enter selection #

Type 1 for serial port 1 (COM1). Type 2 for serial port 2 (COM2).

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



Type 1 for 1200 bps. Type 2 for 2400 bps.



Type y if you have a color monitor.

Type n if you do not have a color monitor.

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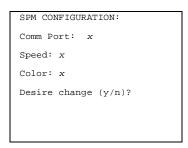
▶ 6. Select a language and press Enter - .

```
Language:
1. English
2. French
3. Spanish
Enter selection #:
```

Type 1 for English.
Type 2 for French.
Type 3 for Spanish.

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

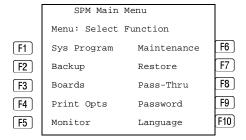
7. Review your selections.



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.
- \blacksquare To save the information shown, type $\[\mathbb{N} \]$ and press $\[\mathbb{E} \]$.
 - 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."

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



NOTE:

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

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 1200 and 2400 bps.

NOTE:

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

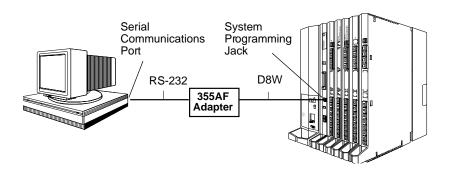


Figure 2-1. Direct Local Connection

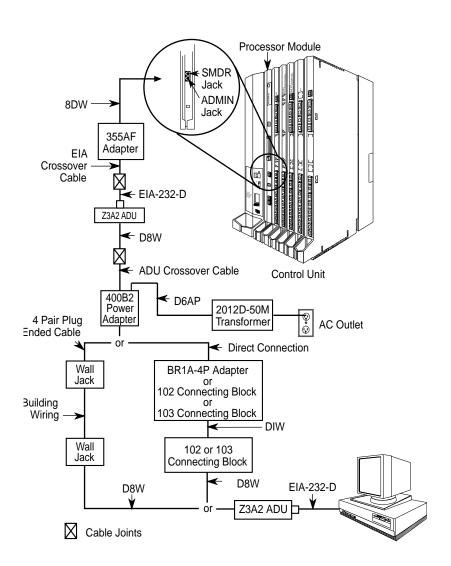


Figure 2-2. Direct Local Connection, PC More Than 50 ft. Away

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 1200 and 2400 bps.

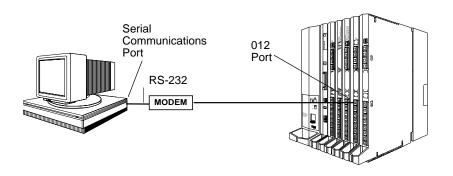


Figure 2-3. Local Modem Connection

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" for details on accessing SPM with a remote modem connection.

The internal modem operates at speeds of 1200 and 2400 bps.

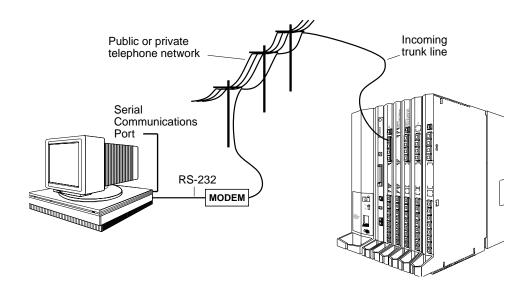


Figure 2-4. Remote Modem Connection

2 Programming with SPM Accessing SPM

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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.

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

See "Connecting the PC".

- 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.

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

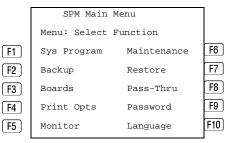
X.XX current version of SPM

Programming with SPM

Accessing SPM

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▶ 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"</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".
- 7. To select an option, press the function key that corresponds to the option you want. For example, to select Language press [F10].

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 (*10).
 - 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.

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Set the Programming Language

If you prefer to program in a language other than the current SPM language setting, see "Language".

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 w*10. For example: $ATDT12015551234 \ w*10$ [Enter \leftarrow].

With barrier codes type:

ATDT; the remote access telephone number; the barrier code preceded by a "W" and W*10. The barrier code in the example below is 555555.

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

- 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".

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▶ 2. Type spm and press Enter \leftarrow to display the SPM Welcome screen shown below.



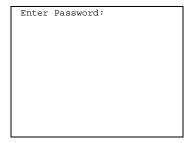
X.XX = current version of SPM

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

- ▶ 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 "Modem Connections". When the connection is made, the password prompt appears as shown in Step 4.

▶ 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				
	Menu: Select Function				
F1	Sys Program	Maintenance	F6		
F2	Backup	Restore	F7		
F3	Boards	Pass-Thru	F8		
F4	Print Opts	Password	F9		
F5	Monitor	Language	F10		

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

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

NOTE:

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, v4). Figure 2-5 illustrates the SPM display screen.

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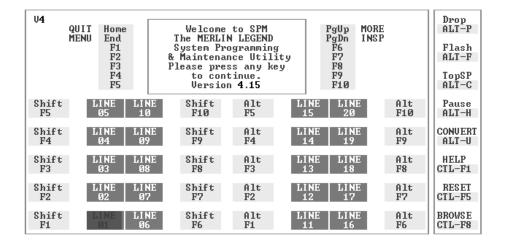


Figure 2-5. SPM Display

[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 $\mathbb R$ and $\mathbb G$ 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 $\mathbb G$ (for green) displays next to the button. Similarly, if a line, trunk, or pool is not assigned to a line button, neither $\mathbb G$ nor $\mathbb R$ display next to the button on the PC screen. If a trunk is assigned to a pool, an $\mathbb R$ (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.

Table 2-2. Function of PC Keys in SPM

DG W	G 1	CDA F
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 1200 and 2400 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.

Continued on Next Page

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— Continued

Table 2-2. Function of PC Keys in SPM

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 <code>exit</code> .
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 ksp 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.
↑ ↓ →	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.

SPM Main Menu Options

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

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Table 2-3. SPM Main Menu Options

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 ¹	(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.)

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

SPM Help

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

To review the help screens press, $\boxed{\text{PgUp}}$ and $\boxed{\text{PgDn}}$.

To return to the first help screen, press $\boxed{\mbox{\tt Home}}.$

To exit from SPM help, press $\[\mathbb{E} \mathsf{nd} \]$.

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

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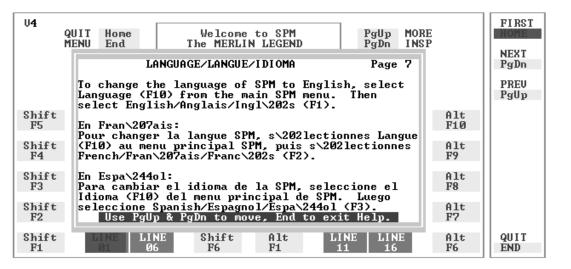


Figure 2-6. SPM Help

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

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header contain the MERLIN Legend Communication System Release number, as shown in <u>Table 2-4</u>. (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.

Considerations

Review the following items before you begin the backup procedure:

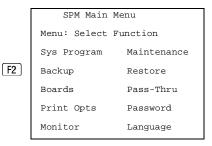
- The communications system does not have to be idle during backup; however, extension programming is blocked.
- Any objects that are in a maintenance-busy state are stored in that state. When you restore system programming, these objects are busied out, even if they have since been released from the 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.

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▶ 1. At the SPM Main Menu, press [7] to select Backup.



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

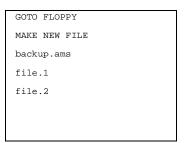
A second window appears which displays the GOTO FLOPPY and MAKE NEW FILE options and a directory listing for the C:\spm\backup directory.

- 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.
- 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).

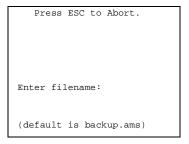
▶ 4. Specify a backup filename.

- 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.

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► 5. Type the new filename and press Enter ...



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

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

▶ 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.

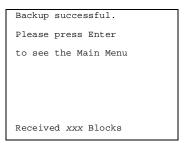
Est. Blocks: xxx - xxxx

filename

BACKUP IN PROGRESS

XMODEM ABORT - User
```

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



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.

NOTE:

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

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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. To see only real board assignments, you must print the System Information report:

System→More→Print→SysSet-up.

Table 2-5 shows the type of boards that you can select.

Table 2-5. Board Types

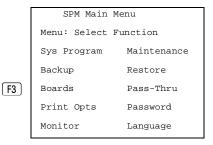
Board Type	Description
400LSR	4 loop-start line jacks with 4 touch-tone receivers
400GLR	4 ground-start/loop-start line jacks with 4 touch-tone receivers
800LS	8 loop-start line jacks
800GLID	8 ground-start/loop-start line jacks with Caller ID capability available on the loop-start lines and 2 touch-tone 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)
008ATL	8 analog extension jacks
008MLX	8 MLX-20L extension jacks (16 endpoints)
012TR/OPT	12 tip/ring extension jacks with 2 touch-tone receivers or 008 OPT jacks
016TR	16 tip/ring extension jacks with 4 touch-tone receivers
800DID	8 DID trunk jacks with 2 touch-tone receivers
400E&M	4 E&M tie trunk jacks
100D	1 DS1 jack (24 channels)
800BRI	8 BRI trunk jacks (16 channels)

Follow the steps below to assign modules.

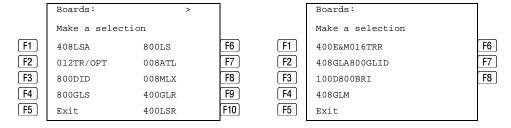
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▶ 1. At the SPM Main Menu, press [3] to select Boards.

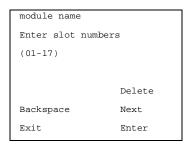


2. Press the function key that corresponds to the module you want to select.



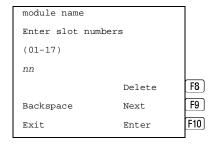
If the module you want to assign is not shown on the first screen of the Boards menu, press PgUp to display the next menu screen.

■ 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

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



module name = option selected in Step 2 nn = slot entered in Step 3

To remove the module type from the specified slot number, press $\boxed{\tt F8}$ (Delete). The Boards menu reappears.

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To assign the module type to the specified slot number and assign that same module type to another slot, press $\boxed{\texttt{F9}}$ (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.

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.

Please enter file name

Press ESC to Abort.

GOTO FLOPPY

FILENAME.XXX

FILENAME.YYY

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.

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Programming with SPM Using SPM

▶ 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.

Convert

The Convert option (which can be used remotely) simplifies upgrading from an earlier release to a later release of the communications system. (See "Upgrading the System".) 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".

To convert system programming to Release 4.0 format, Version 4.15 of SPM is required. This version can be easily identified by the version number, v4, in the upper left corner of the screen.

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

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".
- Back up system programming. See <u>"Backup"</u>.
- Make sure you know the name of the backup file that you have created.

NOTE:

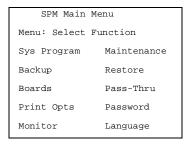
Once the actual file conversion begins, you cannot stop the process; pressing Esc has no effect.

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.



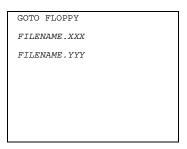
➤ 2. Follow the instructions for a floppy or a hard disk.

A second window appears which displays the GOTO FLOPPY option and a directory listing for 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.

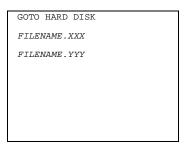


FILENAME.XXX and FILENAME.YYY are from the \spm\backup directory.

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.

▶ 4. Use the arrow keys to highlight the name of the backup file to be converted and press Enter → 1.

Programming with SPM Using SPM

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If the backup file you select is a 4.0 backup, it can not be converted and the following message appears:

```
File has already been converted. Press Enter to continue.
```

Press Enter— to select another filename, or press 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. To convert from Release 1.2, 2.0, or 2.1 go to Step 7.

Please enter your

CONVERT TO release

and press ENTER.

1.2i 1.4i

2.0 2.1

3.0 4.0/5.0

Enter number:x.x

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

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

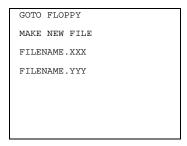
- 7. Follow the instructions for a floppy or a hard disk.
 - If the CONVERT TO file will be saved to a floppy disk, go to Step 8.
 - If the CONVERT TO file will be saved to the hard disk, go to Step 9.

Programming with SPM Using SPM

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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:



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:

Press ESC to abort.



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:

```
The file selected to convert to is the same as the file selected to convert from. Please choose a different file.

Press Enter 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 13 appears.

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

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.

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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 -l english
- spm -1 french
- spm -l spanish

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

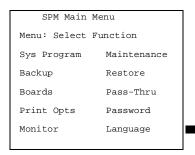
Use of the -1 option changes the language attribute in the ams.cfg file. The language specified becomes the new PC language, used whenever SPM is started without the -1 option.

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.

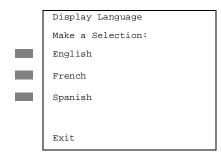


F10

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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 [F5] 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."

Monitor



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.

Programming with SPM Using SPM

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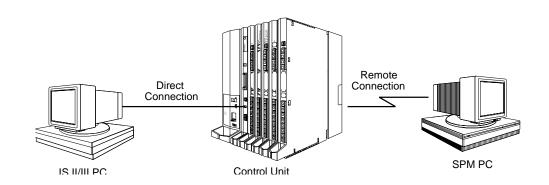


Figure 2-7. Pass-Thru

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 Power[™]
- 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.

2 Programming with SPM Using SPM

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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.
```

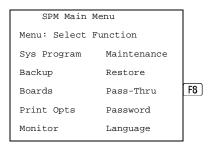
If the connection between the control unit and the IS II/III PC fails, the connection between the control unit and the SPM PC is dropped. You see the following message:

```
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 IS-II/III login:
```

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■ 3. Type the IS II/III password and press Enter Inter Int

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 [5] (Exit).

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

Returning to SPM

Password

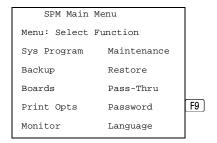
The Password option is used by qualified service personnel to change the modem connection password. A password is always required to establish a connection with the built-in modem. The password always consists of seven characters. You can perform remote system programming only if you enter the password 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.

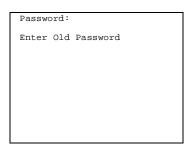
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▶ 1. At the SPM Main Menu, press [9] to select Password.

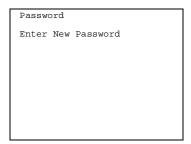


➤ 2. Type the old (current) password. Do not press Enter—.



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— 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.



SecurityAlert:

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 - .



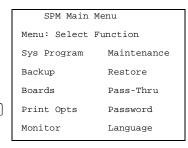
▶ 5. Press [F5] to return to the SPM Main Menu.

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

MERLIN LEGEND Communications System Release 5.0

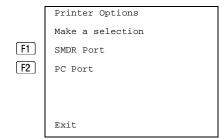
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Issue 1

Select the target device for the reports.



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

SMDR Port Output

Using SPM

See "Printing System Reports" in Chapter 3 for more information about the print procedure using the system console and the SMDR port.

PC Port Output

See "Printing Reports" 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".
- 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).

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Restore is terminated under the following conditions:

If phantom boards are not listed last

- 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 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)

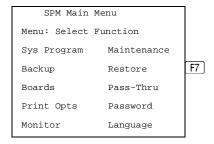


WARNING:

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.

▶ 1. At the SPM Main Menu, press [F7] to select Restore.



2. 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.

Programming with SPM Using SPM

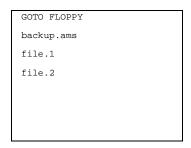
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■ 3. Use the arrow keys to highlight GOTO FLOPPY and press Enter - .

Make a selection for the RESTORE file.

If upgrading, convert files before restoring.

Press ESC to Abort.



After you press $\boxed{\texttt{Enter} \leftarrow \texttt{J}}$, the GOTO FLOPPY statement shown above changes to GOTO 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" 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

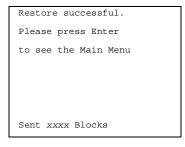
xx = approximate number of minutesfilename = name entered in Step 5xxxx = number of blocks

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

2 Programming with SPM System Programming

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



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→Sys Program →Exit

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

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.

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 $\text{Exit}(\boxed{\text{F5}})$ again. This usually takes you back to the System Programming menu. If not, you again can continue programming on the current screen or press $\text{Exit}(\boxed{\text{F5}})$ again.

Programming with SPM System Programming

System Programming Page 2-48

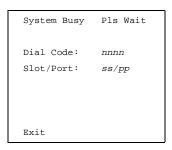
Idle States

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.



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
- 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

Programming with SPM System Programming

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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 or data terminal is forced idle, no calls can be made or received on that extension or data terminal. The following procedures can be performed only when the extension or data terminal 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.

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

2 Programming with SPM System Programming

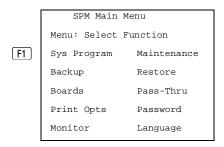
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In Release 1.1 and higher of the communications system, forced idle reminder tones occur every 20 seconds. You can adjust the volume of these tones with the volume control on the system console.

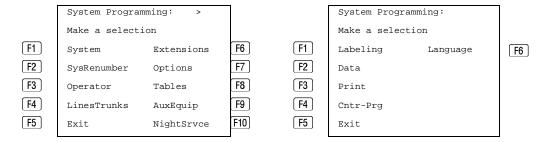
Accessing System Programming

Follow the steps below to access system programming.

1. At the SPM Main Menu press [F1] 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 PgUp to display the second screen of the menu.

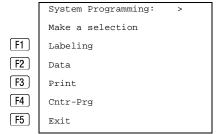
2 Programming with SPM System Programming

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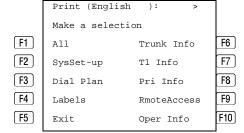
Printing Reports

Use the following procedure to print system reports using SPM at the PC. The SPM Print Opts must be set to PC Port. See "Print Options" for details about setting the printer output port.

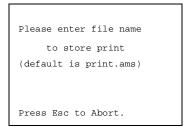
▶ 1. At the second page of the System Programming menu, press [3] to select Print.

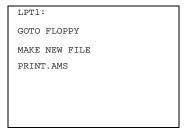


▶ 2. Press the function key that corresponds to the report to be printed.



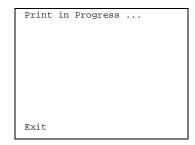
▶ 3. Use one of the methods shown after this procedure to print the report(s).





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System Programming
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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

5

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 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 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 GOTO FLOPPY: 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 5.0. You can use this procedure to perform the following upgrades:

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

≡> NOTE:

You must have a version later than SPM 4.15 to upgrade from Release 3.1 to Release 4.0.

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 5.0, you will need the items listed below.

- SPM Version 5.15 or later to back up and convert system programming information and to restore system programming information after the processor module with PCMCIA memory card slot has been installed.
- One or both of the following:
 - Processor module with PCMCIA memory card slot (when converting from Release 2.1 or earlier).
 - A forced installation PCMCIA memory card with Release 5.0 system software (when converting from any release).
- DOS-formatted diskette



If SPM is already installed, the <code>Welcome to SPM</code> 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 5.15, <code>v5</code> appears in the upper left-hand corner of the screen and <code>Version 5.15</code> 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	Restore on							
Version	Backup on	1.0	1.1	2.0/2.1	3.0	3.1	4.0	4.1/4.2	5.0
1.13	1.0	yes	no	no	no	no	no	no	no
1.16	1.0	yes	yes	no	no	no	no	no	no
2.09	1.0	yes	yes	yes ¹	no	no	no	no	no
2.16	1.0	yes	yes	yes*	no	no	no	no	no
3.18	1.0	yes	yes	yes*	yes*	yes*	no	no	no
4.15	1.0	yes	yes	yes*	yes*	yes*	yes*	no	no
4.25	1.0	yes	yes	yes*	yes*	yes*	yes*	yes*	no
5.15	1.0	yes	yes	yes*	yes*	yes*	yes*	yes*	yes*
1.16	1.1	no	yes	no	no	no	no	no	no
2.09	1.1	no	yes	yes*	no	no	no	no	no
2.16	1.1	no	yes	yes*	no	no	no	no	no
3.18	1.1	no	yes	yes*	yes*	yes*	no	no	no
4.15	1.1	no	yes	yes*	yes*	yes*	yes*	no	no
4.25	1.1	no	yes	yes*	yes*	yes*	yes*	yes*	no
5.15	1.1	no	yes	yes*	yes*	yes*	yes*	yes*	yes*
2.09	2.0	no	no	yes	no	no	no	no	no
2.16	2.0	no	no	yes	no	no	no	no	no
3.18	2.0	no	no	yes	yes*	yes*	no	no	no
4.15	2.0	no	no	yes	yes*	yes*	yes*	no	no
4.25	2.0	no	no	yes*	yes*	yes*	yes*	yes*	no
5.15	2.0	no	no	yes*	yes*	yes*	yes*	yes*	yes*
2.16	2.1	no	no	no	no	no	no	no	no
3.18	2.1	no	no	no	yes*	yes*	no	no	no
4.15	2.1	no	no	no	yes*	yes*	yes*	no	no
4.25	2.1	no	no	no	yes*	yes*	yes*	yes*	no
5.15	2.1	no	no	no	yes*	yes*	yes*	yes*	yes*

^{1.} The backup file must be converted before it is restored.

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 Table 2-6.
 Programming Compatibility – Continued

SPM	Program	Restore on							
Version	Backup on	1.0	1.1	2.0/2.1	3.0	3.1	4.0	4.1/4.2	5.0
3.18	3.0	no	no	no	no	no	no	no	no
4.15	3.0	no	no	no	no	no	yes*	no	no
4.25	3.0	no	no	no	no	no	yes*	yes*	no
5.15	3.0	no	no	no	no	no	yes*	yes*	yes*
3.18	3.1	no	no	no	no	no	no	no	no
4.15	3.1	no	no	no	no	no	yes ¹	no	no
4.25	3.1	no	no	no	no	yes*	yes*	yes*	no
5.15	3.1	no	no	no	no	yes*	yes*	yes*	yes*
4.15	4.0	no	no	no	no	no	yes	no	no
4.25	4.0	no	no	no	no	no	yes*	yes*	no
5.15	4.0	no	no	no	no	no	yes*	yes*	yes*
4.25	4.1/4.2	no	no	no	no	no	no	yes*	no
5.15	4.1/4.2	no	no	no	no	no	no	yes*	yes*
5.15	5.0	no	no	no	no	no	no	no	yes*

^{1.} The backup file must be converted before it is restored.



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 below.

1 Install SPM.

To upgrade the system to Release 5.0, you need to install (or upgrade to) Version 5.15 of SPM. See "Initializing the SPM Software".

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▶ 2. Back up your system programming.

This step creates a file containing system programming information. See "Backup".

- ▶ 3. 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
- 4. Replace the processor module (when upgrading from Release 2.1 and earlier).
 - a. Unplug the interface cords from the SPM and SMDR printer ports on the processor module.
 - b. Remove the processor module from Slot 0.
 - c. Install the Release 4.0 processor module in Slot 0.
 - d. Plug the interface cords into the SPM and SMDR printer ports on the processor module.
- ▶ 5. Insert the forced installation memory card into the PCMCIA interface slot on the processor module.
- ▶ 6. 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
- ▶ 7. Convert your backup file to Release 4.0 format.

This procedure converts the backup file created in Step 2. See "Convert".

8. Restore your system programming.

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

9. Program new features.

If you wish to use the factory defaults for the new features available with Release 4.0, skip this step.



After upgrading to Release 3.0 or 4.0 from Release 1.0, 1.1, 2.0, or 2.1 some programming will be lost. You must reprogram the following:

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- Authorization Codes
 Extensions→More→AuthCode
- SMDR Account Code Format Options→SMDR→AuthCode
- Inter-digit Timers
 Options→More→Interdigit

See Tables 2-7 through 2-14 which follow this procedure.

- <u>Table 2-7</u>. Lists the features added with Release 1.1 of the communications system.
- Table 2-8. 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>.
- <u>Table 2-11</u>. 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.

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- 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 2-10</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>.
- <u>Table 2-12</u>. 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 Table 2-12.
 - 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 2-10</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 1.1 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 2-11</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 <u>Table 2-13</u>.

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- 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 2-11</u>, then the features listed in <u>Table 2-11</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 2-12</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>.
- <u>Table 2-14</u>. 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 <u>Table 2-14</u>.
 - 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>.

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- 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 2-12</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 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 2-11</u>, then the features listed in <u>Table 2-14</u>.

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

Feature	Sequence
System language	SysProgram →More→ Language→SystemLang
Extension language	SysProgram \rightarrow More \rightarrow Language \rightarrow Extensions
SMDR language	SysProgram →More→ Language→SMDR
Printer language	SysProgram \rightarrow More \rightarrow Language \rightarrow Printer

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

Feature	Sequence
Primary Rate	${\tt SysProgram} {\rightarrow} {\tt LinesTrunks} {\rightarrow} {\tt LS/GS/DS1} {\rightarrow} {\tt Type} {\rightarrow} {\tt PRI}$
Interface (PRI)	SysProgram→LinesTrunks→LS /GS/DS1→FrameFormat
	$ \begin{array}{l} {\tt SysProgram} {\longrightarrow} {\tt LinesTrunks} {\longrightarrow} {\tt LS/GS/DS1} {\longrightarrow} {\tt Suppression} \\ {\tt n} \end{array} $
	${\tt SysProgram} {\rightarrow} {\tt LinesTrunks} {\rightarrow} {\tt PRI} {\rightarrow} {\tt PhoneNumber}$
	${\tt SysProgram} {\longrightarrow} {\tt LinesTrunks} {\longrightarrow} {\tt PRI} {\longrightarrow} {\tt B-ChannlGrp}$
	${\tt SysProgram} {\rightarrow} {\tt LinesTrunks} {\rightarrow} {\tt PRI} {\rightarrow} {\tt NumbrToSend}$
	${\tt SysProgram} {\rightarrow} {\tt LinesTrunks} {\rightarrow} {\tt PRI} {\rightarrow} {\tt Test TelNum}$
	${\tt SysProgram} {\rightarrow} {\tt LinesTrunks} {\rightarrow} {\tt PRI} {\rightarrow} {\tt Protocol}$
	${\tt SysProgram} {\color{red} \rightarrow} {\tt LinesTrunks} {\color{red} \rightarrow} {\tt PRI} {\color{red} \rightarrow} {\tt DialPlanRtg}$
	${\tt SysProgram} {\rightarrow} {\tt LinesTrunks} {\rightarrow} {\tt PRI} {\rightarrow} {\tt OutgoingTbl}$
	SysProgram-Tables-ARS
DID Emulation on T1	SysProgram→LinesTrunks→LS/GS/DS1→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 analog multiline and MLX-10 non-display 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
	LinesTrunks \rightarrow RemoteAccss \rightarrow BarrierCode \rightarrow Code Info \rightarrow Code Entry
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 \rightarrow More \rightarrow Grp Calling \rightarrow Overflow \rightarrow Dial calling group ext. no. \rightarrow Enter \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Number Based Overflow \rightarrow Drop \rightarrow Dial no. of calls \rightarrow Enter \rightarrow Time Based Overflow \rightarrow Drop \rightarrow Dial no. of seconds \rightarrow 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

Table 2-11. Programming Needed after Upgrade to Release 4.0 - Continued

Basic Rate Interface (BRI)	LinesTrunks→More→BRI→SPID/DN.→Dial line/trunk no.→Enter→Drop→Dial SPID→Enter→Drop→Dial DN→Enter
	LinesTrunks→More→BRI→Timers→Select timer→Drop→Dial no. of seconds or ms→Enter
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 source of synchronization→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

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

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

Feature	Sequence
Board Renumber	System→Board Renum→Yes
(When an 012 module is replaced by an 016 module)	
Switched 56 Data	To select T1- All Tie: Switched 56 Data: LinesTrunks→LS/GS/DS1→Dial slot no.→Enter→Type→T1→Enter→All TIE→Enter→S56→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→S56→ Enter→Dial channel no.→Enter→Exit→Exit→Exit
	To select T1-All:Switched 56 Data: LinesTrunks→LS/GS/DS1→Dial slot no.→Enter→Type→T1→Enter→More→ALL S56 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→S56 Data→Enter→Dial channel no.→Enter→Select Direction, Intype, Outtype, AnsSupv, Disconnect, Inmode, Or Outmode→Program options→Enter→Exit→Exit→Exit→Exit

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Table 2-12. Programming Needed after Upgrade to Release 4.1 - Continued

Switched 56 Data Network Dial Plan Routing	To specify Expected Digits: LinesTrunks→MORE→T1 Data NW→S56 Dial Plan Routing→Expected Digits→Drop→Dial expected digits→Enter→Exit→Exit→Exit
	To specify Delete Digits: LinesTrunks→MORE→T1 Data NW→S56 Dial Plan Routing→Delete Digits→Drop→Dial delete digits→Enter→Exit→Exit→Exit
	To specify Add Digits: LinesTrunks → MORE → T1 Data NW → S56 Dial Plan Routing → Add Digits → Drop → Dial add digits → Enter → Exit → Exit

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

Feature	Sequence
SMDR Talk Time	Options→SMDR→Talk Time→Enable Of Disable →Enter→Exit→Exit
PRI Switch Types	To select the Nortel DMS-250 for MCI services: SysProgram→Exit→LinesTrunks→PRI→SwitchType →Slot Number→Enter→DMS-250→Enter
	To select the Digital Switch Corporation DEX600E for MCI services:
	SysProgram \rightarrow Exit \rightarrow LinesTrunks \rightarrow PRI \rightarrow SwitchType \rightarrow Slot Number \rightarrow Enter \rightarrow DEX600E \rightarrow Enter
	To select the Nortel DMS-100 for local exchange carrier services:
	SysProgram→Exit→LinesTrunks→PRI→SwitchType →Slot Number→Enter→DMS-100→Enter

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

PRI Network Service	To select MCI Toll services for a DMS-250 or DEX600E switch type: SysProgram→Exit→LinesTrunks→PRI→B-ChannlGr p→NetworkServ→B-Channel group number→Enter→MCI Toll→MCI PRISM or MCI VNET or MCI 800 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 number > Enter > DMS-100Local > DMS-Private or DMS-INWATS Or DMS-OUTWATS 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 > DialPlanRt g > Service > Entry number > Enter > MCI Toll > MCI PRISM OF MCI VNET OF MCI 800 OF 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 number—Enter—DMS-100Local—DMS-Private Or DMS-INWATS Or DMS-OUTWATS Or DMS-FX Or DMS-TieTrk—Enter
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—OutgoingThll—CBC Service—NetworkServ—List number—Enter—MCI Toll—MCI PRISM OF MCI VNET—Enter
	To specify local exchange carrier Dial Plan Routing services for a DMS-100 switch type: SysProgram—Exit—LinesTrunks—PRI—OutgoingTh 1—CBC Service—NetworkServ—List number—Enter— DMS-100Local—DMS-Private Of DMS-OUTWATS OF DMS-FX OF DMS-TieTrk—Enter

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

Feature	Sequence
CTI Link	Busy out the board first:*
	Menu \rightarrow Maintenance \rightarrow Slot \rightarrow Dial the slot
	no. →Enter→Busy-Out→Yes
	* This is a Maintenance step. Start the procedure from the main menu, not the System Programming screen.
	Program the CTI Link (Note: The switch must be in Hybrid/PBX mode):
	AuxEquip→CTI Link→Dial extension
	$number \mathtt{Enter} \mathtt{Exit} \mathtt{Exit}$
	Restore the slot:*
	$Menu \rightarrow Maintenance \rightarrow Slot \rightarrow Dial the slot$
	no.→Enter→Restore→Yes
	* This is a Maintenance step. Start the procedure from the main menu, not the System Programming screen.

NOTE:

If the MLX module containing the CTI Link is the first module, use the SPM program to busy-out the slot.

Calling Group Alarm Thresholds	Extensions→More→Grp Calling→Queue Alarm→Dial calling group ext. no.→Enter→Alarm Threshold 1 or Alarm Threshold 2 or Alarm Threshold 3→Drop→Dial no. of calls→Enter→Exit→Exit
HotLine	$ \begin{array}{l} {\tt Extensions} {\longrightarrow} {\tt More} {\longrightarrow} {\tt HotLine} {\longrightarrow} {\tt Enter} \ {\to} {\tt Exit} \\ {\tt extension} {\longrightarrow} {\tt Enter} {\longrightarrow} {\tt 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 Exstenion number of Announcent device → Enter (to program another Announcement device) or Exit (to end procedure) → Exit

Programming with SPM Surrogate Mode Programming

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

Feature Group Calling Delay Secondary Announcement	Sequence Extensions→More→Grp Calling→DelayAnnce→Dial calling group ext. no.→Enter→Secondary Announcement →Enter Exstenion number of Announcent device→Enter →Exit→Exit
Group Calling Announcement Interval	Extensions→More→Grp Calling→DelayAnnce→Dial calling group ext. no.→Enter→Announcement Interval→Enter Announcent Interval in seconds→Enter→Exit→Exit
Group Calling Repeat Announcement	Extensions → More → Grp Calling → DelayAnnce → Dial calling group ext. no. → Enter → Repeat Announcement → Yes Or No → Enter → Exit → Exit

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, and telephones 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.

Programming with SPM Surrogate Mode Programming

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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.

Common Administrative Procedures *Introduction*

Page 3-1

Common Administrative Procedures



Introduction

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.

Add or change 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.

 Change telephone line button assignments and optional telephone features Common Administrative Procedures Introduction

Page 3-2

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 telephone features including:

- Identifying analog multiline telephones that do not have built-in speakerphone or Hands Free Answer on Intercom
- Identifying analog multiline telephones that require pairing of station jacks to provide Voice Announce to Busy
- Calling Restrictions
- Assign Pickup Groups, Group Paging, Group Coverage, Calling Groups, and lines/trunks assigned to calling groups and change group options
- 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 telephones to which they are assigned.
- Create or change labels assigned to lines/trunks, extensions and calling groups and create or change Posted Messages or the System Speed Dial Directory
- Assign Night Service groups and options
 Night Service provides after-hours coverage to extensions and calling groups
- 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".

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 telephones, 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

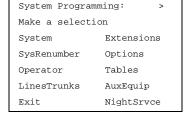
PC Procedure $F1 \rightarrow F2 \rightarrow Alt + P \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5$

Procedure: System Programming Position Assignment

Console Display/Instructions Additional Information

PC

1. Select the System menu.



[F1]

2. Select System Programming Port.

System:

Make a selection

Restart MaintenBusy

SProg Port Date

Mode Time

Board Renum Back/

Restore

Exit

F2

■ 3. Erase the current extension (xxxx).

System Programming Port:
Enter extension

xxxx

Backspace
Exit Enter

Press **Drop**.

Alt +

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_	3 Common Administrative Procedures Basic System Operating Conditions					
Di	asic System Operating Conc	illons	Page 3-5			
	Console Display/Instru	ctions Additional Information	PC			
▶ 4.	Enter the new extension	on.				
	SP: "Entering an Extens	sion"	C			
▶ 5.	Save your entry.					
	Select Enter.		F10			
▶ 6.	Return to the System	Programming menu.				
	Select Exit.		F5			
C .4	T					
Syste	em Language					
		ns system offers you a choice of three lang h) for the following options:	uages (English,			
	■ System lange	uage.				
	Station Message Detail Recording (SMDR) reports. See "System Features."					
	Print reports.	See "Printing Reports."				
	■ Extensions. See "Optional Telephone Features."					
	•	to set the system language. See the section age for an MLX display telephone, SMDR i				
	NOTE: MERLIN LEG choice of lang	END Communication System Release 1.0 guages.	does not offer a			
Sum	mary: System Languag	ge e				
	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→Language→SystemLang→Yes→Select a language→Enter					

 $\begin{array}{c} \hline \text{PgUp} \rightarrow \hline \text{F6} \rightarrow \hline \text{F1} \rightarrow \hline \text{F3} \rightarrow \\ \hline \end{array} \text{Select a language} \rightarrow \overline{\text{F10}}$

PC Procedure

3 Common Administrative Procedures Basic System Operating Conditions

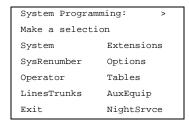
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Procedure: System Language

Console Display/Instructions Additional Information

PC

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



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. [F3]

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

F2 F5

3 Common Administrative Procedures Basic System Operating Conditions

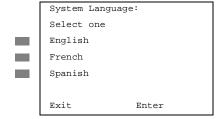
Page 3-7

Console Display/Instructions Ad

Additional Information

PC

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



Select English,
French, Of
Spanish.

F1 F2 F3

▶ 6. Save your entry.

Select Enter.

(F10)

For programming a single or block of extensions, see the <u>"Extension</u> Language" procedure under <u>"Optional</u> Telephone Features".

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.

NOTE:

If you are planning to use the SMDR feature, make sure the current date is set.

Summary: Set System Date

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form 1, System Planning

Factory Setting 01-01-00

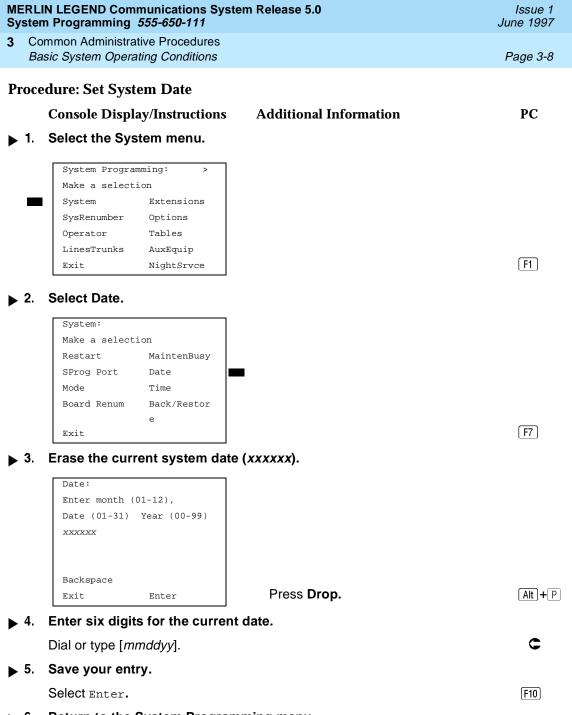
Valid Entries Month: 01 to 12

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 $F1 \rightarrow F7 \rightarrow Alt + P \rightarrow Type current date \rightarrow F10 \rightarrow F5$



▶ 6. Return to the System Programming menu.

Select Exit. [F5]

Set System Time

The System Time feature allows you to set the time that appears on MLX display telephones and on SMDR reports.

Common Administrative Procedures

Basic System Operating Conditions

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NOTE:

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.

Summary: Set System Time

Programmable by System Manager

Mode All

Idle Condition Not Required

Planning Form 1, System Planning

Factory Setting 0000

Valid Entries 0000 to 2359

Inspect No Copy Option No

Console Procedure System→Time→Drop→Dial current time→Enter→Exit

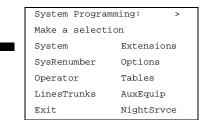
PC Procedure $\boxed{F1 \rightarrow F8 \rightarrow Alt + P \rightarrow Type current time \rightarrow F10 \rightarrow F5}$

Procedure: Set System Time

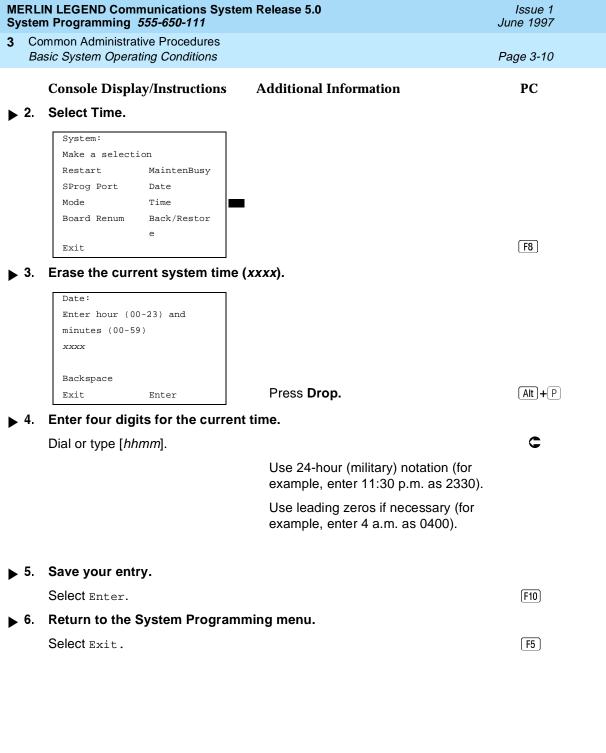
Console Display/Instructions Additional Information

PC

▶ 1. Select the System menu.



F1



Common Administrative Procedures
System Renumbering

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System Renumbering

The procedures in this section are used to reassign extension numbers for either 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

To reassign the system numbering plan or DSS **Page** buttons see <u>Chapter 4</u>, "Programming Procedures".

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.



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

Common Administrative Procedures System Renumbering

Page	3-1	12
------	-----	----

0	Operator Console (not flexible) 0									
1		Extensions 10–19								
2				Ext	ension	s 20–29				
3				Ext	ension	s 30–39				
4				Ext	ension	s 40–49				
5	Extensions 50–59									
6	Extensions 60-66 Extra			Extra		6843-	Extra MFMs/ 6993-		6993-	
	Extensions 6700–6842				6849	Terminal Adapters 6999 6850–6992				
7	Main Pool MFMs/			767– 769	Calling 770–791		•	Pag Gro 793	•	
8	800* Trunks 801–880					Park 881–888	3	889†	Pools 890-	
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

0	Operator Console (not flexible) 0						
1			Ex	tension	s 100–199		
2			Ex	tension	s 200–299		
3			MFMs/Ter	minal A	dapters 300-	-399	
4	MFMs/Terminal Adapters 400-499						
5	500–599						
6				600-	699		
7	Main Pool 70 71–76			7	Calling Gro 70–791, 7920	•	Paging Groups 793-799
8	800 [*] Trunks 801–880				Park 881–888	889†	Pools 890–899
9		Α	RS Access (Hyb	rid/PBX	mode)/Idle L	ine Access	

^{*} Listed Directory Number (QCC)

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

Figure 3-2. 3-Digit Numbering

[†] Remote Access

[†] Remote Access

Common Administrative Procedures
System Renumbering

Page 3-13

0	Operator Console (not flexible) 0							
1			100–1	99				
2			200–2	99				
3			300–3	99				
4	400–499							
5			500–5	99				
6			600–6	99				
7	Main Pool 70	Extensions 7100–7299	MFMs/Terminal Adapters 7300–7499	7500–7699	Calling Group 770-791, 7920-7929	Paging Groups 793–799		
8	800*	Trunks 801–880		Park 881–888	889 [†]	Pools 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

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.

[†] Remote Access

3 Common Administrative Procedures System Renumbering

Page 3-14

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

 $Console\ Procedure\ {\tt SysRenumber} {\rightarrow} {\tt Single} {\rightarrow} {\tt Select}\ item {\rightarrow} {\tt Dial}\ old\ ext.$

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

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

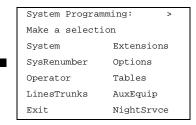
new ext. no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Single Renumbering

Console Display/Instructions Additional Information

PC

▶ 1. Select the System Renumbering menu.



F2

2. Select Single renumbering.

System:

Make a selection

Default Numbering

Single

Block

Exit

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

F2

RemoteAccs

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Common Administrative Procedures
System Renumbering

Page 3-15

Console Display/Instructions Review the menu options.

Additional Information

PC

System Renumber: >

Make a selection

Lines Grp Calling

Extensions Adjuncts

Pools Park

Group Page ARS DialOut

Exit

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

Press More.

PgUp

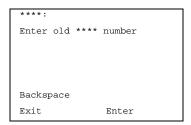
System Renumber:
Make a selection
DSS Buttons
ListDirctNo

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.



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

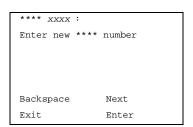
SP: "Entering an Extension"

▶ 6. Save your entry.

Select Enter.

(F10)

7. Enter the new extension.



**** = item selected in Step 4

xxxx = extension entered in Step 5

SP: "Entering an Extension"

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Common Administrative Procedures
System Renumbering

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Console Display/Instructions

Additional Information

PC

▶ 8. Save your entry.

Select Enter or Next.

F10 F9

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.



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

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

Common Administrative Procedures
System Renumbering

Page 3-17

Console Procedure $SysRenumber \rightarrow Block \rightarrow Select$ type of group $\rightarrow Dial$ no. of

first group member→Enter→Dial no. of last group

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

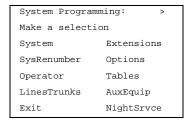
 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Block Renumbering

Console Display/Instructions Additional Information

PC

1. Select the System Renumber menu.



F2

▶ 2. Select Block renumbering.

System Renumber:

Make a selection

Default Numbering

Single

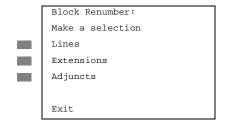
Block

Exit

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

F3

▶ 3. Select the type of group to renumber.



Select Lines, Extensions, Or Adjuncts.

F1

F2

F3

F5 F5 F5

Select Enter.

Select Exit three times.

▶ 10. Return to the System Programming menu.

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System Operator Positions

Common Administrative Procedures

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.

Table 3-1 shows the maximum number of operator positions allowed for any one system.

Table Maximum Number of Operator Positions Table 3-1.

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.

Primary 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

Common Administrative Procedures
System Operator Positions

Page 3-20

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.



CAUTION:

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 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; four QCCs per system)

Inspect Yes

Copy Option No

Common Administrative Procedures System Operator Positions

Page 3-21

Console Procedure Operator \rightarrow Positions \rightarrow Queued Call \rightarrow Dial ext. $no. \rightarrow Enter \rightarrow Store All$

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

Select the Operator menu.

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

F3

Select Positions.

System Operator: Make a selection Positions Oueued Call Hold Timer DLC Hold Exit

F1

Select Queued Call (QCC).

System Operator: Make a selection Direct Line Oueued Call Exit

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

F2

Specify the QCC extension as a QCC position.

QCC Operator Positions: Enter extension Store All 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 = extension is currently assigned Flashing = extension can be assigned as a QCC position.

Off = extension cannot be assigned as a QCC position.

ME Sy:	Issue 1 June 1997				
3		mmon Administrative Procestem Operator Positions	edures		Page 3-22
		Console Display/Instru	ıctions	Additional Information	PC
	5.	Assign or remove the	QCC oper	ator extension.	
		Select Enter or Delete.			F10 F8
				You may continue to assign or remove QCC operator positions by repeating Steps 4 and 5.	ı
•	6.	Indicate that you have	finished e	entering all positions.	
		Select Store All.			F3
				The session is terminated and the system restarts. You must enter system programming again to continue.	
D	LC	Operator Positions			
		the first modules wi maximum of eight I operator positions of operator positions at Use this procedure for all incoming call operator extension need to use this pro- more than one DLC operator position as Lines and trunks ar The system program simultaneously.	th either did DLC operation be assi- and no more to specify eas, either for jacks, or as pocedure in a position.) ssignment for e assigned mming constitution	e assigned to the first and fifth extension j gital or analog multiline extension jacks. A or positions can be assigned. Any combing gned as long as there are no more than fee than a total of eight operator positions. Extensions that serve as central answering Call Management Systems (CMSs) contours calling group supervisor extensions. (You a Key or Behind Switch system unless you For a new system, remove the factory-set for any telephone not used as an operator to individual buttons. Sole can have several incoming calls ring operator positions to connect the equipment supervisor.	A nation of our QCC g positions nected to bu do not bu have at DLC r position.
		nary: Identify or Rem ions	ove DLC	Operator	
		Programmable by	System M	lanager	
		Mode	All		
		Idle Condition	System id	lle	
		Planning Form	Form 2a,	System Numbering: Extension Jacks	

Type: DLC

Factory Setting

3 Common Administrative Procedures System Operator Positions

Page 3-23

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.

 $no. \rightarrow Enter \rightarrow Store All$

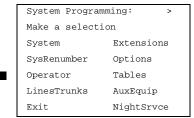
PC Procedure $[F3] \rightarrow [F1] \rightarrow [F1] \rightarrow Type ext. no. [F10] \rightarrow [F3]$

Procedure: Identify or Remove DLC Operator Positions

Console Display/Instructions Additional Information

PC

1. Select the Operator menu.



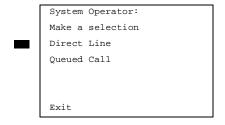
F3

2 Select Positions.

System Operator:
Make a selection
Positions
Queued Call
Hold Timer
DLC Hold
Exit

F1

■ 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

3 Common Administrative Procedures System Operator Positions

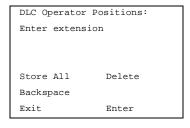
Page 3-24

Console Display/Instructions Add

Additional Information

PC

▶ 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 3-25

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 ΑII

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting 60 seconds

Valid Entries 10 to 255 seconds

Inspect Nο Copy Option No

Console Procedure Operator→Hold Timer→Drop→Dial no. of

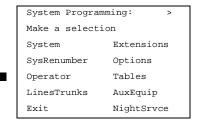
 $seconds \rightarrow Enter \rightarrow Exit$

PC Procedure $F3 \rightarrow F3 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow F10 \rightarrow F5$

Procedure: Operator Hold Timer

Additional Information PC **Console Display/Instructions**

Select the Operator menu.



		IN LEGEND Communication Programming 555-650-		Issue 1 June 1997
3		mmon Administrative Proce otional Operator Features	dures	Page 3-26
		Console Display/Instru	ctions Additional Information	PC
▶		Select Hold Timer. System Operator: Make a selection Positions Queued Call Hold Timer DLC Hold Exit Erase the current hold	timer setting (<i>xxx</i>).	F3
		Operator Hold Timer: Enter length of hold timer (10 to 255 sec) xxx		
		Backspace Exit Enter	Press Drop.	Alt + P
>	4.	Enter the number of se	econds to hold the call (nnn = 10 to	255).
		Dial or type [nnn].		c
•	5.	Save your entry.		
		Select Enter.		F10
•	6.	Return to the System	Programming menu.	
		Select Exit.	-	F5
DI	LC	Operator Automatic F	lold	
			o enable or disable the DLC Operator a sitions. When this feature is enabled, i	
Su	mı	mary: DLC Operator A	utomatic 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	

3 Common Administrative Procedures Optional Operator Features

Page 3-27

Copy Option No

 $\textbf{Console Procedure} \ \texttt{Operator} {\longrightarrow} \texttt{DLC} \ \texttt{Hold} {\longrightarrow} \texttt{Automatic Hold Enable} \ \textbf{or}$

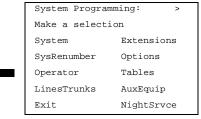
Automatic Hold Disable→Enter→Exit

PC Procedure $F3 \rightarrow F4 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5$

Procedure: DLC Operator Automatic Hold

Console Display/Instructions Additional Information PC

1. Select the Operator menu.



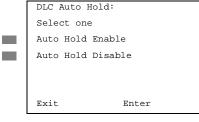
F3

▶ 2. Select DLC Hold.

System Operator:
Make a selection
Positions
Queued Call
Hold Timer
DLC Hold
Exit

F4

▶ 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

▶ 5. Return to the System Programming menu.

Select Exit. F5

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June 1997

Issue 1

QCC Optional Features

QCC Optional Features

Common Administrative Procedures

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



These options are available in Hybrid/PBX mode only.

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 ΑII

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Calls remain on hold

3 Common Administrative Procedures QCC Optional Features

Page 3-29

Valid Entries Remain on hold, Return to QCC queue

Inspect No Copy Option No

 $\textbf{Console Procedure} \text{ Operator} {\rightarrow} \textbf{Queued Call} {\rightarrow} \textbf{Hold Rtrn} {\rightarrow} \textbf{Return to Queue}$

Of Remain on Hold \rightarrow Enter \rightarrow Exit \rightarrow Exit

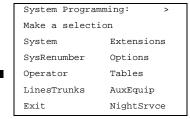
PC Procedure $\overline{(F3)} \rightarrow \overline{(F2)} \rightarrow \overline{(F1)}$ or $\overline{(F2)} \rightarrow \overline{(F10)} \rightarrow \overline{(F5)} \rightarrow \overline{(F5)}$

Procedure: Hold Return

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 Hold Return.

Queued Call Operator: >

Make a selection

Hold Rtrn InQue Alert

HoldRelease Call Types

Threshold Msg Center

ElvatePrior ExtndComplt

Exit Return Ring

Common Administrative Procedures

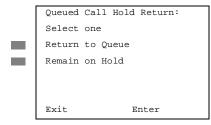
QCC Optional Features

Page 3-30

PC

Console Display/Instructions Additional Information

▶ 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 F1 Remain on Hold. F2

▶ 5. Save your entry.

Select Enter. F10

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

Auto Release \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F3 \rightarrow F2 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

	MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111								
3		ommon Administra							
	Q	CC Optional Featu	ıres		Page 3-31				
Pr	Procedure: Automatic Hold or Release								
		PC							
•	1.	Select the Ope	erator menu.						
		G. H. W. D. W.							
		System Program Make a select							
		System	Extensions						
		SysRenumber	Options						
		Operator	Tables						
		LinesTrunks	AuxEquip						
		Exit	NightSrvce		(F3)				
		L							
•	2.	Select Queue	d Call.						
		System Operat	or:						
		Make a select	ion						
		Positions							
		Queued Call							
		Hold Timer							
		DLC Hold							
		Exit			F2				
	3.	Select Hold Re	elease.						
	-								
		Queued Call O							
		Hold Rtrn HoldRelease	InQue Alert						
		Threshold	Call Types Msg Center						
		ElvatePrior	ExtndComplt						
		Exit	Return Ring		F2				
					<u>(-)</u>				
•	4.			calls are automatically put on hold or call button is pressed.					
		Queued Call H	oldRelease:						
		Select one							
		Auto Hold							
	Ξ	Auto							
		Release							
				Select Auto Hold or	F1				
		Exit	Enter	Auto Release.	F2				
•	5.	Save your ent	ry.						
	Select Enter.								
	Select Enter. [F10] • 6. Return to the System Programming menu.								
	٥.	Select Exit two	_	······································	(دو) (دو)				
		Select Exit (W	o umes.		[F5][F5]				

3 Common Administrative Procedures QCC Optional Features

Page 3-32

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

 $\textbf{Console Procedure Operator} {\rightarrow} \textbf{Queued Call} {\rightarrow} \textbf{Threshold} {\rightarrow} \textbf{Drop} {\rightarrow} \textbf{Dial no. of}$

 $calls \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F3} \rightarrow \boxed{F2} \rightarrow \boxed{F3} \rightarrow \boxed{Alt} + \boxed{P} \rightarrow \boxed{Type no}$.

of calls \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)

Procedure: Queue over Threshold

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

3 Common Administrative Procedures QCC Optional Features

Page 3-34

Inspect No Copy Option No

Console Procedure Operator \rightarrow Queued Call \rightarrow ElvatePrior \rightarrow **Drop** \rightarrow Dial no.

of seconds \rightarrow Enter \rightarrow Exit \rightarrow 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.

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

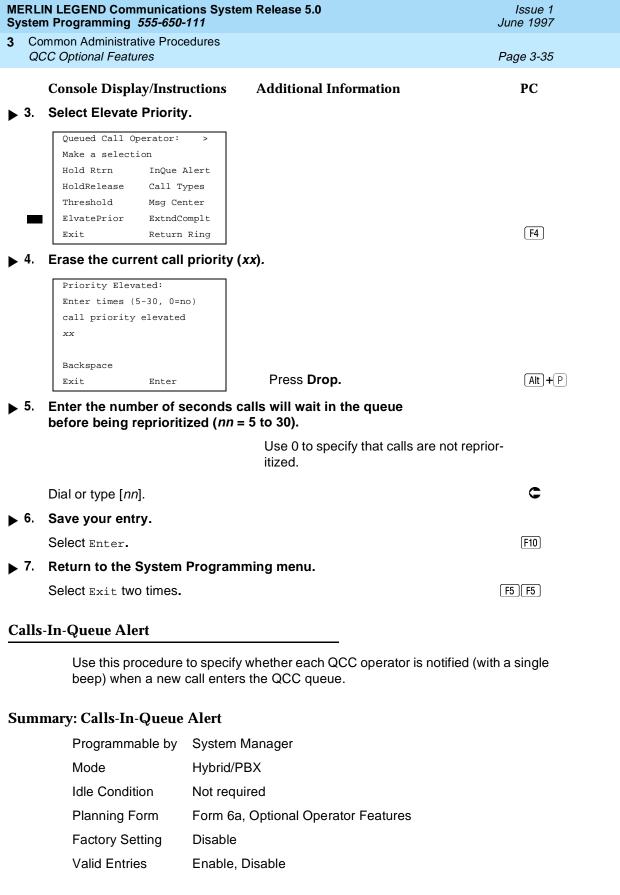
Positions

Queued Call

Hold Timer

DLC Hold

Exit



Common Administrative Procedures QCC Optional Features

Page 3-36

Inspect Yes
Copy Option No

Console Procedure Operator \rightarrow Queued Call \rightarrow InQue Alert \rightarrow Dial ext.

no.→Enter→InQue Alert Enable of InQue Alert

 $Disable \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F3 \rightarrow F2 \rightarrow F6 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow F1 \text{ or}$

 $F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

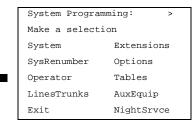
Procedure: Calls-In-Queue Alert

Console Display/Instructions

Additional Information

PC

1. Select the Operator menu.



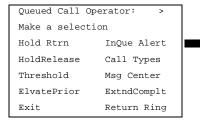
F3

2. Select Queued Call.

System Operator:
Make a selection
Positions
Queued Call
Hold Timer
DLC Hold
Exit

F2

▶ 3. Select In-Queue Alert.



MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 Common Administrative Procedures QCC Optional Features Page 3-37 **Additional Information** PC **Console Display/Instructions** Enter the QCC extension to receive the calls-in-queue alert. In Queue Alert: If no DSS is attached: **SP:** "Entering an Extension" Enter QCC Operator extension number If DSS is attached: Toggle the red LED on or off as required. Go to Step 7. Backspace On = operator receives Exit Enter calls-in-queue alert. Flashing = operator does not receive calls-in-queue alert. Off = not an operator position. **Console Display/Instructions Additional Information** PC Specify whether the operator receives the alert. 5. xxxx = operator entered in Step 1 QCC Operator xxxx: Select one InQue Alert Enable InQue Alert Disable Select InQue Alert Enable Or F1 Next F2 InQue Alert Disable. Exit Enter Save your entry. Select Enter or F10 Next. [F9] Use Next to program the next QCC position. The next QCC operator will be displayed on Line 1. 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

Common Administrative Procedures

QCC Optional Features

Page 3-38

Forward/Follow Me calls

The QCC queue can be a receiver for the maximum number of coverage groups (30).

NOTE:

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.

NOTES:

- 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. See "Call Type Queue Priority Level".
- This procedure does not include programming the operator position to receive calls on individual lines or trunks. See "QCC Operator to Receive Call Types".
- 3. 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. See "Invalid Destination." 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.
- 4. 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. See "Remote Access Trunk Assignment."

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

3 Common Administrative Procedures QCC Optional Features

Page 3-39

Copy Option No

Console Procedure Operator \rightarrow Queued Call Types \rightarrow Select a call

type→Operator→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.

 $no. \rightarrow (F10) \rightarrow (F5) \rightarrow (F5) \rightarrow (F5) \rightarrow (F5)$

Procedure: QCC Operator to Receive Call Types

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

Common Administrative Procedures

QCC Optional Features

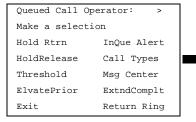
Page 3-40

Console Display/Instructions

Additional Information

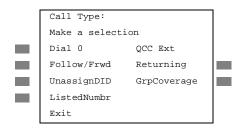
РC

▶ 3. Select Call Types.



F7

▶ 4. Select a call type.



To use Follow/Frwd or QCC Ext, see "Call Type Queue Priority Level".

If you select GrpCoverage, go to
Group Coverage Procedure.

If you select DialO, UnassignDID, ListedNumbr, Or Returning, go to

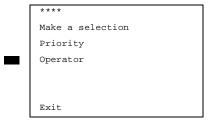
◆ Call Type Procedure.

Press the button or function key next to your selection.

C

Group Coverage Procedure

1. Select Operator.

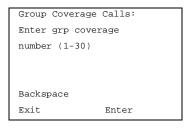


**** = option name selected in Step 4

F2

C

▶ 2. Enter the group coverage number (nn = 1 to 30).



Dial or type [nn].

Return to the System Programming menu.

Select Exit five times.

Return to Step 4. The next Group Coverage number will display on Line 1.

F5 F5 F5 F5

Common Administrative Procedures

QCC Optional Features

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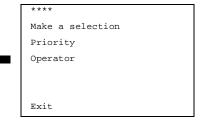
◆ Call Type Procedure

Console Display/Instructions

Additional Information

PC

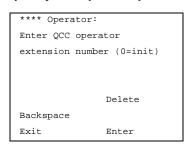
1 Select Operator.



**** = option name selected in Step 4

F2

▶ 2. Specify the operator position.



**** = option name selected 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.

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 F5

Common Administrative Procedures *QCC Optional Features*

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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 individual lines or trunks to ring into the queue. See "QCC Queue Priority Level."

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

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→Exit→Exit→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

Return Ring

Select a call type.

Call Type: Make a selection QCC Ext Dial 0 Follow/Frwd Returning UnassignDID GrpCoverage ListedNumbr Exit

If you select Follow/Frwd or QCC Ext, go to Step 8.

Press the button or function key next to your selection.

(F10)

F5 F5 F5 F5

Select Enter.

Select Exit four times.

▶ 11. Return to the System Programming menu.

Common Administrative Procedures

QCC Optional Features

Page 3-46

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→Queued Call→Msg Center→Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

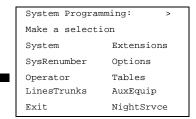
PC Procedure $F3 \rightarrow F2 \rightarrow F8 \rightarrow Type \text{ ext. no.} \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Message Center Operation

Console Display/Instructions Additional Information

PC

▶ 1. Select the Operator menu.



Common Administrative Procedures

QCC Optional Features

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Console Display/Instructions

Additional Information

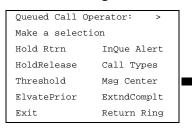
PC

2. Select Queued Call.

System Operator:
Make a selection
Positions
Queued Call
Hold Timer
DLC Hold
Exit

F2

▶ 3. Select Message Center.



F8

▶ 4. Specify the QCC operator extension.

Operator Message Center:
Enter QCC operator
extension number

Delete
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.

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

Common Administrative Procedures

QCC Optional Features

Page 3-48

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

Planning Form Form 6a, Optional Operator Features

Factory Setting Automatic Extended Completion

Valid Entries Automatic, Manual

Inspect No Copy Option No

 $\textbf{Console Procedure} \text{ Operator} {\rightarrow} \textbf{Queued Call} {\rightarrow} \textbf{ExtndComplt} {\rightarrow} \textbf{Automatic}$

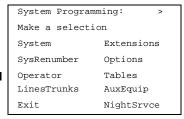
 $\texttt{Complete} \, \textbf{Of} \, \texttt{Manual Complete} \, \textcolor{red}{\longrightarrow} \texttt{Enter} \, \textcolor{red}{\longrightarrow} \texttt{Exit} \, \textcolor{red}{\longrightarrow} \texttt{Exit}$

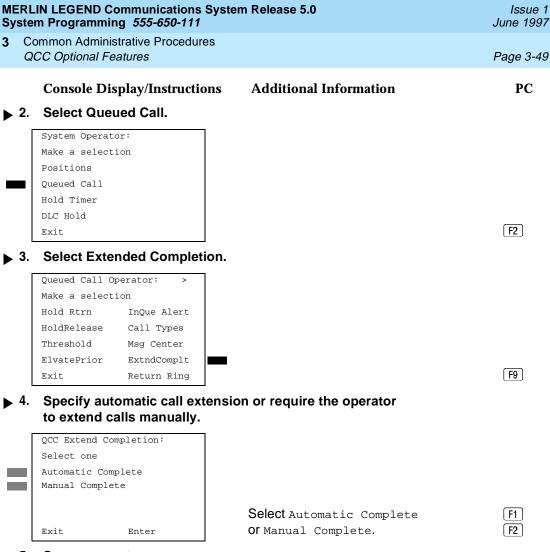
PC Procedure $(F3) \rightarrow (F2) \rightarrow (F1)$ or $(F2) \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

Procedure: Extended (Directed) Call Completion

Console Display/Instructions Additional Information PC

■ 1. Select the Operator menu.





▶ 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.

NOTE:

If you want unanswered calls to proceed to voice mail, lengthen the return ring setting.

Common Administrative Procedures QCC Optional Features

Idle Condition

Page 3-50

Summary: Return Ring

Programmable by System Manager

Mode Hybrid/PBX

Not required Planning Form Form 6a, Optional Operator Features

Factory Setting 4 rings

Valid Entries 1 to 15 rings

Inspect No Copy Option No

Console Procedure Operator \rightarrow Queued Call \rightarrow Return Ring \rightarrow **Drop** \rightarrow Dial no.

of rings \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F3 \rightarrow F2 \rightarrow F10 \rightarrow Alt + P \rightarrow Type no. of$

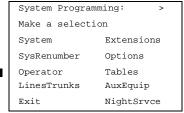
rings \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Return Ring

Console Display/Instructions Additional Information

PC

Select the Operator menu.



F3

Select Queued Call.

System Operator: Make a selection Positions Queued Call Hold Timer DLC Hold Exit

MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111 Ju						
	ommon Admini OCC Optional Fe	strative Procedures eatures			Page 3-51	
▶ 3.		splay/Instruction	s Additional Informat	tion	PC	
	Queued Call (Make a select Hold Rtrn HoldRelease Threshold ElvatePrior Exit	Deperator: Tion InQue Alert Call Types Msg Center ExtndComplt Return Ring	_		F10	
▶ 4.	Queued Call F Enter number before return xx Backspace	rings	of rings (xx). Press Drop.			
> 5.		umber of rings k queue (<i>nn</i> = 1 to	pefore the directed call re	turns	(Alt)+P	
	Dial or type	[<i>nn</i>].			C	
6 .	Save your	entry.				
	Select Ente	r.			F10	
7 .	Return to t					
	Select Exit	two times.			F5 F5	
Posi	tion Busy Ba	ackup				
Use this procedure to designate or remove the calling group to provide the 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.

3 Common Administrative Procedures QCC Optional Features

Page 3-52

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→Queued Call→More→QCC

 $\mathtt{Backup} \rightarrow \mathtt{Drop} \rightarrow \mathtt{Dial} \ \mathtt{ext.} \ \mathtt{number} \rightarrow \mathtt{Enter} \ \mathtt{or}$

 $Delete \rightarrow Exit \rightarrow Exit$

PC Procedure $F3 \rightarrow F2 \rightarrow PgUp \rightarrow F1 \rightarrow Alt + P \rightarrow Type ext. number \rightarrow F10$

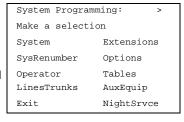
or $F8 \rightarrow F5 \rightarrow F5$

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

IERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997							
_	ommon Administrative Procedure CC Optional Features		Page 3-53				
	Console Display/Instruction	ns Additional Information	PC				
3 .	Go to the second screen of	f the Queued Call Operator menu.					
	Queued Call Operator: > Make a selection Hold Rtrn InQue Alert HoldRelease Call Types Threshold Msg Center ElvatePrior ExtndComplt Exit Return Ring	Press More .	PgUp				
4	Select QCC Backup.						
	Queued Call Operator: Make a selection QCC Backup Voice Annc						
	Exit		F1				
5 .	Erase the current QCC ope	erator backup number (<i>xxxx</i>).					
	QCC Operator Backup: Enter QCC operator of Calling Group xxxx Delete Backspace Exit Enter	Press Drop .	Alt + P				
6 .	Specify the calling group t	hat will provide QCC operator backup.					
	QCC Operator Backup: Enter QCC operator of Calling Group Delete Backspace	, 1 11 12 2 points. Handle					
	Exit Enter	SP: "Entering an Extension"	C				
7 .							
	Select Enter or Delete.		F10 F8				
		You may continue to assign or remove calling groups as QCC operator backups by repeating Steps 2 and 3.					
8 .	Return to the System Proc	ramming menu.					

▶ 8. Return to the System Programming menu.

Select Exit two times. F5 F5

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Common Administrative Procedures
Telephones

Telephones

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 telephone to an individual telephone or block of telephones
- 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 telephones that require pairing of extension jacks to provide either the Voice Announce to Busy or voice and data features

Assign Trunks or Pools to Telephones

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 Button" procedures to add or change Intercom (**Icom**) or System Access (**SA**) buttons.

Individual lines/trunks can be assigned to a maximum of 64 telephones. Individual pools can be assigned as a **Pool** button on a maximum of 64 telephones.

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.

3 Common Administrative Procedures Telephones

Page 3-55

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 telephones. 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.

Summary: Assign Trunks or Pools to Telephones

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 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 Station Data Form 1b, 7500B Data Station

3 Common Administrative Procedures Telephones

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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

Console Procedure To program a single line/trunk:

Extensions→Lines/Trunks→Dial ext. no.→Enter→Entry Mode→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.→Enter→Select trunk range→Toggle LED

 $On/Off \rightarrow Enter \rightarrow Exit \rightarrow Exit$

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 $\rightarrow Toggle letter G On/Off \rightarrow F10 \rightarrow F5 \rightarrow F5$

3 Common Administrative Procedures Telephones

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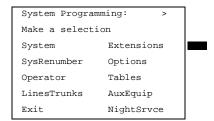
Procedure: Assign Trunks or Pools to Telephones

Console Display/Instructions

Additional Information

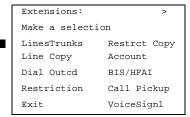
PC

Select the Extensions Menu.



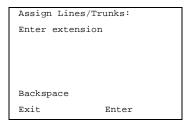
F6

▶ 2. Select Lines and Trunks.



F1

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.

Common Administrative Procedures Telephones

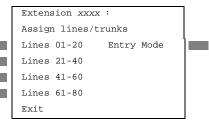
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Console Display/Instructions

Additional Information

PC

▶ 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.

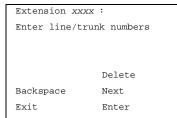
Single Line/Trunk Procedure

1. 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].

■ 3. Assign or remove the specified line/trunk number.

Select Enter or Delete.

(F10)

F8

You may continue to assign or remove lines/trunks by repeating Steps 2 and 3.

▶ 4. Assign a single line/trunk to the next extension or go to Step 5.

Select Next.

F9

Return to Step 2 to continue programming. The next extension will be displayed on Line 1.

▶ 5. Return to the System Programming menu.

Select Exit twice.

F5 F5

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◆ 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

F3

F4

2. Assign or remove the line/trunk to or from the line button.

Toggle the green LEDs next to each line button on or off as required.

On = line/trunk or pool assigned to extension

Off = line/trunk or pool not assigned to extension

For Hybrid/PBX only:

The red LED indicates:
On = trunk assigned to pool
Off = trunk not assigned to pool

3. Save your entry.

Select Enter.

F10

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 <code>Station Busy - Pls Wait</code> 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.

3 Common Administrative Procedures Telephones

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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 Telephone 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

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→Line Copy→Block→Dial copy from ext.

no.→Enter→Dial ext. no of first telephone in block→Enter→Dial ext. no of last telephone in

 $block \rightarrow Enter \rightarrow Exit \rightarrow Exit$

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:

 $F6 \longrightarrow F2 \longrightarrow F2 \longrightarrow Type$ copy from ext. no. $\longrightarrow F10 \longrightarrow Type$ ext. no. of first telephone in block $\longrightarrow F10 \longrightarrow Type$ ext. no. of last

telephone in block \rightarrow F10 \rightarrow F5 \rightarrow F5

3 Common Administrative Procedures Telephones

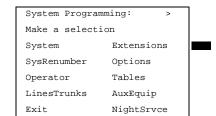
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Procedure: Copy Line and Trunk Assignments

Console Display/Instructions
Select the Extensions menu.

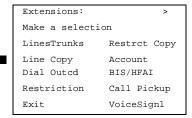
Additional Information

PC



F6

2. Select Line Copy.



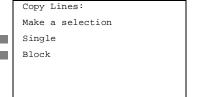
F2

[F2]

F1

C

■ 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 ${\tt Block}$ and go to

Block Procedure.

●Single Extension Procedure

Exit

▶ 1. Specify the extension you want to copy from.

Copy Lines:
Enter extension to copy
from

Backspace
Exit Enter

SP: "Entering an Extension"

Copy Lines: Enter extension to copy from Backspace Exit Enter

SP: "Entering an Extension"

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3		Common Administrative Procedures Telephones				
		Console Display/Instruction	ns Additional Information	Page 3-63 PC		
•	2.	Save your entry.				
		Select Enter.		F10		
>	3.	Enter the logical ID of the f	first extension number in the block to be co	pied to.		
		Copy extension xxxx Enter starting extension logical id (#1 - #200)	xxxx = extension entered in Step 4 of the main procedure	;		
		Backspace Exit Enter	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.					
		Start at extension xxxx Enter ending extension logical id (#1 - #200)	xxxx = extension number of logical id entered in Step 1			
		Backspace Exit Enter	Dial or type #[nnn].	c		
>	6.	Save your entry.				
		Select Enter.		F10		
•	7.	Return to the System Programming menu.				
		Select Exit twice.		F5 F5		
As	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

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Common Administrative Procedures Telephones

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. In Release 4.0 and later, the Call 5 (Ring/Voice) button on a QCC can be programmed for Voice Announce.

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 manual.

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.

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.

Common Administrative Procedures Telephones

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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 Station
Data Form 1b, 7500B Data Station

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. 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

3 Common Administrative Procedures Telephones

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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.

 $\begin{array}{l} \text{no.} \longrightarrow \text{Enter} \longrightarrow \text{Start} \longrightarrow \text{Program} \\ \text{extension} \longrightarrow \text{Enter} \longrightarrow \text{Exit} \longrightarrow \text{Exit} \end{array}$

To copy extension programming:

More→Cntr-Prg→Copy ext.→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:

 $PgUp \rightarrow F4 \rightarrow F2 \rightarrow Type copy from ext. no. \rightarrow F10 \rightarrow Type$

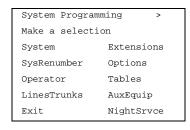
copy to ext no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

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

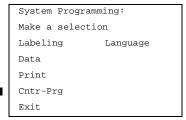
Common Administrative Procedures Telephones

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Console Display/Instructions Additional Information

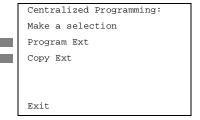
PC

▶ 2. Select Centralized Telephone Programming.



F4

3. Select an extension option.



Select Program Ext and go to

Program Extensions Procedure.

Select Copy Ext and go to

◆ Copy Extension Procedure.

F2

[F1]

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.

<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

3 Common Administrative Procedures Telephones

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Table 3-2. Programming Codes for Assigning SA/ICOM Ring and Voice Buttons

Use	On the Console	On the PC
To assign System Access or Intercom Ring button	Dial *16	Type *16
To assign System Access or Intercom Voice button	Dial *16, press button being programmed again, and dial *19	Type *16, press Shift + function key for button being programmed again, and type *19
To assign System Access or Intercom Originate Only - Ring button	Dial *18	Type *18
To assign System Access or Intercom 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 Shared System Access 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 System Access or Intercom Voice, Originate Only or Shared System Access buttons from Voice to Ring	Dial **19	Type **19

Console Display/Instructions Additional Information

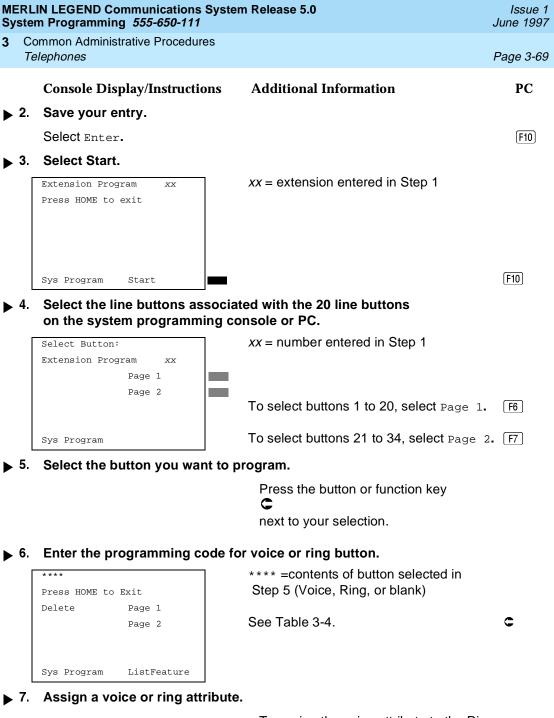
▶ 1. Specify an extension.

Centralized Programming:
Enter extension

Backspace
Exit Enter

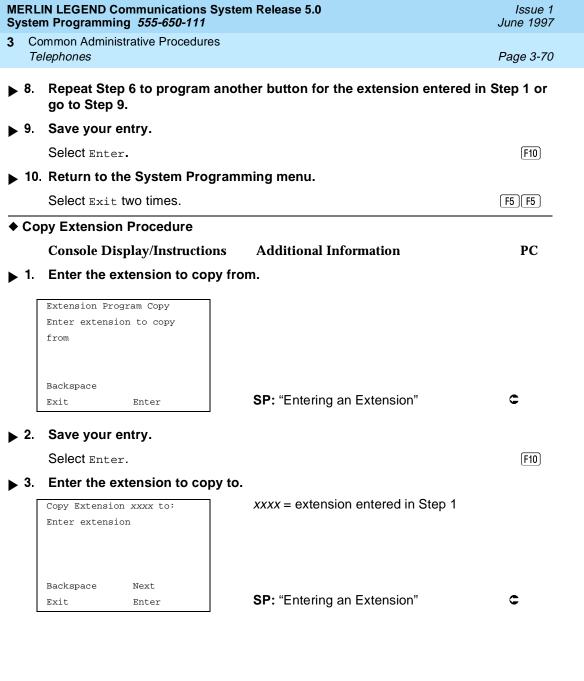
SP: "Entering an Extension"

PC



To assign the voice attribute to the Ring button, select the same button and enter the programming code for voice (see Table 3-4).

To assign Voice buttons, first assign the button as a Ring button, then program the button with the voice attribute (see Table 3-4).



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Console Display/Instructions

Additional Information

PC

▶ 4. Save your entry. Then, continue to copy button assignments or go to Step 5.

Select Enter or Select Next.

F10 F9

After selecting Enter, you may continue to copy button assignments from the extension displayed on Line 1 to additional extensions.

After selecting Next, you may copy button assignments from the next sequential extension.

Return to Step 3 to continue programming. The extension to be copied from will be displayed on Line 1.

▶ 5. Return to the System Programming menu.

Select Exit twice.

F5 F5

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

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Planning Form Form 4b, Analog Multiline Telephone

Form 5a, Direct-Line Console (DLC): Analog

Data Form 1a, Modem Data Stations

analog multiline display console) have BIS/HFAI capability.

Valid Entries Extension numbers

Inspect Yes
Copy Option No

Console Procedure Extensions \rightarrow BIS/HFAI \rightarrow Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow F8 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow F5 \rightarrow F5$

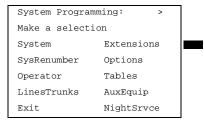
Procedure: Analog Multiline Telephones Without BIS or HFAI Capability

Console Display/Instructions Add

Additional Information

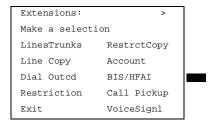
PC

1. Select the Extensions menu.



F6

2. Select BIS/HFAI.



[F8]

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Common Administrative Procedures

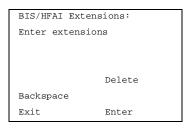
Telephones

Console Display/Instructions

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PC

3. Specify the extension.



If no DSS is attached:

SP: "Entering an Extension"

Additional Information

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]

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 stations.

NOTE:

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

Mode All

MERLIN LEGEND Com	munications System Release 5.0
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3 Common Administrative Procedures *Telephones*

S

Page 3-74

Idle Condition System idle

Planning Form Form 4b, Analog Multiline Telephone

Form 5a, Direct-Line Console (DLC) Data Form 1a, Modem Data Station

Factory Setting Not applicable

Valid Entries Extension numbers

Inspect Yes
Copy Option Yes

Console Procedure Extensions→VoiceSignl→Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

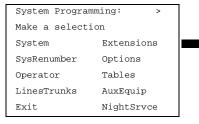
PC Procedure $[F6] \rightarrow [F10] \rightarrow Type \text{ ext. no.} \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]$

Procedure: Analog Multiline Telephones with Voice Announce to Busy

Console Display/Instructions Additional Information

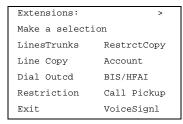
PC

▶ 1. Select the Extensions menu.



[F6]

▶ 2. Select Voice Signal.



F10

MERLIN LEGEND Communications System Release 5.0 System Programming *555-650-111*

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Fax Machines

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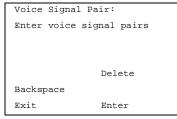
Console Display/Instructions

Additional Information

PC

▶ 3. Specify the first extension (odd numbered) of the pair.

If DSS is attached:



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.

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.

◆ 4. Specify whether or not the telephone 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 Stations

See "Data Features."

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.

Common Administrative Procedures Fax Machines

Page 3-76



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.

Summary: Fax

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 10 seconds

Valid Entries 0 to 30 seconds

Yes Inspect Copy Option Nο

Console Procedure AuxEquip→Fax→Extension→Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Msg Waiting \rightarrow Dial fax machine ext.$

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

 $F10 \rightarrow F5 \rightarrow F5$

Toggle the red LED on or

off as required. Go to Step 6.

On = jack connects to fax machine

Off = jack provides another purpose

Delete

Enter

Backspace

Exit

	MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111			
3		mmon Administrative Procedures x <i>Machines</i>		Page 3-79
		Console Display/Instructions	Additional Information	PC
>	11.	Assign or remove the extension t message-waiting indication.	o receive the	
		Select Enter or Delete.		F10 F8
			You may continue to assign or remove message-waiting indication to additiona extensions by repeating Steps 10 and 11.	I
>	12.	Continue to assign the message- to another fax extension or go to		
		Select Next.		F9
			Return to Step 10 to continue programming. The next fax extension will be displayed on Line 1.	-
>	13.	Return to the Fax menu.		
		Select Exit.		F5
>	14.	Select Threshold.		
		Fax: Make a selection		
		Extension		
		Msg Waiting Threshold		
_		Imediate		
		Exit		[F3]
>	15.	Erase the current number of seco	onds (xx).	
		FAX Threshold Duration: Enter duration (0-30sec)		
		XX		
		Backspace	D B	
			Press Drop.	Alt + P
	16.	Enter the number of seconds to wis notified that a fax message has		
		Dial or type [nn].		C
>	17.	Save your entry.		
		Select Enter.		F10

MERLIN LEGEND Communication System Programming 555-650-11		Issue 1 June 1997		
3 Common Administrative Procedures				
Optional Telephone Features		Page 3-80		
Console Display/Instruct	ions Additional Information	PC		
▶ 18. Return to the System Pr	ogramming menu.			
Select Exit twice.		F5 F5		
Optional Telephone Fo	eatures			
The procedures in thi optional features:	s section detail the steps in programming the following	owing		
■ Extension Lan	guage			
■ Pool Dial-Out 0	Code			
■ Call Restriction	s			
■ Copy Call Res	rictions			
ARS Restriction	n Level for Extensions			
■ Forced Accour	t Code Entry			
■ Microphone Op	peration			
Remote Call F	prwarding			
 Delayed Call Forwarding 				
Authorization (Codes			
Primary Cover	Ring Delay			
Secondary Cor	ver Ring Delay			
■ Group Cover F	ing Delay			
■ HotLine (single	-line telephone only)			
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 A	II			
Idle Condition Not required				
F	orm 4d, MLX Telephone orm 5b, Direct-Line Console (DLC): Digital Data orm 1b, 7500B Data Station			
Factory Setting E	nglish			

English, French, Spanish

Valid Entries

Common Administrative Procedures
Optional Telephone Features

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Inspect No Copy Option No

Console Procedure To program a single extension:

 $\begin{tabular}{ll} More \rightarrow Language \rightarrow Extensions \rightarrow Single \rightarrow Dial ext. \\ no. \rightarrow Enter \rightarrow Select a language \rightarrow Enter \rightarrow Exit \rightarrow Exit. \\ \end{tabular}$

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

 $language \rightarrow \texttt{Enter} \rightarrow \texttt{Exit} \rightarrow \texttt{Exit}$

PC Procedure To program a single extension:

 $\begin{array}{c} \text{PgUp} {\to} \text{F6} {\to} \text{F2} {\to} \text{F1} {\to} \text{Type ext. no.} {\to} \text{F10} {\to} \text{Select a} \\ \end{array}$

 $language \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

To program a block of extensions:

 $\begin{array}{c} \hline \text{PgUp} \longrightarrow \hline \text{F6} \longrightarrow \hline \text{F2} \longrightarrow \hline \text{F2} \longrightarrow \text{Type starting ext. no.} \longrightarrow \hline \text{F10} \\ \longrightarrow \hline \text{Type ending ext. no.} \longrightarrow \\ \hline \text{Select a language} \longrightarrow \hline \hline \text{F10} \longrightarrow \\ \hline \end{array}$

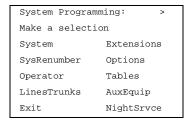
 $F5 \rightarrow F5$

Procedure: Extension Language

Console Display/Instructions Additional Information

PC

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



Select More.

PgUp

▶ 2. Select Language.

System Programming:

Make a selection

Labeling Language

Data

Print

Cntr-Prg

Exit

F6

	MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111				
3		Common Administrative Procedures Optional Telephone Features			
	Ο _Γ	·		Page 3-83	
> 4	4.	Continue to assign the languag or go to Step 5.	e to additional extensions		
		Select Next.		F9	
			Return to Step 3 to continue programming. The next extension will be displayed on Line 1.		
▶	5.	Save your entry.			
		Select Enter.		F10	
•	6.	Return to the System Programm	ning menu.		
		Select Exit two times.		F5 F5	
♦ E	Зlc	ock Procedure			
		Console Display/Instructions	Additional Information	PC	
•	1.	Enter the starting extension nu	mber.		
		Extension Language: Enter starting extension			
		Backspace Exit Enter	SP: "Entering an Extension"	c	
> 2	2.	Save your entry.			
		Select Enter.		F10	
•	3.	Enter the ending extension num	nber.		
		Lang for ext xxxx to: Enter ending extension	xxxx = extension entered in Step 1		
		Backspace Next Exit Enter	SP: "Entering an Extension"	c	
> 4	4.	Save your entry.			
		Select Enter.		F10	

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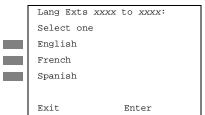
Common Administrative Procedures Optional Telephone Features

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Additional Information **Console Display/Instructions**

PC

Specify the language for the extensions. **▶** 5.



xxxx to xxxx = range of extensions entered in Steps 1 and 3

Select English, French, Or

Spanish.

[F1] F2 [F3]

Save your entry.

Select Enter.

F10

▶ 7. Return to the System Programming menu.

Select Exit twice.

F5 F5

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 telephones from dialing any line/trunk pool dial-out code.



Prior to Release 3.1, the default settings allow all telephones 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.

Summary: Pool Dial-Out Code

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Telephone 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 Station Data Form 1b. 7500B Data Station

Factory Setting Main pool: 70; All other pools: 890 to 899. All telephones are

restricted from dialing any pool dial-out code.

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Valid Entries Pool numbers

Inspect Yes
Copy Option No

Console Procedure Extensions \rightarrow Dial OutCd \rightarrow Dial ext. no. \rightarrow Enter \rightarrow Dial

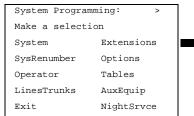
pool dial-out code→Enter→Exit→Exit

PC Procedure $[F6] \rightarrow [F3] \rightarrow Type \text{ ext. no.} \rightarrow [F10] \rightarrow Type \text{ pool dial-out}$

 $code \rightarrow F10 \rightarrow F5 \rightarrow F5$

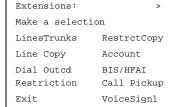
Procedure: Pool Dial-Out Code

1. Select the Extensions menu.



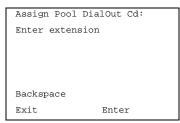
Exit NightSrvce

2. Select Dial-Out Code.



Restriction Call Pickup
Exit VoiceSignl

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 = pool dial-code is assigned Off = pool dial-code is not assigned

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	Common Administrative Procedures Optional Telephone Features		Page 3-86				
	Console Display/Instructions	Additional Information	PC				
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 pool dial-out code.						
	Extension xxxx: Enter pool dialout code	xxxx = extension entered in Step 3					
	Delete						
	Backspace Next						
	Exit Enter	Dial or type [nnn].	C				
6 .	Allow or restrict the extension	from using the pool dial-out code.					
	Select Enter or Delete.		F10 F8				
		You may continue to allow or restrict additional pool dial-out codes from this extension by repeating Steps 5 and 6.					
7 .	Continue to program pool dial or go to Step 8.	l-out codes for another extension					
	Select Next.		F9				
		Return to Step 5 to continue programming. The next extension will be displayed on Line 1.					
▶ 8.	Return to the System Program	nming menu.					
	Select Exit two times.		F5 F5				
Call	Call Restrictions						
	Use this procedure to change individual telephone calling restrictions to one of the following:						

Unrestricted

Restricted from making all outgoing calls

Restricted from making toll calls

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Optional Telephone Features

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Summary: Call Restrictions

Programmable by System Manager

Mode All

Idle Condition Telephone 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 Station Data Form 1b, 7500B Data Station

Factory Setting Unrestricted

Valid Entries Unrestricted, Outward restricted, Toll restricted

Inspect No Copy Option Yes

Console Procedure Extensions→Restriction→Dial ext.

 $no. \rightarrow Enter \rightarrow Select restriction \rightarrow Enter \rightarrow Exit$

PC Procedure $F6 \rightarrow F4 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow Select$

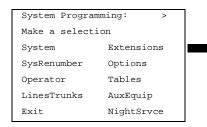
restriction→F10→F5

Procedure: Call Restrictions

Console Display/Instructions Additional Information

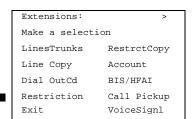
PC

1. Select the Extensions menu.



F6

2. Select Restrictions.



ming. The next extension will be dis-

F10

[F10]

played on Line 1.

Save your entry.
Select Enter.

Select Exit.

Return to the System Programming menu.

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Issue 1

Copy Call 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.

The extensions you are copying to and from can be both operator and nonoperator positions.



Dial-out code restrictions are not copied.

Summary: Copy Call Restrictions

Programmable by System Manager

Mode ΑII

Idle Condition "Copy to" telephone(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 Station Data Form 1b, 7500B Data Station

Factory Setting Not applicable Valid Entries Not applicable

Inspect

Copy Option Not applicable

If you selected Block, go to

Block Procedure.

Exit.

[F2]

Continue to copy calling restrictions from another extension to an individual extension or go to Step 3.

F9 Select Next.

> Return to Step 3 to continue programming. The next extension will be displayed on Line 1.

Save your entry.

Select Enter. F10

Console/Display Instructions **Additional Information** PC

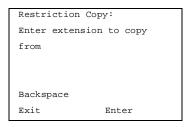
Return to the System Programming menu.

Select Exit three times. F5 F5 F5 Common Administrative Procedures
Optional Telephone Features

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◆ Block Procedure

▶ 1. Specify the extension from which you want to copy calling restrictions.



SP: "Entering an Extension"

C

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 call restrictions (nnn = 1 to 144).
- 4. Save your entry.

Copy extension xxxx To:
Enter starting extension
Logical id (1 - 144)

Backspace
Exit Enter

xxxx = extension entered in Step 4

Dial or type # [nnn].

Dial or type # [nnn].

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

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

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.

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

Valid Entries 0-6, (0 is most restrictive and 6 is least restrictive)

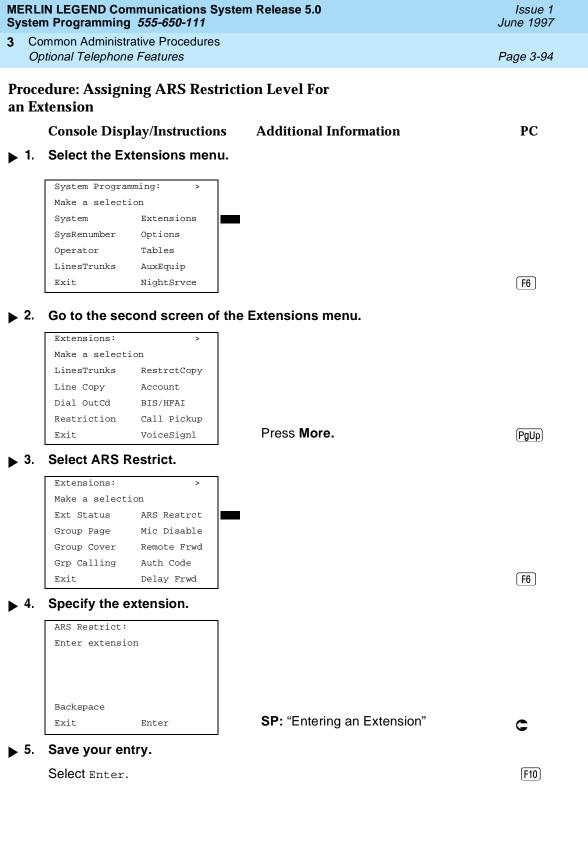
Inspect No Copy Option No

Console Procedure Extensions → More → ARS Restrict → Dial ext.

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial restriction level \rightarrow Enter \rightarrow Exit$

PC Procedure $(F6) \rightarrow (PgUp) \rightarrow (F6) \rightarrow Type \text{ ext. no.} \rightarrow (F10) \rightarrow (Alt) + (P) \rightarrow Type$

restriction level→F10→F5



					Issue 1 June 1997
3		ommon Adminis otional Telephor	trative Procedures ne Features		Page 3-95
		Console/Dis	play Instructions	Additional Information	PC
•	6.	Erase the cu	ırrent Restriction L	evel (x).	
		Extension xx: Enter ARS res (0-6)		xxxx = extension entered in Step 4	
		Backspace Exit	Next Enter	Press Drop .	Alt + P
>	7.	Enter the res	striction level (n = 0	0 to 6).	
		Extension xx: Enter ARS res (0-6)		xxxx = extension entered in Step 4	
		Backspace Exit	Next Enter	Dial or type [n].	c
•	8.	Continue to	assign restriction	levels to additional extensions or go to	Step 9.
		Select Next.	_	·	F9
				Return to Step 7 to continue programming. The next extension will be displayed on Line 1.	
•	9.	Save your e	ntry.		
		Select Enter	•		(F10)
	10	Return to th	e System Program	ming menu	

▶ 10. Return to the System Programming menu.

Select Exit. F5

Forced Account Code Entry

Use this procedure to assign or remove Forced Account Code Entry. When this feature is programmed on individual telephones, the user must enter a 1- to 16-digit account code before making an outside call.

Common Administrative Procedures
Optional Telephone Features

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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 Station
Data Form 1b, 7500B Data Station

Not assigned

Valid Entries Assigned, not assigned

Inspect Yes

Factory Setting

Copy Option No

Console Procedure Extensions→Account→Toggle LED On/Off or Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow F7 \rightarrow Toggle letter R On/Off or Type ext.$

 $no. \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

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

▶ 2. Select Forced Account Code Entry.

Extensions: >

Make a selection

LinesTrunks RestrctCopy

Line Copy Account

Dial OutCd BIS/HFAI

Restriction Call Pickup

Exit VoiceSignl

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Specify the extension.

▶ 3.

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PC

Console/Display Instructions

Forced Account Code:
Enter extensions

Delete
Backspace
Exit Enter

Additional Information

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.

▶ 4. 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.

▶ 5. Return to the System Programming menu.

Select Exit twice.

F5 F5

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

3 Common Administrative Procedures Optional Telephone Features

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Inspect Yes
Copy Option No

 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{Mic Disable} {\longrightarrow} \textbf{Toggle LED On/Off or }$

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

PC Procedure $F6 \rightarrow PgUp \rightarrow F7 \rightarrow Toggle letter R On/Off or Type ext.$

 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

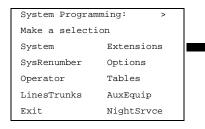
Procedure: Microphone Operation

Console Display/Instructions

Additional Information

PC

1. Select the Extensions menu



[F6]

2. Go to the second screen of the Extensions menu.

Extensions: >

Make a selection

LinesTrunks RestrctCopy

Line Copy Account

Dial OutCd BIS/HFAI

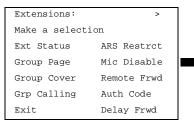
Restriction Call Pickup

Exit VoiceSignl

Press More.

PgUp

▶ 3. Select Microphone Disable.



[F7]

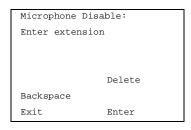
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PC

Console/Display Instructions Specify the extension.



Additional Information

If no DSS is attached:

assigned to extension.

SP: "Entering an Extension"

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

 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

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.

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").

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Summary: Authorization Codes

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Form 6h, Authorization Codes Planning Form

Factory Setting Not assigned

Valid Entries 2-11 characters (0-9, *)

Inspect Yes

No Copy Option

Console Procedure Extensions→More→Auth Code→Dial ext.

 $no. \rightarrow Enter \rightarrow Dial authorization$ $code \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F9 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Type authorization$

 $code \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Authorization Codes

Console Display/Instructions Additional Information PC

Select the Extensions menu.

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

F6

PgUp

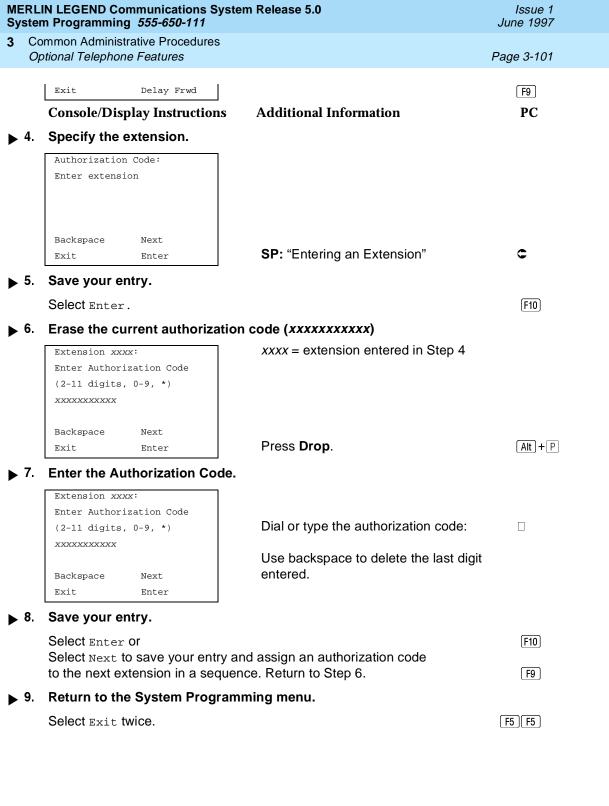
Go to the second screen of the Extensions menu.

Extensions: Make a selection LinesTrunks RestrctCopy Line Copy Account Dial OutCd BIS/HFAI Restriction Call Pickup Exit VoiceSignl

Press More.

Select Authorization Code. **▶** 3.

Extensions: Make a selection Ext Status ARS Restrct Mic Disable Group Page Group Cover Remote Frwd Grp Calling Auth Code



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Remote Call Forwarding

Use this procedure to allow or disallow the Remote Call Forwarding capability, which allows users to forward calls to an outside number.

If a telephone with Remote Call Forwarding has one or more personal lines assigned, that telephone can be assigned as the principal user, and calls received on that line are forwarded to outside numbers. See "Principal User of Personal Line."



This feature is not recommended unless you have ground-start trunks. See "Disconnect Signaling Reliability" and "Hold Disconnect Interval."

Summary: Remote 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 Station Data Form 1b, 7500B Data Station

Factory Setting Disallowed

Valid Entries Disallowed, allowed

Inspect Yes
Copy Option No

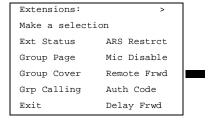
Console Procedure Extensions→More→Remote Frwd→Toggle LED On/Off or

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

PC Procedure $F6 \rightarrow PgUp \rightarrow F8 \rightarrow Toggle letter R On/Off or Type ext.$

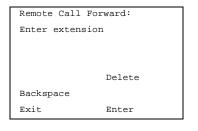
no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Select Remote Call Forward. . 3.



F8

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 6. On = remote call forwarding is assigned to extension Off = remote call forwarding is not assigned to extension

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▶ 5. 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.

▶ 6. 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.

NOTE:

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").

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 Station
Data Form 1b, 7500B Data Station

Factory Setting 0 rings

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Valid Entries 0 - 9 rings

Inspect Yes
Copy Option No

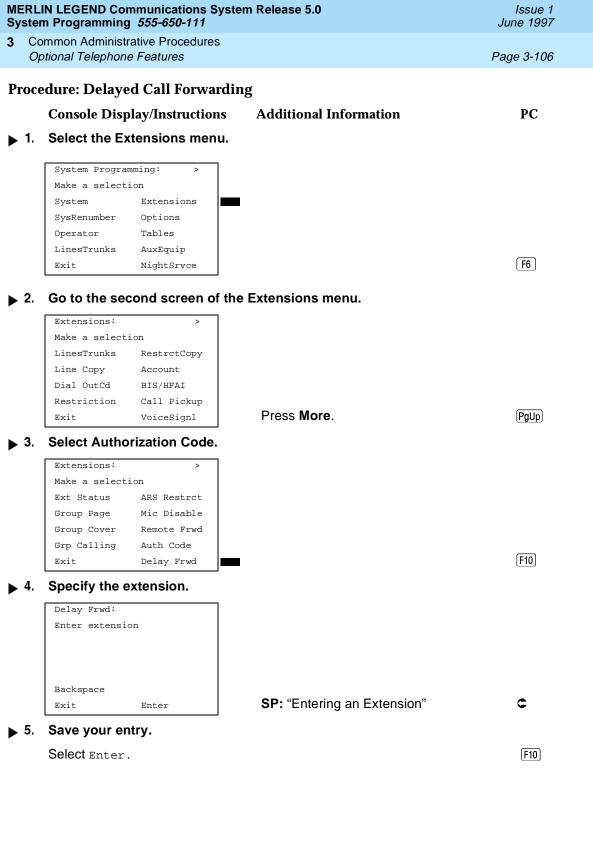
 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \texttt{Delay Frwd} {\longrightarrow} \textbf{Dial ext}.$

no. \rightarrow Enter \rightarrow **Drop** \rightarrow Dial no. of delay

 $rings \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F10 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow Alt + P \rightarrow Type \text{ no.}$

of delay rings \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]



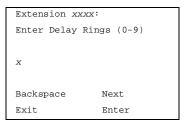
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Console/Display Instructions Additional Information

PC

▶ 6. Erase the current number of delay rings (x).

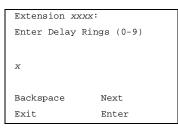


xxxx =extension entered in Step 4

Press **Drop** or Backspace.

Alt + P

→ 7. Enter the number of delay rings.



Dial or type the number of delay rings:

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.



A single-line set can never perform a trunk-to-trunk transfer.

Summary: Trunk-to-Trunk Transfer

Programmable by System Manager

Mode All

Idle Condition Not required

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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 Station
Data Form 1b, 7500B Data Station

Factory Setting Disabled

Valid Entries Enabled, Disabled

Inspect Yes
Copy Option No

Console Procedure Extensions→More→More→TrkTransfer→Toggle LED

On/Off or Dial ext. no.→Enter→Exit→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: 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

▶ 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)

Valid Entries

Inspect

Yes, No

No

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Copy Option No

Console Procedure Extensions→More→More→HotLine→Enter HotLine

 $extension \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow PgUp \rightarrow F2 \rightarrow Type HotLine$

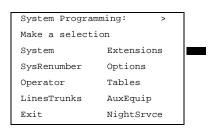
extension \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: HotLine

Console Display/Instructions Additional Information

PC

1. Select the Extensions menu.



F6

2. Go to the third screen of the Extensions menu.

Extensions: >

Make a selection

LinesTrunks RestrctCopy

Line Copy Account

Dial OutCd BIS/HFAI

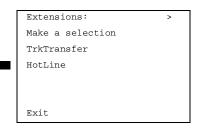
Restriction Call Pickup

Exit VoiceSignl

Press More twice.

PgUp PgUp

■ 3. Select HotLine.



F2

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	ommon Administrative Proceedional Telephone Features			Page 3-111		
-,	Console/Display Instru		Additional Information	PC		
4 .	Specify the extension		Additional Information	10		
	HotLine Extensions: Enter extensions	-	If no DSS is attached: SP: "Entering an Extension"	c		
	Delete Backspace Exit Enter		If DSS is attached: Toggle the red LED on or off as required. Go to Step 6. On = HotLine is enabled. Off = HotLine is disabled.			
▶ 5. Assign or remove HotLine from the extension entered in Step 4.						
	Select Enter to allow H			F10 F8		
			You may continue to assign or HotLine operation from additior sions by repeating Steps 4 and	nal exten-		
▶ 6.	Return to the System	Program	ming menu.			
	Select Exit twice.			F5 F5		
Prim	ary 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.					
Sum	mary: Primary Cover l	Ring Del	lay			
	Programmable by	System	Manager			
	Mode	All				
	Idle Condition	Not requ	uired			
	Planning Form Form 4b, Analog Multiline Telephone Form 4d, MLX Telephone					

Form 4f, Tip/Ring Equipment Form 5a, Direct-Line Console (DLC): Analog

Form 4e, MFM Adjunct: MLX Telephone

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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

 $Delay \rightarrow Primary \rightarrow Dial sender's extension \rightarrow Enter$

 \rightarrow Dial no. of rings (1-6) \rightarrow Enter \rightarrow 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

Secondary 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 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: Primary 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

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Console Procedure Extensions→More→More→Cover

Delay→Secondary→Dial sender's extension→Enter

 \rightarrow Dial no. of rings (1-6) \rightarrow Enter \rightarrow 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]

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

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Valid Entries	1–9 rings
---------------	-----------

Inspect No Copy Option No

 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{Cover Delay} {\longrightarrow} \textbf{Group} {\longrightarrow} \textbf{Dial}$

sender's extension→Enter

 \rightarrow Dial no. of rings (1–9) \rightarrow Enter \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow PgUp \rightarrow F2 \rightarrow F3 \rightarrow Type sender's$

extension \rightarrow [F10] \rightarrow Type no. of rings (1–9) \rightarrow [F10] \rightarrow [F5]

Optional Group Features

The procedures in this section describe how to program the following optional features:

- All 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

Call Pickup Groups

Use this procedure to assign or remove an extension from a call pickup group. A call pickup group consists of telephone users who can answer each others' calls by pressing a button or by dialing a code.



A maximum of 30 call pickup groups, with a maximum of 15 extensions per group, are allowed.

An extension can belong to only one group.

Before reassigning an extension to a new group, you must remove it from its current group.

Summary: Call Pickup Groups

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7a, Call Pickup Groups

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Factory Setting Not applicable

Valid Entries Call pickup group number, extension number

Inspect Yes
Copy Option No

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.

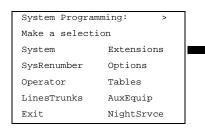
no. \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Call Pickup Groups

Console Display/Instructions Additional Information

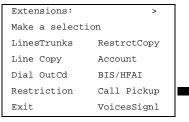
PC

▶ 1. Select the Extensions menu.



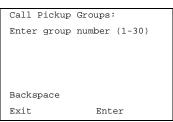
F6

2. Select Call Pickup.



[F9]

▶ 3. Enter the number of the call pickup group (nn = 1 to 30).



Dial or type [nn].

C

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Console/Display Instructions

Additional Information

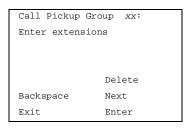
PC

▶ 4. Save your entry.

Select Enter.

F10

▶ 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 call pickup group.

Select Enter or Delete.

(F10)

F8

You may continue to assign or remove extensions from the call pickup group by repeating Steps 5 and 6.

▶ 7. Assign or remove extensions for another call pickup group or go to Step 8.

Select Next

[F9]

Return to Step 5 to continue programming. The next extension will be 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.

Common Administrative Procedures
Optional Group Features

Page 3-117

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 $F6 \rightarrow PgUp \rightarrow F2 \rightarrow Type paging group no. \rightarrow F10 \rightarrow Type ext.$

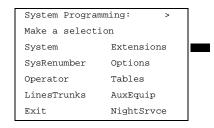
 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Group Paging

Console Display/Instructions Additional Information

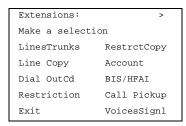
PC

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

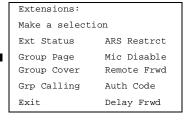
Page 3-118

Console/Display Instructions

Additional Information

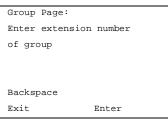
PC

3. Select Group Page.



F2

▶ 4. Enter the extension number of the paging group.



See "System Renumbering" in Chapter 5 for the factory setting for extension numbers assigned to paging groups.

Dial or type [n].

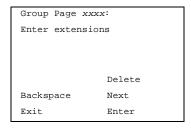
C

5. Save your entry.

Select Enter.

F10

▶ 6. Specify the extension.



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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Optional Group Features

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Console/Display Instructions

Additional Information

PC

Continue to assign the extension to another paging group or go to Step 9.

Select Next.

Return to Step 6 to continue programming. The next paging group will be displayed on Line 1.

▶ 9. 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.

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 II/III feature, Integrated Administration, to assign coverage receivers. See Chapter, "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"). In Hybrid/PBX mode only, the QCC queue can be a receiver for up to 30 coverage groups. See "QCC Operator to Receive Calls."

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."

To reassign an extension to a new coverage group, just make the assignment; the extension is automatically removed from its old group.

Common Administrative Procedures
Optional Group Features

Page 3-120

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→More→Group Cover→Dial group

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

PC Procedure $\boxed{F6} \rightarrow \boxed{PgUp} \rightarrow \boxed{F3} \rightarrow \boxed{Type group no.} \rightarrow \boxed{F10} \rightarrow \boxed{Type ext.}$

no. \rightarrow F10 \rightarrow F5 \rightarrow F5

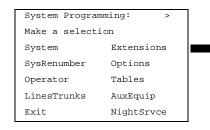
Procedure: Group Coverage Member Assignments

Console Display/Instructions

Additional Information

PC

1 Select the Extensions menu.



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 Procedure Optional Group Features

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Console/Display Instructions Select Group Coverage.

Extensions:

Make a selection

Ext Status ARS Restrct

Group Page Mic Disable

Group Cover Remote Frwd

Grp Calling Auth Code

PC

F3

▶ 4. Enter the number of the coverage group (nn = 1 to 30).

Delay Frwd

Group Coverage:
Enter group number(1-30)

Backspace
Exit Enter

Dial or type [nn].

Additional Information

C

5. Save your entry.

Exit

Select Enter.

(F10)

▶ 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"

If DSS is attached:

group

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

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.

Return to Step 6 to continue programming. The next coverage group will be 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.



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

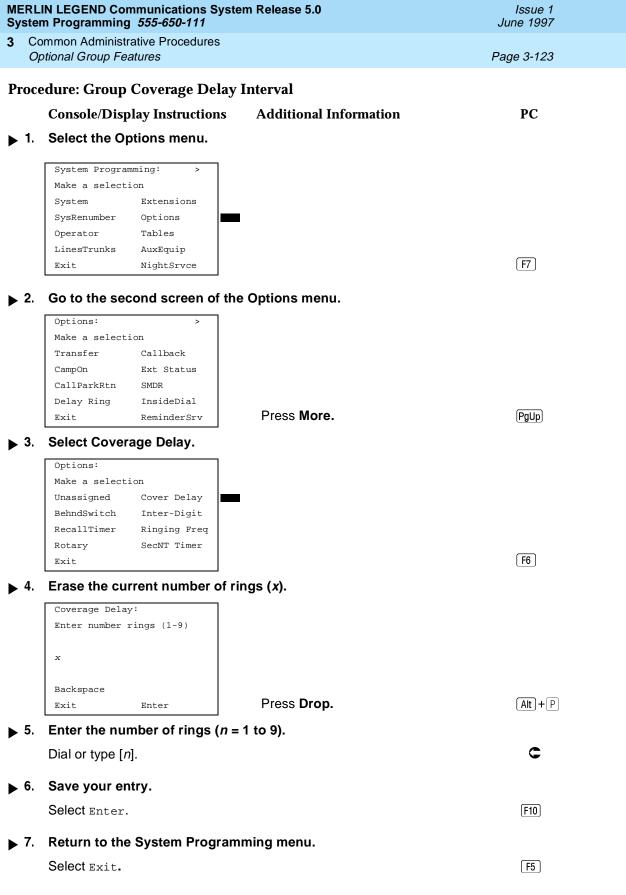
Inspect Yes
Copy Option No

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] \rightarrow [F5]



Common Administrative Procedures
Optional Group Features

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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.



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.

A maximum of 32 calling groups with a maximum of 20 extensions per group is allowed.

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 "Extension Status."

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

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

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F9 \rightarrow Type$ calling group ext.

 $no. \rightarrow F10 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

3 Common Administrative Procedures
Optional Group Features

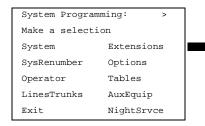
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Procedure: Group Calling Member Assignments

Console Display/Instructions Additional Information

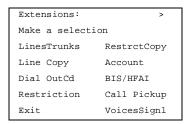
PC

Select the Extensions menu.



F6

▶ 2. Go to the second screen of the Extensions menu.



Press More.

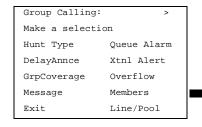
PgUp

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 Members.



F9

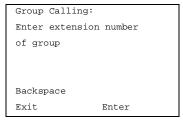
Common Administrative Procedures
Optional Group Features

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Console/Display Instructions Additional Information

PC

▶ 5. Enter the extension number of the calling group.



See "System Renumbering" in <u>Chapter</u> for the factory setting for extension numbers assigned to calling groups.

Dial or type [nnnn].

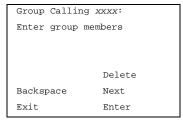
C

6. Save your entry.

Select Enter.

F10

7. Specify the extension.



xxxx = number entered in Step 5

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 a member of the calling group.

Off = extension is not a member of the calling group.

▶ 8. 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.

▶ 9. Continue to assign the extension to another calling group or go to Step 10.

Select Next

F9

Return to Step 7 to continue programming. The next calling group will be displayed on Line 1.

▶ 10. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

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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→More→Grp Calling→Line/Pool→Dial

calling group ext. no.→Enter→Dial line/trunk

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

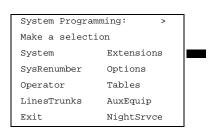
PC Procedure $(F6) \rightarrow (PgUp) \rightarrow (F4) \rightarrow (F10) \rightarrow Type calling group ext.$

no. \rightarrow F10 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

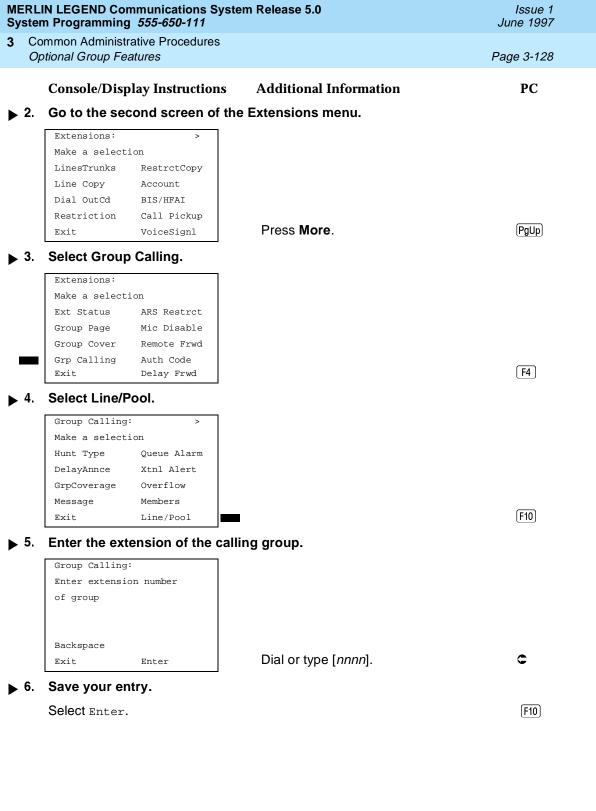
Procedure: Group Calling Line/Trunk or Pool Assignments

Console Display/Instructions Additional Information PC

▶ 1. Select the Extensions menu.



F6



MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 Common Administrative Procedures Optional Group Calling Features Page 3-129 **Additional Information** PC **Console/Display Instructions** Enter the line/trunk or pool number. **▶** 7. xxxx = number entered in Step 5 Group Calling xxxx: Enter line/pool number Dial or type: nnnn C Pool number [nn] Line/Trunk number [nnnn] Delete Slot and port number *[sspp] Backspace Next. Logical ID number #[nnn] Exit. Enter Assign or remove the line/trunk or pool from the calling group. Select Enter or F10 F8 Delete. You may continue to assign or remove lines/trunks or pools from the calling group by repeating Steps 7 and 8. Continue to assign the line/trunk or pool to another calling group or go to Step 10. Select Next. F9 Return to Step 7 to continue programming. The next calling group will be displayed on Line 1. ▶ 10. Return to the System Programming menu. Select Exit three times. F5 F5 F5 **Optional Group Calling Features** This section includes programming procedures for the following optional group calling features: Hunt Type Group Calling Delay Announcements Group Coverage Receiver Group Calling Overflow and Thresholds Group Calling Message-Waiting Indicator

Group Calling Calls-in-Queue Alarm Thresholds

Group Type

Group Calling External Alert for Calls-in-Queue Alarm

Common Administrative Procedures
Optional Group Calling Features

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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

Valid Entries Circular, Linear, Most Idle

Inspect No Copy Option No

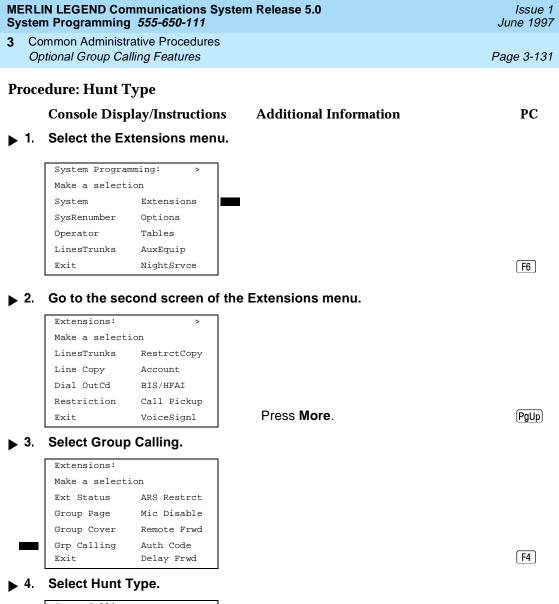
Console Procedure Extensions→More→Grp Calling→Hunt Type→Dial

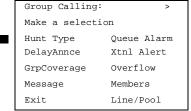
calling group ext. no.→Enter→Circular, Linear, Or Most

Idle→Enter→Exit→Exit→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





[F1]

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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.

Summary: Group Calling Delay Announcements

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 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

Announcent device→Enter→Exit→Exit→Exit

PC Procedure $[F6] \rightarrow [PgUp] \rightarrow [F4] \rightarrow [F2] \rightarrow Type calling group ext.$

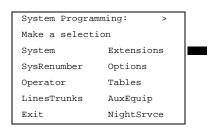
no. \rightarrow F10 \rightarrow F1 or F2 \rightarrow Type ext. no. of announcement

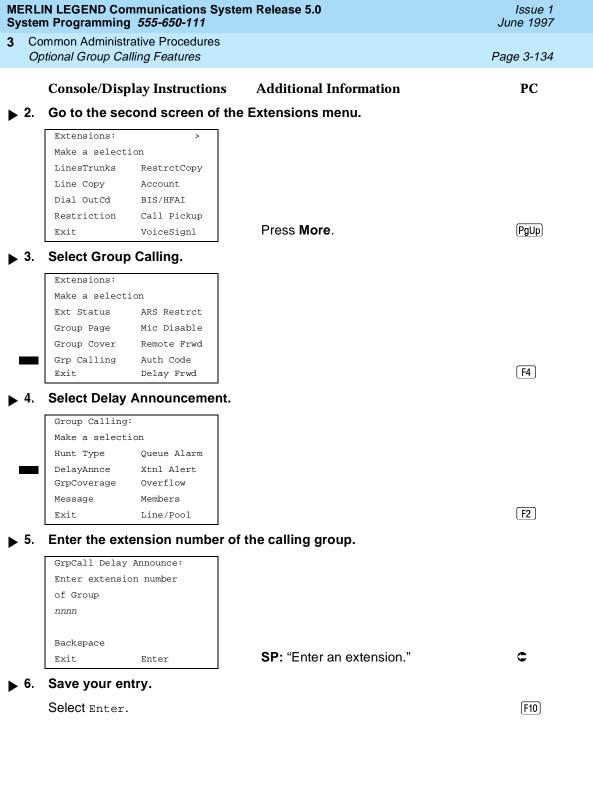
 $device \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Group Calling Delay Announcements

Console Display/Instructions Additional Information PC

1 Select the Extensions menu.





Common Administrative Procedures
Optional Group Calling Features

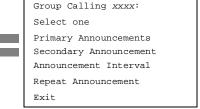
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Console/Display Instructions

Additional Information

PC

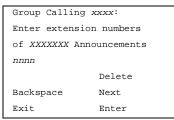
▶ 7. Select Primary Announcements or Secondary Announcement.



F1

F2

▶ 8. Enter the extension number of the announcement device.



announcement device XXXXXXX = Primary or Second

SP: "Enter an extension."

C

 9. Assign or remove a delay announcement device extension from the calling group.

Select Enter or Delete.

F10

(F8)

You may continue to assign or remove delay announcement device extensions from the calling group by repeating Steps 5 through 8.

▶ 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 will be 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.

3 Common Administrative Procedures Optional Group Calling Features

Page 3-136

Summary: Group Calling Announcement Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting 0

Valid Entries 0-900 seconds

Inspect No Copy Option No

 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{Grp Calling} {\longrightarrow} \textbf{DelayAnnce} {\longrightarrow} \textbf{Dial}$

Calling Group ext. no.→Announcement Interval→Enter

the Announcement Interval \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F2 \rightarrow Type$ the Calling Group ext.

no. \rightarrow F3 \rightarrow Type the Announcement Interval \rightarrow

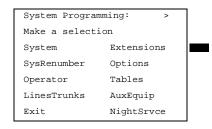
 $[F10] \rightarrow [F5] \rightarrow [F5]$

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.

Extensions: >

Make a selection

LinesTrunks RestrctCopy

Line Copy Account

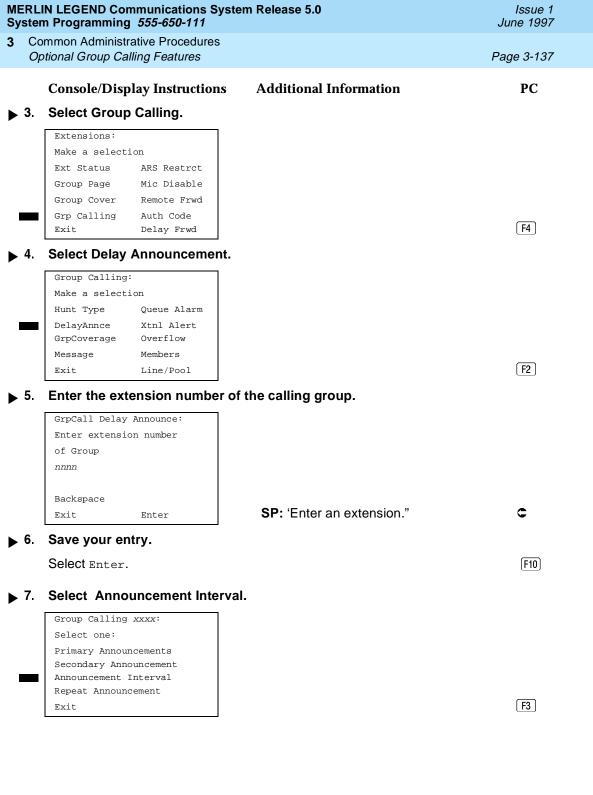
Dial OutCd BIS/HFAI

Restriction Call Pickup

Exit VoiceSignl

Press More.

(PgUp)



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Optional Group Calling Features

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Console/Display Instructions Additional Information

PC

▶ 8. Enter the Announcement delay interval.

Group Calling xxxx:

Enter interval between

Announcements (0-900 sec)

nnn

Backspace Next

Exit Enter

nnn =announcement delay interval

Enter the announcement delay interval.

▶ 9. Assign announcement delay interval to the calling group.

Select Enter F10

▶ 10. Return to the System Programming menu.

Select Exit twice. F5 F5

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

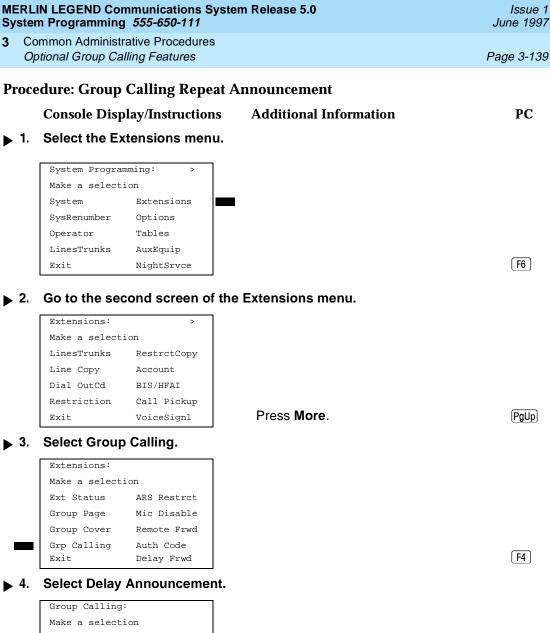
 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{Grp Calling} {\longrightarrow} \textbf{DelayAnnce} {\longrightarrow} \textbf{Dial}$

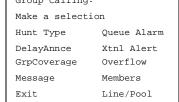
calling group ext. no.→Enter→Repeat

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





MERLIN LEGEND Communications System Release 5.0 Issue 1 June 1997 System Programming 555-650-111 Common Administrative Procedures Optional Group Calling Features Page 3-140 PC **Console/Display Instructions Additional Information** Enter the extension number of the calling group. **▶** 5. GrpCall Delay Announce: Enter extension number of Group nnnn Backspace SP: 'Enter an extension." Exit Enter Save your entry. Select Enter. F10 Select Repeat annoucement. Group Calling xxxx: Select one: Primary Announcements Secondary Announcement Announcement Interval Repeat Announcement **F4** Enter the Yes or No. Group Calling xxxx: xxxx = Calling Group.Repeat Secondary Announcement Yes No F2 Next. F3 Exit Enter 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

 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{Grp Calling} {\longrightarrow} \textbf{Grp Coverage} {\longrightarrow} \textbf{Dial}$

calling group ext. no.→Enter→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. $\rightarrow Type$

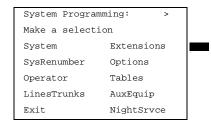
coverage group no. \rightarrow [710] \rightarrow [75] \rightarrow [75] \rightarrow [75]

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 selection

LinesTrunks RestrctCopy

Line Copy Account

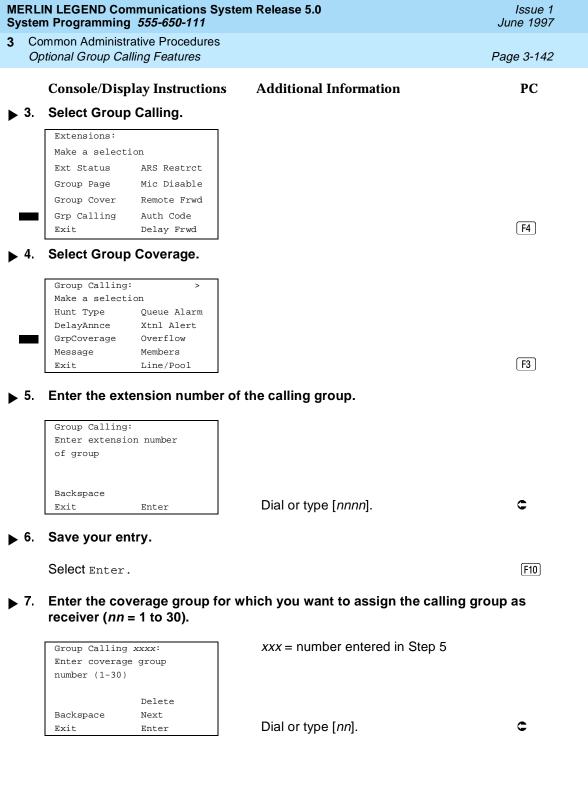
Dial OutCd BIS/HFAI

Restriction Call Pickup

Exit VoiceSignl

Press More.

PgUp



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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 will be 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. Call overflow occurs either when the number of calls waiting in the queue for a calling group is equal to or greater than the programmed threshold (overflow threshold) or when the time that a call has spent in the queue exceeds the programmed timeout value (overflow threshold time).

If the overflow threshold time is set to 0 seconds (factory setting), then overflow by time is turned off.

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.

3 Common Administrative Procedures
Optional Group Calling Features

Page 3-144

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

Valid Entries Overflow coverage: Backup extension number

Threshold: 1 to 99 calls Timeout: 0 to 900 seconds

Inspect No Copy Option No

Console Procedure Extensions→More→Grp Calling→Overflow→Dial

calling group ext. no. \rightarrow Enter \rightarrow Dial ext.

no. \rightarrow Enter \rightarrow Number Based Overflow \rightarrow Drop \rightarrow Dial no. of calls \rightarrow Enter \rightarrow Time Based Overflow \rightarrow Drop \rightarrow Dial no. of

 $seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F8 \rightarrow Type$ calling group ext.

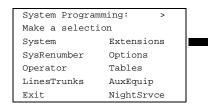
no. \rightarrow F10 \rightarrow Type backup ext. no. \rightarrow F10 \rightarrow F1 \rightarrow Alt + P \rightarrow Type no. of call \rightarrow F10 \rightarrow F2 \rightarrow Alt + P \rightarrow Type no. of

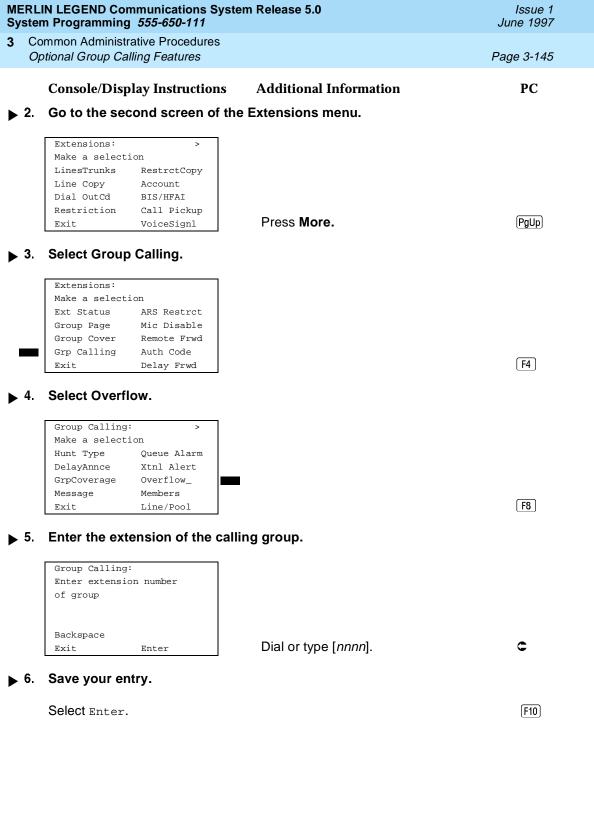
seconds \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

Procedure: Group Calling Overflow and Thresholds

Console Display/Instructions Additional Information PC

■ 1. Select the Extensions menu.





3 Common Administrative Procedures
Optional Group Calling Features

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Console/Display Instructions

Additional Information

PC

➤ 7. Erase the current extension of the calling group or the QCC Listed Directory Number (xxxx) providing coverage, if assigned.

Group Calling xxxx:

Enter cover overflow
group number or QCC LDN
nnnn

Delete
Backspace
Exit Enter

xxxx = number entered in Step 5

Press **Drop**.

Alt + P

▶ 8. Enter the extension of the calling group or the QCC Listed Directory Number you want to assign for overflow and/or timeout backup coverage.

Group Calling xxxx:
Enter cover overflow
group number or QCC LDN
nnnn
Delete
Backspace
Exit Enter

xxxx = number entered in Step 5

Dial or type [nnnn].

C

▶ 9. 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 or timeout value, you have finished this procedure.

Go to Step 18.

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

Exit

xxxx =number entered in Step 5

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Optional Group Calling Features

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Console/Display Instructions Additional Information

PC

▶ 18. 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 that will 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 \rightarrow More \rightarrow Grp Calling \rightarrow Message \rightarrow Dial calling

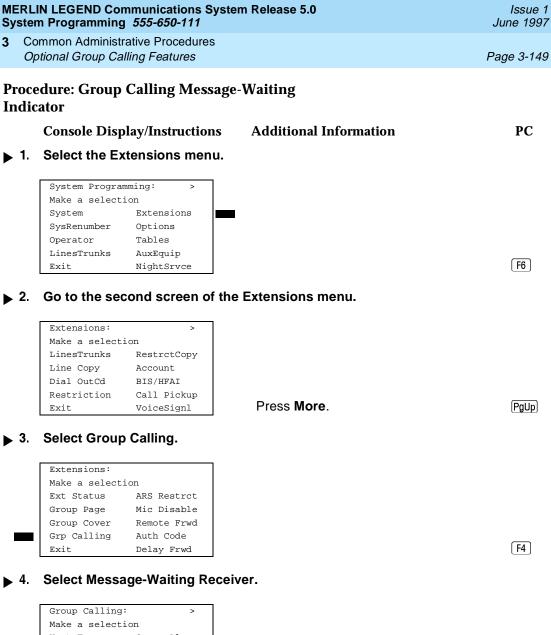
group ext. no.→Enter→Dial ext. no. for MWI

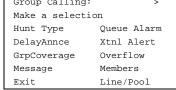
 $receiver \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F6} \rightarrow \boxed{PgUp} \rightarrow \boxed{F4} \rightarrow \boxed{F4} \rightarrow \boxed{Type calling group ext.}$

no. \rightarrow F10 \rightarrow Type ext. no. for MWI receiver \rightarrow

 $F10 \rightarrow F5 \rightarrow F5$





ERLIN LEGEND Communications System Release 5.0 Issue 1 ystem Programming 555-650-111 June 1997						
	mmon Administrative Procedures otional Group Calling Features		Page 3-150			
	Console/Display Instructions	Additional Information	PC			
5.	Enter the extension of the call	ing group.				
	Group Calling: Enter extension number of group Backspace					
	Exit Enter	Dial or type [nnnn].	C			
6.	Save your entry.					
	Select Enter.		(F10)			
7.	Erase the current extension (n	nnn).				
	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 \mathtt{Next} to assign an extensi the next calling group. Return				
10.	Return to the System Program	ming menu.				
	Select Exit two times.		F5 F5			
roup 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

Common Administrative Procedures Optional Group Calling Features

Page 3-151

Third Threshold, solid light



NOTE:

To configure only one threshold, set *all* thresholds to the same number. The LED states will be off and on. To configure only two thresholds, set two of the thresholds to be the same number, which will have LED states off, flash, and on.

Summary: Group Calling Calls-In-Queue Alarm **Thresholds**

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Settings 1 call, for all Thresholds

Valid Entries 1 to 99

Inspect Nο Copy Option No

Console Procedure Extensions → More → Grp Calling → Queue Alarm → Dial

calling group ext. no.→Enter→Alarm Threshold 1 or 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

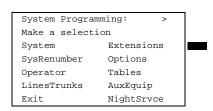
calls \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

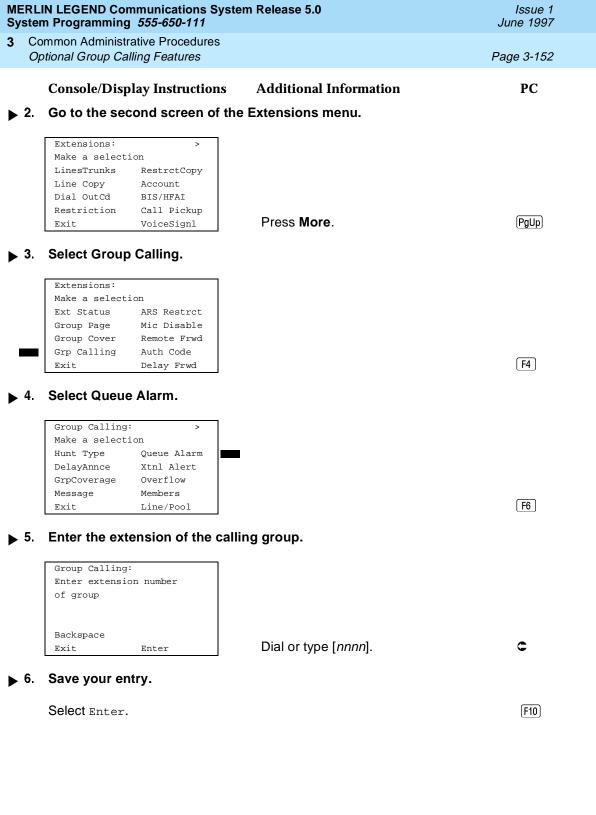
Procedure: Group Calling Calls-In-Queue Alarm Thresholds

Additional Information Console Display/Instructions

PC

Select the Extensions menu.





MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997				
•	Common Administrative Procedures Optional Group Calling Features		Page 3-153	
	Console/Display Instructions	Additional Information	PC	
7	. Select the Threshold number.			
	Group Calling xxxx:			
	Select one: Alarm Threshold 1			
	Alarm Threshold 2			
	Alarm Threshold 3		F1	
			F2	
	Exit		[F3]	
	Group Calling xxxx: Enter number calls before alarm n (1-99) nn	xxxx = number entered in Step 5 n = number of alarm threshold (1, 2, or nn = calls in queue before alarm is triggered.	3)	
	Backspace Next			
	Exit Enter	Press Drop .	Alt + P	
▶ 9	Enter the number of calls to be the alarm threshold notification			
	Dial or type[nn].		C	
1	0. Save your entry.			
	Select Enter or		F10	
	Next.		[F9]	

Use Next program the next calling group. Return to Step 7.

▶ 11. Return to the System Programming menu.

Select Exit two times.

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.

3 Common Administrative Procedures Optional Group Calling Features

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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 $\boxed{F6} \rightarrow \boxed{PgUp} \rightarrow \boxed{F4} \rightarrow \boxed{F7} \rightarrow Type calling group ext.}$

no. \rightarrow (F10) \rightarrow (Alt) + (P) \rightarrow Type ext. no. for

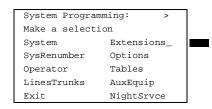
alert \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

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.

Extensions: >

Make a selection

LinesTrunks RestrctCopy

Line Copy Account

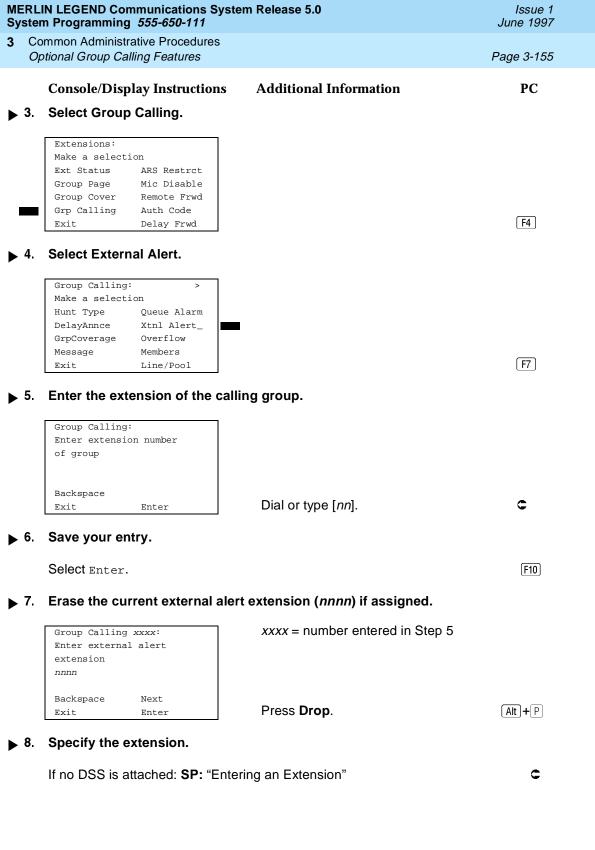
Dial OutCd BIS/HFAI

Restriction Call Pickup

Exit VoiceSignl

Press More.

PgUp



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Optional Group Calling Features

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Console/Display Instructions

Additional Information

PC

▶ 9. Save your entry.

Select Enter.

Next.

F10

Use \mathtt{Next} to program the next calling group. Return to Step 7.

▶ 10. Return to the System Programming menu.

Select Exit two times.

F5 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 stations (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 VM.** 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

3 Common Administrative Procedures
Optional Group Calling Features

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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.

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 Copy Option No

Console Procedure Extensions→More→Grp

Calling \rightarrow More \rightarrow Group \rightarrow Type Dial calling group ext.

 $no. \rightarrow Enter \rightarrow Specify login$

 $type \rightarrow Enter \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $[F6] \rightarrow [PgUp] \rightarrow [F4] \rightarrow [PgUp] \rightarrow Type calling group ext.$

 $no \rightarrow Specify login type \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

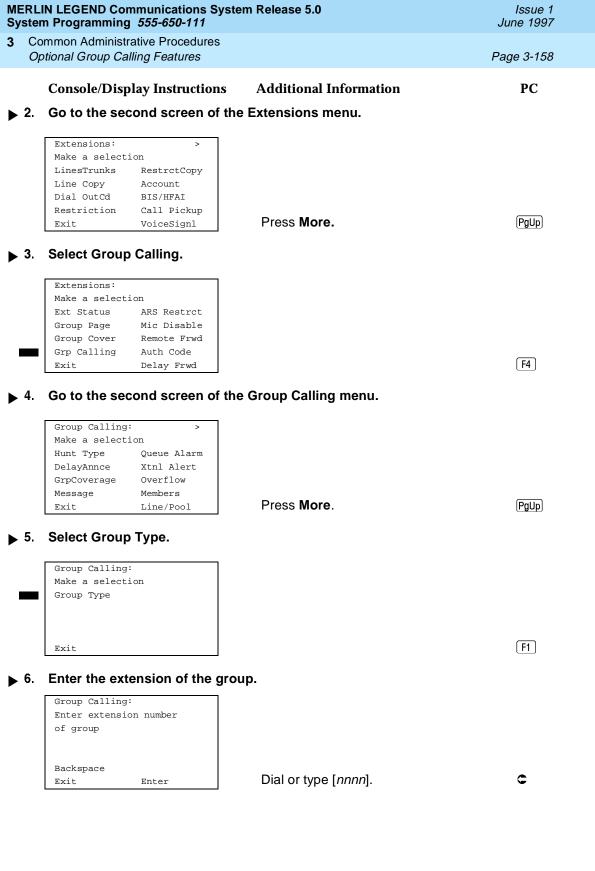
Procedure: Group Type

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



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3 Common Administrative Procedures	Page 2 150				
System Features	Page 3-159				
Console/Display Instructions Additional Inform	mation PC				
▶ 7. Save your entry.					
Select Enter.	F10				
▶ 8. Specify the type of login for the group that occurs after a power failure.					
Group Calling xxxx: Select One Auto Login Auto Logout Integ VMI Generic VMI Next XXXX = number el AXXX = number el AXXX = number el AXXX = number el AXXX = number el Auto Logout Press the button	or function key next to				
Exit Enter your selection.					
▶ 9. Save your entry.					
Select Enter or	F10				
Next.	[F9]				
to Step 8.	m the next calling group. Return				
▶ 10. Return to the System Programming menu.					
Select Exit three times.	[F5][F5][F5]				
System Features					
This section contains programming instructions for	or the entianal quatem 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 Report FormatSMDR Call Length					
Simply Gall Lelight					

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System Features

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- 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 Telephones
- Disallowed Lists
- Assign Disallowed Lists to Telephones

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 Options \rightarrow Transfer \rightarrow Return Time \rightarrow Drop \rightarrow Dial no. of rings \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $[F7] \rightarrow [F1] \rightarrow [Alt] + [P] \rightarrow Type no. of$

 $rings \rightarrow F10 \rightarrow F5 \rightarrow F5$

MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111							
3 Common Administrative Procedures System Features							
Pro	cedure: Transf	er Return Time					
	Console Disp	olay/Instructions	Additional Information	PC			
▶ 1. Select the Options menu.							
▶ 2	System Progra Make a select System SysRenumber Operator LinesTrunks Exit 2. Select Trans	ion Extensions Options Tables AuxEquip NightSrvce		F 7			
■		Callback Ext Status SMDR InsideDial ReminderSrv		F1			

F1

Make a selection Return Time One Touch Audible Type

Exit

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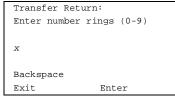
3 Common Administrative Procedures System Features

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PC

Console/Display Instructions

4. Erase the current number of rings (x).



Press Drop.

Additional Information

Alt + P

5. Enter the number of rings before a transferred call is returned to the originator (n = 0 to 9).

Use 0 to indicate that calls are not returned.

Dial or type [n].

C

6. Save your entry.

Select Enter.

F10

▶ 7. Return to the System Programming menu.

Select Exit twice.

F5 F5

One-Touch Transfer/One-Touch Hold

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 will remain on hold.

One-Touch Hold is the factory setting in Behind Switch mode only.

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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:

 $Options \rightarrow Transfer \rightarrow One$

Touch→Transfer→Enter→Manual Of
Automatic→Enter→Exit→Exit

To program One-Touch Hold: Options→Transfer→One

 $Touch \rightarrow Hold \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure To program One-Touch Transfer:

 $F7 \longrightarrow F1 \longrightarrow F2 \longrightarrow F1 \longrightarrow F10 \longrightarrow F1 \text{ or } F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

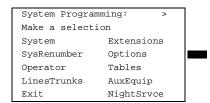
To program One-Touch Hold:

 $F7 \longrightarrow F1 \longrightarrow F2 \longrightarrow F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

Procedure: One-Touch Transfer/Hold

Console Display/Instructions Additional Information

1. Select the Options menu.

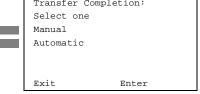


F7

PC

Select Manual or

Automatic.



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Common Administrative Procedures System Features

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Console/Display Instructions

Additional Information

PC

Save your entry. ▶ 7.

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.



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.

Summary: Transfer Audible

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting Music on Hold

Valid Entries Music on Hold, Ringback

Inspect Nο Copy Option Nο

Console Procedure Options→Transfer→Audible→Music on Hold or

 $Ringback \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F7 \longrightarrow F1 \longrightarrow F3 \longrightarrow F1 \text{ or } F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

3 Common Administrative Procedures System Features

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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.

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→Transfer→Type→Voice Announce Or

 $\texttt{Ring} \rightarrow \texttt{Enter} \rightarrow \texttt{Exit} \rightarrow \texttt{Exit}$

PC Procedure $F7 \rightarrow F1 \rightarrow F4 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Type of Transfer

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 Transfer.

Options: >
Make a selection

Transfer Callback
CampOn Ext Status
CallParkRtn SMDR
Delay Ring InsideDial
Exit ReminderSrv

MERLIN LEGEND Communications System Release 5.0 Issue 1 June 1997 System Programming 555-650-111 Common Administrative Procedures System Features Page 3-168 **Additional Information** PC **Console/Display Instructions** Select Transfer Type. Transfer Make a selection Return Time One Touch Audible Type **F4** Exit Specify whether a voice or ring button is automatically selected. Type of Transfer: Select one Voice Announce Select Voice Announce or [F1] F2 Ring. Exit Enter 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 ΑII Idle Condition Not required Planning Form Form 6f, System Features Factory Setting 90 seconds Valid Entries 30 to 300 seconds, in 10-second increments No Inspect Copy Option No

Console Procedure options→Campon→Drop→Dial no. of seconds→Enter→Exit

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.

3 Common Administrative Procedures System Features

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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 Options \rightarrow CallParkRtn \rightarrow **Drop** \rightarrow Dial no. of

 $seconds \rightarrow Enter \rightarrow Exit$

PC Procedure $F7 \rightarrow F3 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow F5 \rightarrow F5$

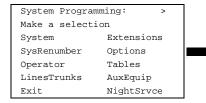
Procedure: Call Park Return Time

Console Display/Instructions

Additional Information

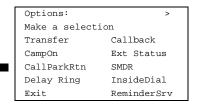
PC

▶ 1. Select the Options menu.



[F7]

▶ 2. Select Call Park Return.



MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 Common Administrative Procedures System Features Page 3-171 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) Backspace Press **Drop**. (Alt)+(P) Exit Enter Enter the number of seconds before a parked call returns to the originator (nnn = 30 to 300).C Dial or type [nnn]. **5**. Save your entry. Select Enter. F10 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. **≡>** NOTE: 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 ΑII Idle Condition Not required Form 8a, System Features Planning Form Factory Setting 2 rings Valid Entries 1 to 6 rings Inspect Nο

Copy Option

Nο

System Features Page 3-172

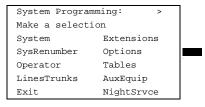
Console Procedure Options→Delay Ring→Drop→Dial no. of rings→Enter→Exit

PC Procedure F77→F4→Alt+P→Type no. of rings→F10→F5

Procedure: Delay Ring Interval

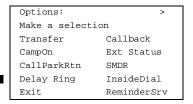
Console Display/Instructions Additional Information PC

Select the Options menu.



F7

▶ 2. Select Delay Ring.



F4

 \triangleright 3. Erase the current number of rings (x).

Delay Ring:
Enter number rings (1-6)

x

Backspace
Exit Enter

Press Drop.

Alt + P

▶ 4. Enter the number of rings for the delay ring interval (n = 1 to 6).

Dial or type [*n*].

C

[F5]

5. Save your entry.

Select Enter. F10

▶ 6. Return to the System Programming menu.

Select Exit.

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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 Options \rightarrow Callback \rightarrow Drop \rightarrow Dial no. of

 $rings \rightarrow Enter \rightarrow Exit$

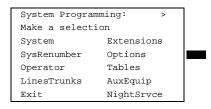
PC Procedure $F7 \rightarrow F6 \rightarrow Alt + P \rightarrow Type no. of rings \rightarrow F10 \rightarrow F5$

Procedure: Automatic Callback Interval

Console Display/Instructions Additional Information

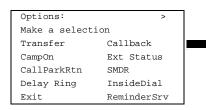
PC

1. Select the Options menu.



[F7]

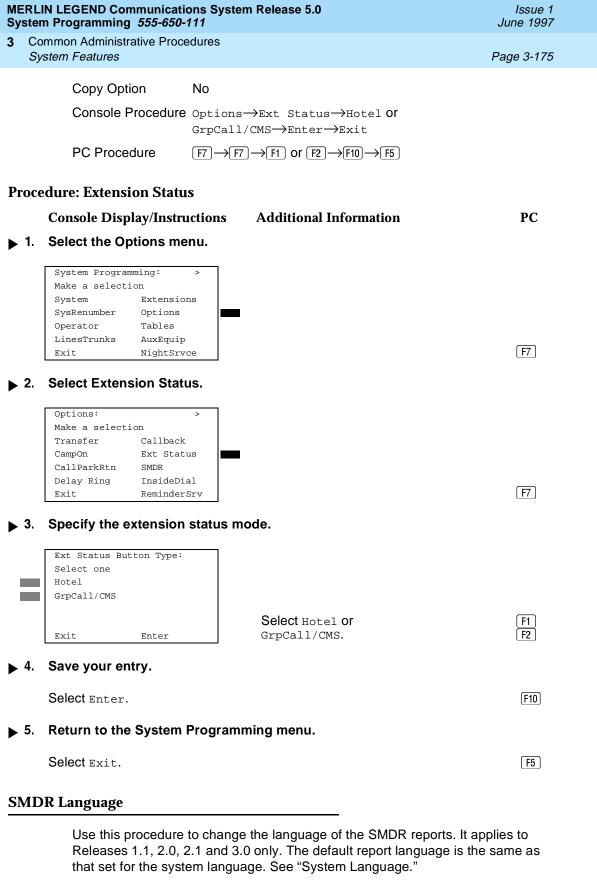
▶ 2. Select Automatic Callback Interval.



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3		mmon Administrative Procestem Features	edures		Page 3-	174
	2	Console/Display Instru		Additional Information	PC	C
•	3.	Automatic Callback: Enter number callback rings (1-6)	iber of rin	ngs (<i>x</i>).		
		Backspace Exit Enter		Press Drop .	Alt	+ P
>	 Enter the number of rings before the system cancels the automatic callback request (n = 1 to 6). 					
		Dial or type [n].			(
	5.	Save your entry.				
		Select Enter.			F1	0
>	6.	Return to the System	Programr	ming menu.		
		Select Exit.			FE	5
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.					d in
	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 N	Manager		
		Mode	All			
		Idle Condition	Not requi	ired		
		Planning Form	Form 8a,	System Features		
		Factory Setting	Group Ca	alling/CMS mode		
		Valid Entries	Group Ca	alling/CMS mode, Hotel me	ode	

Inspect

No



3 Common Administrative Procedures System Features

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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

Inspect No Copy Option No

Console Procedure More→Language→SMDR→Select language→Enter→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.

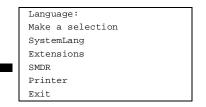
PgUp

2. Select Language.

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

F6

■ 3. Select SMDR.

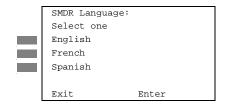


Program the system language first. See "System Language."

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System Features

▶ 4. Specify the SMDR language.



Select English, French, Or Spanish.

F1 F2 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

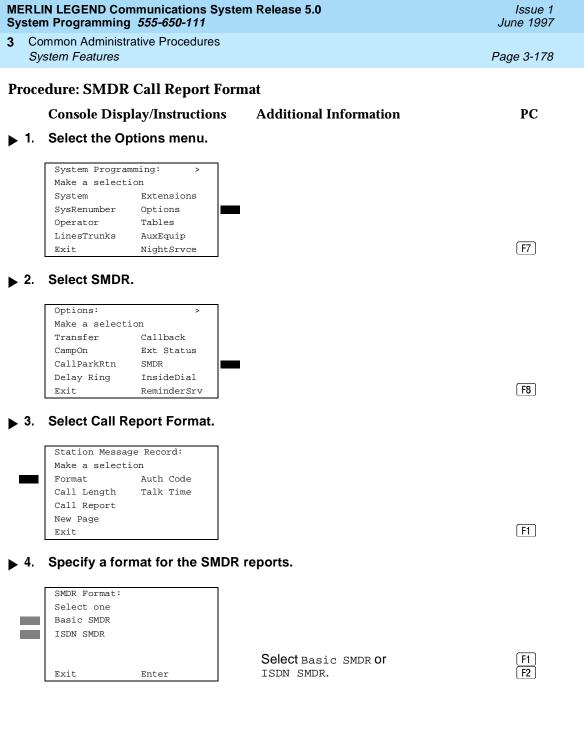
Factory Setting Basic format Valid Entries Basic, ISDN

Inspect No Copy Option No

Console Procedure Options \rightarrow SMDR \rightarrow Format \rightarrow Basic SMDR or

 $ISDNSMDR \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F7 \rightarrow F8 \rightarrow F1 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$



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Additional Information

PC

Save your entry. **▶** 5.

Select Enter.

F10

Return to the System Programming menu. ▶ 6.

Select Exit two times.

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.



NOTE:

If the majority of lines/trunks are PRI, the recommended call length is 1. See Feature Reference for more information.

Summary: SMDR Call Length

Programmable by System Manager

Mode ΑII

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→SMDR→Call Length→Drop→Dial no. of

 $seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F7 \rightarrow F8 \rightarrow F2 \rightarrow Alt + P \rightarrow Type no. of$

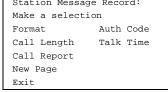
seconds \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: SMDR Call Length

Console Display/Instructions Additional Information PC

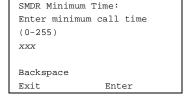
▶ 1. Select the Options menu.

System Programming:



F2

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].

C

Save your entry. **▶** 6.

Select Enter.

[F10]

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Console/Display Instructions Additional Information

PC

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.

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 \rightarrow SMDR \rightarrow Call Report \rightarrow In/Out or Out

 $Only \rightarrow Enter \rightarrow Exit \rightarrow Exit$

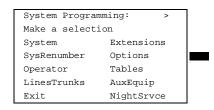
PC Procedure $\boxed{F7} \rightarrow \boxed{F8} \rightarrow \boxed{F3} \rightarrow \boxed{F1} \text{ or } \boxed{F2} \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

Procedure: SMDR Calls Recorded on Call Report

Console Display/Instructions Additional Information

PC

▶ 1. Select the Options menu.



MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 Common Administrative Procedures System Features Page 3-182 **Additional Information** PC **Console/Display Instructions** Select SMDR. Options: Make a selection Transfer Callback Ext Status CampOn CallParkRtn SMDR Delay Ring InsideDial F8 ReminderSrv Select Call Report. New Page inserts a page break in Station Message Record: the report. Make a selection Format Auth Code Call Length Talk Time Call Report New Page F3 Exit Specify whether SMDR information is recorded for both incoming and outgoing calls or for outgoing calls only. SMDR Call Report: Select one In/Out Out Only Select In/Out or [F1] F2 Out Only. Exit Enter Save your entry. Select Enter. [F10] Return to the System Programming menu. Select Exit twice. F5 F5 **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 ΑII

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System Features Page 3-183

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→SMDR→Auth Code→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

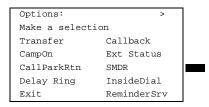
Console Display/Instructions Additional Information PC

1. Select the Options menu.



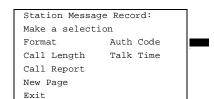
F7

2. Select SMDR.



F8

3. Select Authorization Code.



New Page inserts a page break in the report.

[F6]

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Console/Display Instructions

Additional Information

PC

▶ 4. Specify whether the home extension number or the authorization code will be recorded.

Account Code Format:
Select One
Home Extension Number
Auth Code
Authorization Code

Exit Enter

Select Home Extension Number or Authorization Code

5. Save your entry.

Press Enter.

F10

[F1]

F2

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

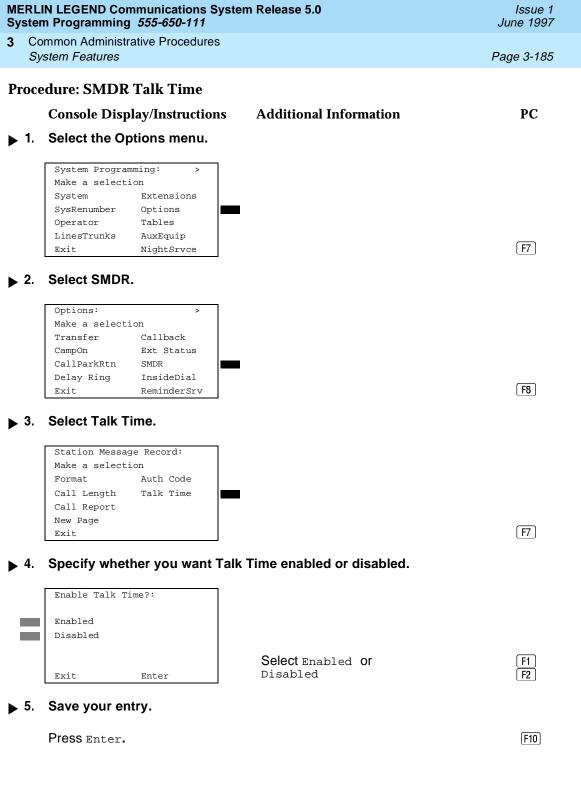
Valid Entries Enabled, Disabled

Inspect No Copy Option No

 $\textbf{Console Procedure Options} {\longrightarrow} \textbf{SMDR} {\longrightarrow} \textbf{Talk Time} {\longrightarrow} \textbf{Enable Or Disable}$

 \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $(F7) \rightarrow (F8) \rightarrow (F7) \rightarrow (F1) \text{ or } (F2) \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$



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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 \rightarrow InsideDial \rightarrow Inside or

 $Outside \rightarrow Enter \rightarrow Exit$

PC Procedure $[F7] \rightarrow [F9] \rightarrow [F1]$ or $[F2] \rightarrow [F10] \rightarrow [F5]$

▶ 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.

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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:

 $\texttt{Options} \xrightarrow{} \texttt{Reminder Srv} \xrightarrow{} \textbf{Drop} \xrightarrow{} \texttt{Enter} \xrightarrow{} \texttt{Exit}$

To set Reminder Service Cancel time:

Options→Reminder Srv→**Drop**→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:

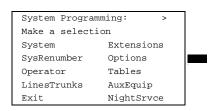
 $F7 \rightarrow F10 \rightarrow Alt + P \rightarrow Type time \rightarrow F10 \rightarrow F5$

Procedure: Reminder Service Cancel

Console Display/Instructions Additional Information

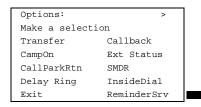
PC

▶ 1. Select the Options menu.



F7

2. Select Reminder Service Cancel.



	IN LEGEND Communications 5 m Programming 555-650-111	System Release 5.0	Issue 1 June 1997
	ommon Administrative Procedure system Features	es	Page 3-189
	Console/Display Instructio	ns Additional Information	PC
3 .	Erase the current reminde	er service time (xxxx) if assigned.	
	Reminder Service Cancel: Enter hour (00-23) and minute (00-59) xxxx		
	Backspace		
	Exit Enter	Press Drop .	Alt + P
4 .	Exit Enter	n all reminders are to be canceled	Alt + P
→ 4.	Exit Enter Enter the time of day when	n all reminders are to be canceled	
4 .	Exit Enter Enter the time of day when	n all reminders are to be canceled 0 to 59). To deactivate Reminder Ser	
→ 4.	Enter the time of day when (hh = 00 to 23 and mm = 0) Dial or type [hhmm].	n all reminders are to be canceled 0 to 59). To deactivate Reminder Ser	

6. Return to the System Programming 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

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."

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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:

 $\texttt{Options} \rightarrow \textbf{More} \rightarrow \texttt{Unassigned} \rightarrow \texttt{QCC} \ \texttt{Queue} \rightarrow \texttt{Enter} \rightarrow \texttt{Exit}$

To select extension or calling group:

Options \rightarrow More \rightarrow Unassigned \rightarrow Extension or Grp Calling \rightarrow Enter \rightarrow Dial ext. no. \rightarrow Enter \rightarrow 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 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.

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

F10

Select Enter.

	MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111						
3		mmon Administrative Procedures stem Features		Page 3-192			
	7.	Console/Display Instructions Return to the System Program	Additional Information	PC			
	٠.	Neturn to the System i rogran	mining menu.				
		Select Exit.		F 5			
•	Extension Procedure						
		${\bf Console\ Display/Instructions}$	Additional Information	PC			
>	1.	1. Specify the extension to which calls are to be redirected.					
		Unassign Calls Ext: Enter extension					
		Backspace		_			
		Exit Enter	SP: "Entering an Extension"				
>	2.	Save your entry.					
		Select Enter.		F10			
>	3.	B. Return to the System Programming menu.					
		Select Exit.		F5			
<u></u>	Gro	oup Calling Procedure					
>	1.	•	lling group to which calls are to be i	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 Programming menu.					
		Select Exit.		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 six digits

Inspect No Copy Option No

Console Procedure Options→More→BehndSwitch→Select

feature→**Drop**→Dial host system dial

 $code \rightarrow Enter \rightarrow Exit \rightarrow Exit$

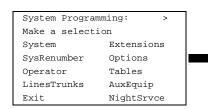
PC Procedure $(F7) \rightarrow (PgUp) \rightarrow (F2) \rightarrow Select feature \rightarrow (Alt) + (P) \rightarrow Type host$

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.



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Console/Display Instructions Additional Information

PC

Return to the System Programming menu.

Select Exit two times.

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 to get a new dial tone without hanging up. Both the interval of the timed flash and the way that 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

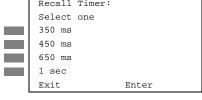
Valid Entries 350 ms, 450 ms, 650 ms, 1 second

Inspect No Copy Option No

Console Procedure Options→More→RecallTimer→Select

 $time \rightarrow Enter \rightarrow Exit$

PC Procedure $F7 \rightarrow PgUp \rightarrow F3 \rightarrow Select time \rightarrow F10 \rightarrow F5$



Press the button or function key next to your selection.

Save your entry.

Select Enter. F10

Return to the System Programming menu.

Select Exit. F5

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Inter-digit Timers

This procedure to program inter-digit 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 inter-digit timers to shorter times will permit the call to be put on hold or transfered. 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

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

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial no. \rightarrow Enter \rightarrow Exit$

PC Procedure $\boxed{F8} \rightarrow \boxed{F1} \rightarrow \boxed{Type \text{ list no. and entry no.}} \rightarrow \boxed{F10} \rightarrow \boxed{F10}$

 $[Alt] + [P] \rightarrow Type no. \rightarrow [F10] \rightarrow [F5]$

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System Features

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Console/Display Instructions Additional Information

PC

▶ 7. Save your entry.

Select Enter or

F10 F9

Use Next to enter the next number on the list displayed on Line 1. Return to Step 7.

▶ 8. Return to the System Programming menu.

Select Exit.

F5

Assign Allowed Lists to Telephones

Use this procedure to assign individual telephones access to established Allowed Lists. More than one Allowed List can be assigned to a telephone.

Summary: Assign Allowed Lists to Telephones

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 AllowTo \rightarrow Dial list no. \rightarrow Enter \rightarrow Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F8} \rightarrow \boxed{F2} \rightarrow \boxed{Type \text{ list no.}} \rightarrow \boxed{F10} \rightarrow \boxed{Type \text{ ext.}}$

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

Procedure: Assign Allowed Lists to Telephones

Console Display/Instructions Additional Information PC

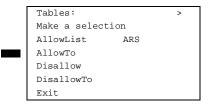
▶ 1. Select the Tables menu.

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

Common Administrative Procedures System Features

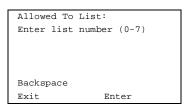
Page 3-200

Select Allowed To List.



[F2]

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].

Save your entry.

Select Enter.

(F10)

C

C

Specify the extension to assign to the allowed list.

Allow 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"

If DSS is attached: Toggle the red LED on or off as required. Go to Step 7. On = allowed list is assigned. Off = allowed list is not assigned. MERLIN LEGEND Communications System Release 5.0 System Programming *555-650-111*

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Console/Display Instructions

Additional Information

PC

▶ 6. Assign or remove the extension from the allowed list.

Select Enter or Delete.

F10 F8

You may continue to assign or remove the allowed list from additional extensions by repeating Steps 5 and 6.

▶ 7. Continue to assign extensions to the next allowed list or go to Step 8.

Select Next.

F9

Return to Step 5. The next allowed list will be displayed on Line 1.

. Return to the System Programming menu.

Select Exit two times.

F5 F5

Disallowed Lists

Use this procedure to establish Disallowed Lists. These lists are telephone numbers that cannot be dialed from specified telephones (including unrestricted telephones).

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.



A SecurityAlert:

Čreate 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 recommends that you add them. Assign all voice mail port extensions to this Disallowed List. Lucent 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.)

3 Common Administrative Procedures System Features

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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-digits (including wildcards)

Inspect No Copy Option No

Console Procedure Tables→Disallow→Dial list no. and entry

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial no. \rightarrow Enter \rightarrow Exit$

PC Procedure $F8 \rightarrow F3 \rightarrow Type$ list no. and entry no. $\rightarrow F10 \rightarrow Alt +$

 $P \rightarrow Type no. \rightarrow F10 \rightarrow F5$

Procedure: Disallowed Lists

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 Disallowed List.

Tables:
Make a selection
AllowList ARS
AllowTo
Disallow
DisallowTo
Exit

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3		mmon Administrative Procedures stem Features		Page 3-203
		Console/Display Instructions	Additional Information	PC
>	3.	Specify the list $(I = 0 \text{ to } 7)$ and e	ntry ($e = 0$ to 9) numbers.	
		Disallow List: Enter list (0-7) and entry (0-9)	If you do not enter a list number, List 0 is assigned.	
		Backspace Exit Enter	Dial or type [le].	
>	4.	Save your entry.		
		Select Enter.		F10
>	5.	Erase the current telephone (n).		
		Disallow List 1 Entry e Enter list item (12 digits maximum) nnnnn	I = list number entered in Step 3e = entry number entered in Step 3	
		Backspace Next Exit Enter	Press Drop .	Alt + P
>	6.	Enter the disallowed telephone	number (n = up to 12 digits).	
		Dial or type [n].		C
>	7.	Continue to assign the next tele Step 8.	phone number to the disallowed list o	r go to
		Select Next.		F9
			Use Next to assign the next entry to the lowed list displayed on Line 1. Return	
>	8.	Return to the System Programn	ning menu.	
		Select Exit.		F 5

3 Common Administrative Procedures
System Features

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Assign Disallowed Lists to Telephones

Use this procedure to assign established Disallowed Lists to individual telephones. Each restricted telephone can be assigned to more than one list.

Summary: Assign Disallowed Lists to Telephones

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→DisallowTo→Dial list no.→Enter→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]

Procedure: Assign Disallowed Lists to

Telephones

Console Display/Instructions Additional Information

PC

Select the Tables menu.

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

F8

2. Select Disallow To Lists.

Tables:
Make a selection
AllowList ARS
AllowTo
Disallow
DisallowTo
Exit

[F4]

Return to Step 5. The next disallowed list will be

F5 F5

displayed on Line 1.

Return to the System Programming menu.

Select Exit twice.

Common Administrative Procedures
Night Service

Page 3-206

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 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

Common Administrative Procedures
Night Service

Page 3-207

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:

 $\label{eq:def:def:def:def:no.of} $$ \mbox{NightSrvce} \to \mbox{GroupAssign} \to \mbox{Extensions} \to \mbox{Dial ext. no. of} $$ \mbox{Night Service attendant} \to \mbox{Enter} \to \mbox{Dial ext. no. of} $$$

 $telephone \rightarrow Enter \rightarrow Exit \rightarrow Exit$

To assign an outside line to a Night Service group:

 $\label{eq:decompassion} $$\operatorname{NightSrvce} \to \operatorname{GroupAssign} \to \operatorname{Extensions} \to \operatorname{Dial\ ext.\ no.\ of} $$\operatorname{NightService\ attendant} \to \operatorname{Enter} \to \operatorname{Dial\ outside\ line\ number} $$(801-880) \to \operatorname{Enter} \to \operatorname{Exit} \to \operatorname{Exit} $$$

PC Procedure

To assign a calling group to a Night Service group:

 $F10 \rightarrow F1 \rightarrow F2 \rightarrow T$ ype ext. no. of Night Service attendant $\rightarrow (F10) \rightarrow T$ ype 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 ext. no. of telephone \rightarrow F50 \rightarrow F5

To assign an outside line to a Night Service group:

 $F10 \rightarrow F1 \rightarrow F1 \rightarrow T$ ype ext. no. of Night Service attendant $\rightarrow F10 \rightarrow T$ ype outside line number

 $(801-880) \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

Procedure: Night Service Group Assignment

 ${\bf Console\ Display/Instructions} \qquad {\bf Additional\ Information}$

PC

Select the Night Service menu.

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

F10

▶ 2. Select Group Assignment.

Night Service:
Make a selection
GroupAssign Start
OutRestrict Stop
Emergency Time Control
ExcludeList Cover Control
Exit

F1

Common Administrative Procedures
Night Service

Page 3-208

Console/Display Instructions

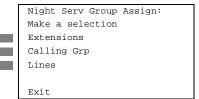
Additional Information

РC

[F1]

F2

3. Select an option.

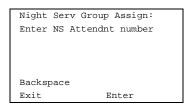


Select Extensions to add an extension to a Night Service group.

Select Calling Grp to add a calling group to a Night Service group.

Select Cover Control to add outside lines to a Night Service group.

▶ 4. Enter the operator number.



Dial or type [nnnn].

C

5. Save your entry.

Select Enter.

F10

If you selected ${\tt Extensions}$ in Step 3, go to

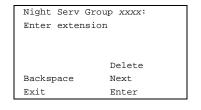
Extensions Procedure.

If you selected Calling Grp in Step 3, go to

◆ Calling Group Procedure.

Extensions Procedure

▶ 1. Specify the extension you want to assign to the Night Service group.



xxxx = number entered 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. Then, go to Step 3.

On = extension assigned to group
Off = extension not assigned to group

Common Administrative Procedures

Night Service

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Console/Display Instructions

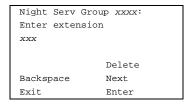
Additional Information

PC

[F10]

F8

2. Assign or remove the extension(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 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

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].

C

[F10]

F8

▶ 2. Assign or remove the calling group(s) from the Night Service group.

Night Serv Group xxxx:
Enter group call ext
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 calling groups from the Night Service group by repeating Steps 1 and 2.

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]

Common Administrative Procedures

Night Service Page 3-210

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.

NOTE:

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.

Summary: Night Service with Outward Restriction

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 9b, Night Service: Outward Restrictions

Factory Setting No password

Valid Entries Four digits (any combination of 0 to 9)

Inspect Yes (Exclusion List)

Copy Option No

Common Administrative Procedures
Night Service

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 $Console\ Procedure\ {\tt NightSrvce} {\longrightarrow} {\tt OutRestrict} {\longrightarrow} Drop {\longrightarrow} Dial$

password→Enter→Emergency→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 $F10 \rightarrow F2 \rightarrow Alt + P \rightarrow Type password \rightarrow F10 \rightarrow F3 \rightarrow Type$

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

F2

▶ 3. Erase the current password (xxxx) if assigned.

Night Serv OutRestrict:
Enter 4-digit password

xxxx

Backspace
Exit Enter

Press **Drop**.

Alt + P

▶ 4. Enter a four-digit password (n = any combination of 0 to 9).

Night Serv OutRestrict:
Enter 4-digit password

Backspace
Exit Enter

To remove the password requirement, leave the screen blank and go to Step 5.

Dial or type [nnnn].

Night Serv Exclusion: Enter extensions excluded Delete Backspace Exit Enter

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

If no DSS is attached:

15. Assign or remove the extension(s) from the exclusion list.

Select Enter or F10 Delete. 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.

Common Administrative Procedures Night Service

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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).

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 9 \rightarrow 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 Nο Copy Option Nο

Console Procedure To add or change start/stop time:

NightSrvce→Start→**Drop**→**Dial start day and** $time \rightarrow Enter \rightarrow Stop \rightarrow Drop \rightarrow Dial stop day and$

 $time \rightarrow Enter \rightarrow Exit$

To activate/deactivate:

 $\label{eq:NightSrvce} \textbf{NightSrvce} \longrightarrow \textbf{Time Control} \longrightarrow \textbf{Off Or On} \longrightarrow \textbf{Enter} \longrightarrow \textbf{Exit}$

Common Administrative Procedures
Night Service

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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 $F2 \rightarrow F10 \rightarrow F5$

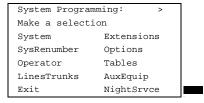
Procedure: Night Service with Time Set

Console Display/Instructions

Additional Information

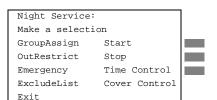
PC

▶ 1. Select the Night Service menu.



F10

2. Select Night Service option.



To add or change start time, select Start and go to

luro

Add or Change Start Time Procedure.

To add or change stop time, select Stop and go to [F7]

[F6]

◆ 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

▶ 1. 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]

≥ 2. 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 light Service	Page 3-216		
▶ 3	Save your entry.			
	Select Enter.	F10		
> 4	Return to the System Programming menu.			
	Select Exit.	F5		
♦ A	ld or Change Stop Time Procedure			
	Console Display/Instructions Additional Information	PC		
▶ 1	Erase the current stop day and 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	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].	C		
▶ 3	Save your entry.			
	Select Enter.	F10		

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.

3 Common Administrative Procedures
Night Service

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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

 $Disable \rightarrow Enter \rightarrow Exit$

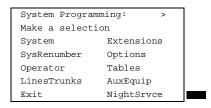
PC Procedure $F10 \rightarrow F9 \rightarrow F1$ **Or** $F2 \rightarrow F10 \rightarrow F5$

Procedure: Night Service with Coverage Control

Console Display/Instructions Additional Information

PC

▶ 1. Select the Night Service menu.



F10

▶ 2. Select Night Service Cover Control option.

Night Service:

Make a selection

GroupAssign Start

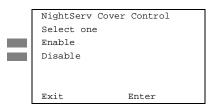
OutRestrict Stop

Emergency Time Control

ExcludeList Cover Control

F9

▶ 3. Enable or disable Cover Control.



Enable cover control Disable cover control.

F1 F2

▶ 4. Return to the System Programming menu.

Select Exit.

F5 F5

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Labeling

Labeling

The procedures in this section cover how to add or change labels for the following:

- **Extension Directory**
- Lines or Trunks

Common Administrative Procedures

- 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.



See the MLX-20L User's Guide for instructions on creating or editing a personal directory.

Common Administrative Procedures

Labeling Page 3-220

Extension Directory

Use this procedure to establish alphanumeric system labels for display set 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.

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

Console Procedure More \rightarrow Labeling \rightarrow Directory \rightarrow Extension \rightarrow Dial ext.

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Enter$

 $label \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F1 \rightarrow F2 \rightarrow Type \ ext. \ no. \rightarrow F10 \rightarrow Alt +$

 $P \rightarrow Type label \rightarrow F6 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Extension Directory

Console Display/Instructions Additional Information

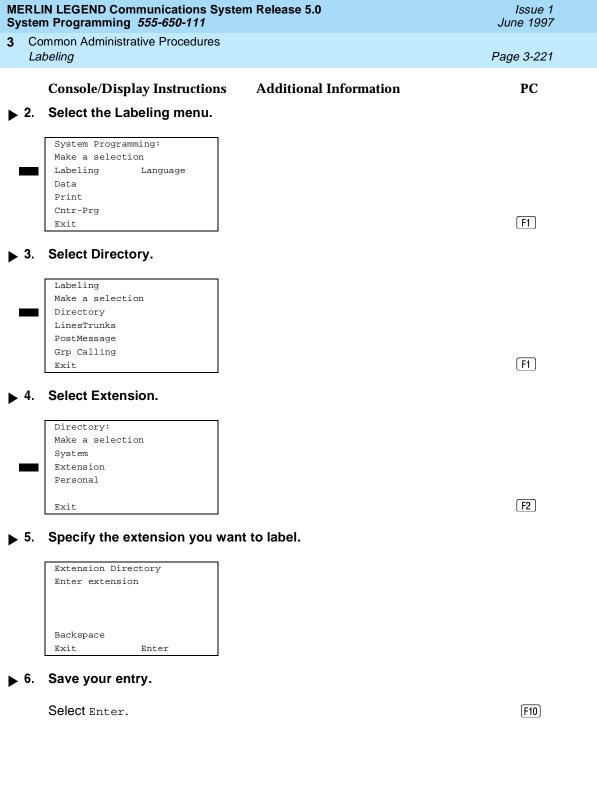
PC

▶ 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



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3		mmon Administra beling	ative Proce	edures		Page 3-222
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	7.	Erase the cur	rent labe	I (AAA	AAAA) if assigned.	
		Ext xxxx:Enter AAAAAAA Punctuation Backspace A '	new name Enter Exit	В	xxxx = number entered in Step 5	
		C - E .	& Space	D F	Press Drop .	Alt + P
>	8.	Enter a label	for the e	ktensio	Use Punctuation to toggle betwe	en letters and
					punctuation.	
		Dial or type the	e label.			C
>	9.	Save your en	try.			
		Select Enter.				F6
		■ NO	TE:], not [F10]			
					Continue to label additional extens	sions by

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 set telephone users to identify the line or trunk being used.

3 Common Administrative Procedures Labeling

Page 3-223

Summary: Lines or Trunks

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Cc, System Numbering: Line/Trunk Jacks

Factory Setting Not applicable

Valid Entries Not applicable

Inspect No Copy Option No

Console Procedure More→Labeling→LinesTrunks→Dial line/trunk

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial \ label \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F2 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow Alt +$

 $P \rightarrow Type label \rightarrow F6 \rightarrow F5 \rightarrow F5$

Procedure: Lines or Trunks

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

3. Select Lines/Trunks.

Labeling
Make a selection
Directory
LinesTrunks
PostMessage
Grp Calling
Exit

F2

Continue to label additional lines/trunks by

F5 F5

repeating Steps 4 through 8.

Return to the System Programming menu.

Select Exit two times.

Common Administrative Procedures

Labeling

Page 3-225

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.

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

 $no. {\longrightarrow} {\texttt{Enter}} {\longrightarrow} \textbf{Drop} {\longrightarrow} \textbf{Enter}$

 $message \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $(PgUp) \rightarrow (F1) \rightarrow (F3) \rightarrow Type message no. \rightarrow (F10) \rightarrow (Alt) +$

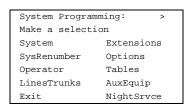
 $\mathbb{P} \rightarrow \mathsf{Type} \ \mathsf{message} \rightarrow \mathsf{F6} \rightarrow \mathsf{F5} \rightarrow \mathsf{F5}$

Procedure: Posted Message

Console Display/Instructions Additional Information

PC

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



Press More.

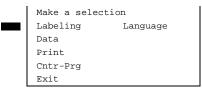
PgUp

▶ 2. Select the Labeling menu.

System Programming:

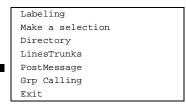
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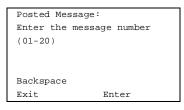
F1

■ 3. Select Posted Message.



F3

▶ 4. Enter the posted message number (nn = 1 to 20).



Dial or type [nn].

C

▶ 5. Save your entry.

Select Enter.

F10

▶ 6. Erase the current message (AAAAAA) if assigned.

ſ	Msg	xx:Enter	new	message	
	AAA	AAAA			
	Punctuation		E	nter	
	Backspace		E	xit	
	A	,	,		В
	C	-	&		D
	E		S	pace	F
-					

xx = number entered in Step 4

Press **Drop**.

Alt + P

▶ 7. Enter the new message.

Use Punctuation to toggle between letters and punctuation.

Dial or type the message.

C

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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. $\rightarrow F10 \rightarrow$

Alt + \nearrow Type label \rightarrow F5 \rightarrow F5

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3 Common Administrative Procedures Labeling	Page 3-228
Procedure: Group Calling	
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
▶ 3. Select Group Calling.	
Labeling Make a selection Directory LinesTrunks PostMessage Grp Calling Exit	F4
▶ 4. Enter the calling group extension number (<i>nnnn</i>).	
Group Calling: Enter extension number of group	
Backspace Exit Enter Dial or type [nnnn].	c
▶ 5. Save your entry.	
Select Enter.	F10

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Console/Display Instructions Additional Information

Erase the current label (AAAAAA) if assigned.

PC

GrpCl xxxx:Enter new label

AAAAAAA

Punctuation Enter

Backspace Exit

A ' , B

C - & D

E . 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]



Continue to label additional calling groups by repeating Steps 4 through 8.

▶ 9. Return to the System Programming menu.

Select Exit twice.

F5 F5

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.

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Labeling

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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.→Enter→Yes or No→Enter→Exit→Exit→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 \rightarrow F1 or F2 \rightarrow F6 \rightarrow F5 \rightarrow 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

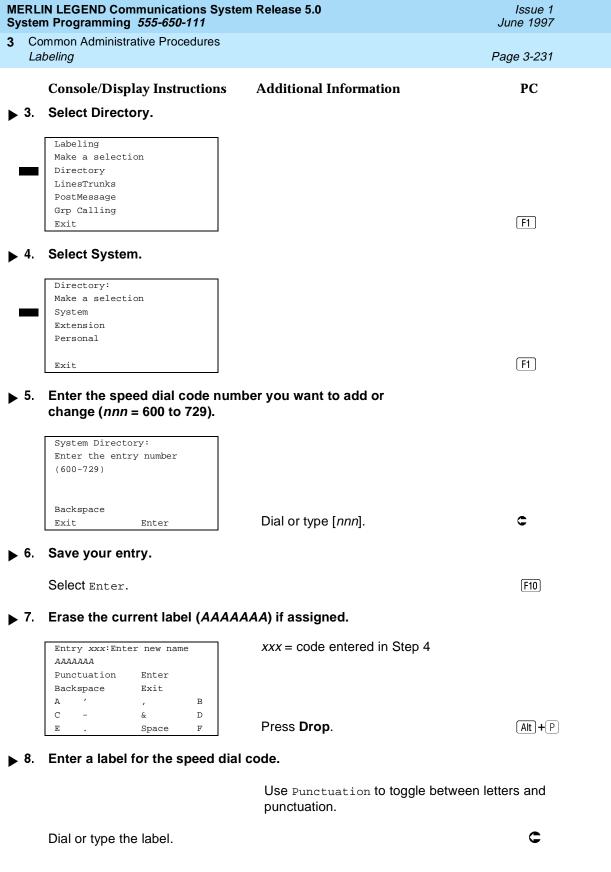
Press More.

[PgUp]

▶ 2. Select the Labeling menu.

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

F1



number to display when using the System

F2

Directory feature, select No.

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Print Reports

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Console/Display Instructions

Additional Information

PC

▶ 14. Save your entry.

Select Enter.

F6



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

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→Language→Printer→English Of French Or

 $Spanish \rightarrow Enter \rightarrow Exit$

PC Procedure $PgUp \rightarrow F6 \rightarrow F4 \rightarrow F1$ or F2 or $F3 \rightarrow F10 \rightarrow F5$

Common Administrative Procedures

Print Reports

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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 <u>Appendix F</u> 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 Information¹
 - TIE
 - DID
 - Loop/Ground
 - General
 - Switched 56 Data
- T1 Information
- PRI Information
- Remote Access
 - General Options
 - Non-TIE Restrictions
 - TIE Restrictions
 - Barrier Code Restrictions
- 1. Trunk option must be specified

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Print Reports

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- 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

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.

3 Common Administrative Procedures Print Reports

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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, "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

Inspect No Copy Option No

oop, opnon

Console Procedure To print trunk information:

 $More \rightarrow Print \rightarrow Trunk Info \rightarrow Select trunk type \rightarrow Exit$

To print extension information:

More→Print→More→Ext Info→Dial extension

 $number \rightarrow Enter \rightarrow Exit$

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

number \rightarrow [F10] \rightarrow [F5]

To print all other reports:

PgUp \rightarrow F3 \rightarrow Select report \rightarrow F5

To save report on disk:

 $PgUp \rightarrow F3 \rightarrow Select report \rightarrow F10 \rightarrow Select GOTO$

 $FLOPPY \longrightarrow F10$

To view report:

(Ctrl) + (F8)

3 Common Administrative Procedures Print Reports

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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

→ 3. Select the report you want to print. ◆

Print (xxxx): >

Make a selection

All Trunk Info

SysSet-up T1 Info

Dial Plan PRI Info

Labels RmoteAccess

Exit Oper Info

Print More

Make a selection

GrpCoverage Error Log

Grp Calling Auth Code

Night Servce BRI Info

Call Pickup

Exit

xxxx = previously selected language

For additional selections press More.

PgDn

If you select Trunk Info go to

Trunk Information Procedure.

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.

Enter the number of the extension for which you want a report (nnnn).



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Console/Display Instructions

Additional Information

PC

2. Save your entry.

Select Enter.

F10

▶ 3. Return to Step 4 of the main procedure.

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, "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" for more information.

This card is identified by a white label with black lettering.

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Memory Card

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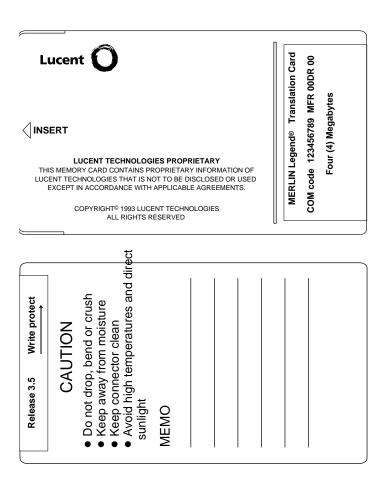


Figure 3-4. PCMCIA Memory Card

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 3-5</u> for the proper way to insert the memory card into the slot on the processor module.

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Memory Card

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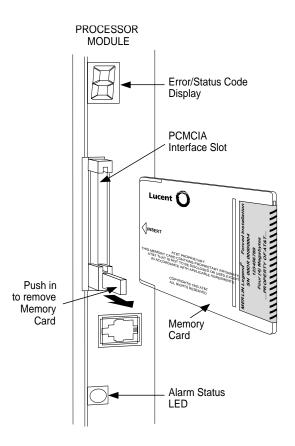


Figure 3-5. Inserting the Memory Card

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

Common Administrative Procedures Memory Card

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backup filenames, the system automatically replaces the stars in the filename with the current month and day (mmdd). For example, BACK1.0116 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, "Programming Basics" for details about these keys.



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" in Chapter for information about the system restore procedure. Also see "Backup Messages" for information about errors that may occur during the backup procedure.

Summary: Backup

Programmable by System Manager

Mode ΑII

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

1- to 11-character filename Valid Entries

Inspect Yes

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Memory Card

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Copy Option No

Console Procedure Insert memory

card→System→Back/Restore→Backup→Select backup

file→Dial the new backup

 $filename \rightarrow Enter \rightarrow Yes \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure Insert memory card \rightarrow F1 \rightarrow F9 \rightarrow F1 \rightarrow Select backup

file→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."

2. Select the System menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F1

3. Select Back/Restore.

System:

Make a selection

SProg Port Date

Restart MaintenBusy

Mode Time
Board Renum Back/Restore

Exit

Common Administrative Procedures

Memory Card

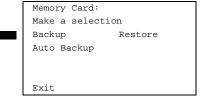
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Console/Display Instructions

Additional Information

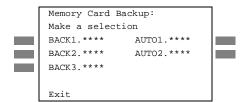
PC

4. Select Backup.



F1

5. Select the backup filename.



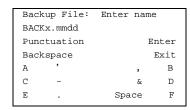
If you select AUTO.BACK1 or AUTO.BACK2, go to Step 8. You cannot rename either of these two files.

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.

C

▶ 6. Rename the backup file (n = 1 to 11 characters).



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.



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Memory Card

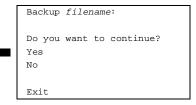
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Console/Display Instructions

Additional Information

PC

▶ 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

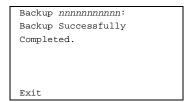
Exit
```

filename = file selected in Step 5 or entered in Step 6

xx% = percentage of backup completed

C

▶ 10. Observe the backup completion screen.



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.

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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 "Backup Messages" for information about errors that may occur during the automatic backup procedure.



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 ΑII

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→System→Back/Restore→

Auto Backup→Daily→**Drop**→**Dial time**→Enter

 \rightarrow Exit \rightarrow Exit

To program weekly backup:

Insert memory card→System→Back/Restore→ Auto Backup—Weekly—Drop—Dial day and time

 \rightarrow Enter \rightarrow Exit \rightarrow Exit

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PC Procedure

To program daily backup:

Insert memory card \rightarrow F1 \rightarrow F9 \rightarrow F2 \rightarrow F2 \rightarrow Alt + P \rightarrow Type time \rightarrow F10 \rightarrow F5 \rightarrow F5

To program weekly backup:

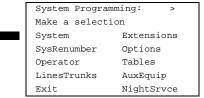
Insert memory card \rightarrow F1 \rightarrow F9 \rightarrow F2 \rightarrow F3 \rightarrow Alt + P \rightarrow Type day and time \rightarrow F10 \rightarrow F5

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.

System:

Make a selection

Restart MaintenBusy

SProg Port Date

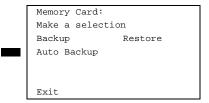
Mode Time

Board Renum Back/Restore

Exit

F9

▶ 4. Select Auto Backup.



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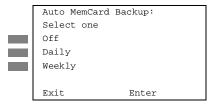
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Additional Information

PC

▶ 5. Make a selection.



Select Off, Daily, Or Weekly

F1 F2 F3

▶ 6. Save your entry.

Select Enter.

(F10)

If you selected Off you have finished this procedure. Go to Step 7.

If you selected Daily go to ● Daily Backup Procedure.

If you selected weekly go to ◆ Weekly Backup Procedure.

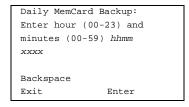
➤ 7. Return to the System Programming menu.

Select Exit twice.

[F5][F5]

Daily Backup Procedure

▶ 1. Erase the current daily backup time (xxxx).



Press **Drop**.

Alt + P

▶ 2. Enter the time when you want the automatic backup to run every day (hh = 00 to 23, mm = 00 to 59).

Daily MemCard Backup:
Enter hour (00-23) and
minutes (00-59) hhmm

Backspace
Exit Enter

Dial or type [hhmm].

C

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_	common Administrative Procedures Memory Card		Page 3-250
	Console/Display Instructions	Additional Information	PC
3 .			
	Select Enter.		F10
4 .	Return to the System Prograi	nming menu.	
r	Select Exit twice.		[F5][F5]
♦ W	eekly Backup Procedure		
1 .	Erase the current weekly bac	kup 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 when you want the automatic Weekly MemCard Backup: Enter day (0-6), hr (00-23) and min (00-59) dhhmm	time (hh = 00 to 23, mm = 00 to 59) backup to run each week. 0 = Sunday, 1 = Monday, and so on.	
	Backspace Exit Enter	Dial or type [dhhmm].	C
3 .	Save your entry.		
	Select Enter.		F10
4 .	Return to the System Prograi	mming menu.	
	Select Exit twice.		[F5][F5]
Back	kup Messages		
	to alert you to problems wit	c backup procedures, additional screens many that translation memory card, the backup obtion contains displays of each screen and the appears.	file, or the

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

Common Administrative Procedures Memory Card

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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.

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.

Exit
```

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
```

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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 Write-Protected. Reset Write-Protect Tab on Memory Card. Exit



A 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.

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Programming Procedures



Introduction

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".

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

4 Programming Procedures

Basic System Operating Conditions

Page 4-2

Programming summaries are included for the following procedures:

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

See <u>Chapter 3, "Common Administrative Procedures"</u>, 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.

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 $f1 \rightarrow f1 \rightarrow f1$

Programming Procedures Basic System Operating Conditions

Page 4-3

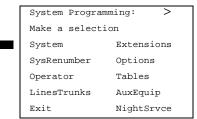
Procedure: System Restart

Console/Display Instructions

Additional Information

PC

Select the System menu.



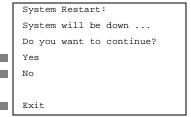
F1

Select System Restart.



F1

Respond to the query.



To restart the system select Yes. The system restart screen appears.

[F1]

To terminate the restart and return to the System menu select No, then select Exit.

F2

[F5]

System is restarting

The session is finished, and the system restarts. You must enter system programming again to continue.

Programming Procedures

Basic System Operating Conditions

Page 4-4

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 Chapter 3, "Common Administrative Procedures" for detailed information.

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

4 Programming Procedures

Basic System Operating Conditions

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System Language

Use this procedure to set the system language (English, French, or Spanish) for the following options:

- System language
- Station Message Detail Recording (SMDR) reports. See "System Features."
- Print reports. See "Printing Reports."
- Extensions. See "Optional Telephone Features."

NOTE:

MERLIN LEGEND Communication System Release 1.0 does not offer a choice of languages.

See Chapter 3, "Common Administrative Procedures" for detailed information.

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

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

language→Enter

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

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.

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Basic System Operating Conditions

Page 4-6

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 station 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→Board Renum→Yes

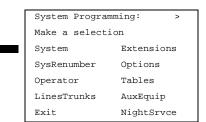
PC Procedure $[F1] \rightarrow [F4] \rightarrow [F2]$

Procedure: Board Renumbering

Console Display/Instructions Additional Information

PC

▶ 1. Select the System menu.



Programming Procedures Basic System Operating Conditions

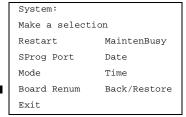
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Console/Display Instructions

Additional Information

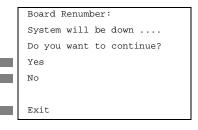
PC

2. Select Board Renumbering.



F4

▶ 3. Respond to the prompt.



To continue the Board Renumbering procedure, select Yes. The renumbering information screen appears.

To terminate this procedure and return to the System menu select ${\tt No}$, then select ${\tt F3}$ ${\tt Exit}$.

Board Renumber:
System is Renumbering

When renumbering completes, the system returns to the screen shown in Step 1.

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*.

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Basic System Operating Conditions

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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

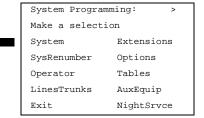
Console Procedure System→Mode→Select mode→Enter

PC Procedure $\boxed{F1} \rightarrow \boxed{F3} \rightarrow \text{Select mode} \rightarrow \boxed{F10}$

Procedure: Mode of Operation

Console Display/Instructions Additional Information PC

▶ 1. Select the System menu.



4 Programming Procedures

Basic System Operating Conditions

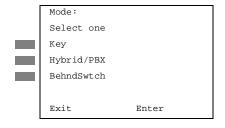
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▶ 2. Select Mode.



F3

▶ 3. Select the mode.



Select Key,
Hybrid/PBX,
Of BehndSwtch.

F1 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.

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).

4 Programming Procedures Basic System Operating Conditions

Page 4-10

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:

 $System \longrightarrow MaintenBusy \longrightarrow Disable \longrightarrow Enter \longrightarrow Exit$

To enable Automatic Maintenance Busy excluding

tie trunks:

 $\texttt{System} \xrightarrow{} \texttt{MaintenBusy} \xrightarrow{} \texttt{Enable} \xrightarrow{} \texttt{Enter} \xrightarrow{} \texttt{Exit}$

To enable/disable with tie trunks:

 $System \longrightarrow MaintenBusy \longrightarrow Enable \longrightarrow Enter \longrightarrow$

Enable **Of** Disable→Enter→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:

 $[F1] \rightarrow [F6] \rightarrow [F1] \rightarrow [F10] \rightarrow [F5]$

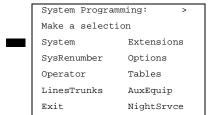
To enable/disable with tie trunks:

 $F1 \longrightarrow F6 \longrightarrow F1 \longrightarrow F10 \longrightarrow F1 \text{ or } F2 \longrightarrow F10 \longrightarrow F5$

Procedure: Automatic Maintenance Busy

Console Display/Instructions Additional Information PC

1. Select the System menu.



4 Programming Procedures

Basic System Operating Conditions

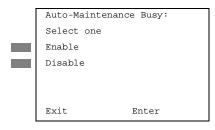
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▶ 2. Select Automatic Maintenance Busy.



[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.

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Programming Procedures

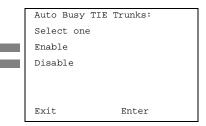
Basic System Operating Conditions

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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.

▶ 6. Save your entry.

Select Enter.

F10

F1 F2

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 Chapter 3, "Common Administrative Procedures" for detailed information.



If you are planning to use the SMDR feature, make sure the current date is

Summary: Set System Date

Programmable by System Manager

Mode All

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→Date→Drop→Dial current date→Enter→Exit

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

tions System Release 5.0 Issue 1 0-1111 June 1997

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Programming Procedures System Renumbering

Set System Time

The System Time feature allows you to set the time that appears on MLX display telephones and on SMDR reports. See Chapter 3, "Common Administrative Procedures" for detailed information.

Summary: Set System Time

Programmable by System Manager

Mode All

Idle Condition Not Required

Planning Form Form 1, System Planning

Factory Setting 0000

Valid Entries 0000 to 2359

Inspect No Copy Option No

Console Procedure System→Time→Drop→Dial current time→Enter→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 two-digit, three-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.

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 4Renumbering
- Block Renumbering

4 Programming Procedures

System Renumbering

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You select only one of the numbering plans (two-digit numbering, three-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).

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:

Figures 4-1, 4-2, and 4-3 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	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 6700–68		6849	Terminal Adapters 6999 6850–6992			6999
7	Main Pool MFMs/ 70 Terminal A 710–766			dapters	767– 769	Calling Groups 770-791,7920-7929		Paging Groups 793–799		
8	800* Trunks 801–880							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 4-1. 2-Digit Numbering

[†] Remote Access

4 Programming Procedures System Renumbering

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 70		71–76	Calling Groups 770–791, 7920–7929			Paging Groups 793–799		
8	800 [*] Trunks 801–880			Park 881–888	889†	Pools 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	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

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Programming Procedures System Renumbering

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 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 two-digit extension number, beginning with 10 and ending with 67. Any remaining extensions are assigned four-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 three-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 four-digit numbers in the 7000 range. Extension numbers 1000 through 6999 are also available for use when you renumber.

In all three numbering plans, the system assigns three-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 two-digit or three-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

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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

 $\textbf{Console Procedure } \textbf{SysRenumber} \boldsymbol{\rightarrow} \textbf{Default Numbering} \boldsymbol{\rightarrow} \textbf{Select numbering}$

plan→Exit→Exit

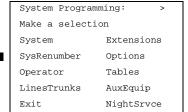
PC Procedure $F2 \rightarrow F1 \rightarrow Select numbering plan \rightarrow F5 \rightarrow F5$

Procedure: Select System Numbering Plan

Console Display/Instructions Additional Information

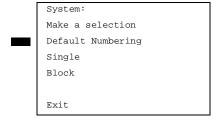
PC

▶ 1. Select the System Renumbering menu.



F2

▶ 2. Select Default Numbering.

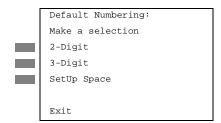


If you get the System Busy message, wait for an idle condition or exit system programming and try again later.

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System Renumbering

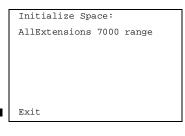
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■ 3. Select the appropriate system numbering plan.



Select 2-Digit and go to Step 5. F1
Select 3-Digit and go to Step 5. F2
Select SetUp Space and continue with Step 4.

4. Observe the initialize space screen.



If you selected SetUp Space you have finished this procedure. Select Exit and go to Step 6.

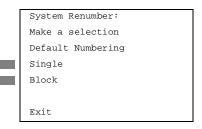
Programming Procedures System Renumbering

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PC

F2

Select the type of extension to renumber.



Console/Display Instructions

To change individual extension numbers, select Single and go to "Single Renumbering."

Additional Information

To change a block of extension numbers, select Block and go to "Block

Renumbering." F3

Return to the System Programming menu.

Select Exit twice.

F5 F5

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 Chapter 3, "Common Administrative Procedures" for detailed information.



A 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.

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 MERLIN LEGEND Communications System Release 5.0 System Programming *555-650-111*

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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]

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 Chapter 3, "Common Administrative Procedures" 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 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 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→Exit→Exit

4 Programming Procedures System Renumbering

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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. $\rightarrow F10$ $\rightarrow F5$ $\rightarrow F5$ $\rightarrow F5$

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.



CAUTION:

Select <code>Exit</code> on the console or <code>F5</code> on the PC when you have finished this procedure. If you press <code>Home</code>, 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.

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→Single→More→DSS Buttons→Dial page

no.→Enter→Dial first ext. no.→Enter→Exit→Exit

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PC Procedure

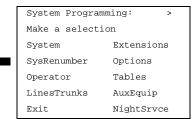
 $\begin{array}{c} \hline \texttt{F2} \longrightarrow \hline \texttt{F2} \longrightarrow \hline \texttt{PgUp} \longrightarrow \hline \texttt{F1} \longrightarrow \texttt{Type page no.} \longrightarrow \hline \texttt{F10} \longrightarrow \texttt{Type first} \\ \text{ext. no.} \longrightarrow \hline \texttt{F10} \longrightarrow \hline \texttt{F5} \longrightarrow \hline \texttt{F5} \\ \end{array}$

Procedure: Assign Direct Station Selector Page Buttons

Console Display/Instructions Additional Information

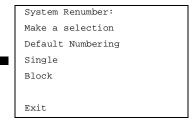
PC

▶ 1. Select the System Renumber menu.



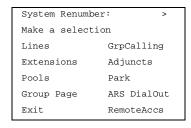
F2

2. Select Single renumbering.



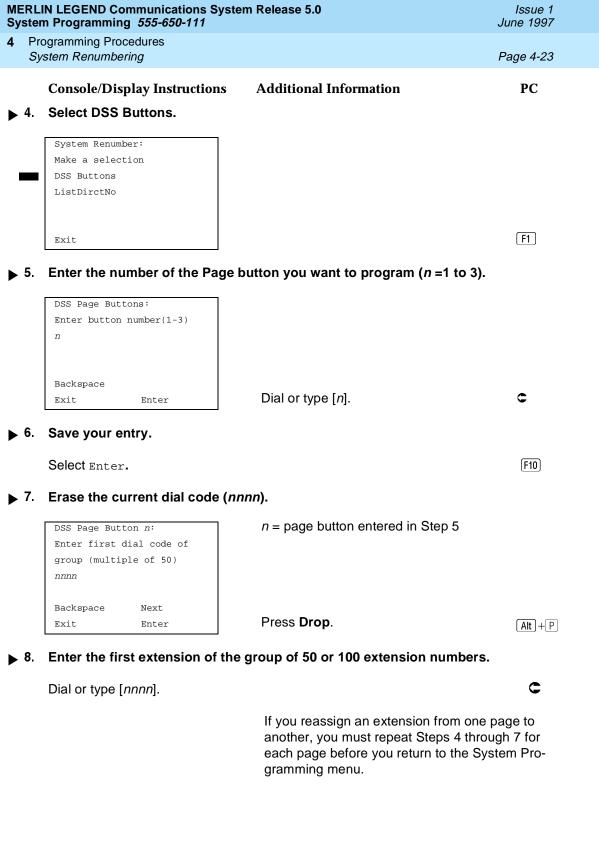
F2

▶ 3. Go to the second screen of the System Renumber menu.



Press More.

PgUp



System Programming 555-650-111 June 1997 **Programming Procedures** System Operator Positions Page 4-24 PC **Console/Display Instructions Additional Information** Continue with additional entries or go to Step 10. Select Next. F9 Return to Step 7. The next DSS Page Button will be displayed on Line 1. ▶ 10. Save your entry.

Issue 1

Select Enter. [F10]

▶ 11. Return to the System Programming menu.

MERLIN LEGEND Communications System Release 5.0

Select Exit twice. F5 F5

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 Chapter 3, "Common Administrative Procedures".

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.

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Programming Procedures System Operator Positions

Page 4-25

June 1997

Issue 1

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.

 $no. \rightarrow Enter \rightarrow Store All$

PC Procedure $F3 \rightarrow F1 \rightarrow F2 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F3$

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 Chapter 3, "Common Administrative Procedures".

Summary: Identify or Remove DLC Operator **Positions**

Programmable by System Manager

Mode ΑII

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 Nο

Console Procedure Operator→Positions→Direct Line→Dial ext.

 $no. \rightarrow Enter \rightarrow Store All$

PC Procedure $F3 \rightarrow F1 \rightarrow F1 \rightarrow Type ext. no. F10 \rightarrow F3$ Programming Procedures
Lines and Trunks

Page 4-26

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.

4 Programming Procedures

Lines and Trunks Page 4-27

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

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→LS/GS/DS1→Dial slot no.→Enter→Select

trunk type \rightarrow Dial port no. \rightarrow Enter \rightarrow Exit \rightarrow 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

Factory Setting

Touch-tone

4 Programming Procedures

Lines and Trunks

Page 4-30

Valid Entries Touch-tone, Rotary

Inspect No Copy Option Yes

Console Procedure To program a single line/trunk:

LinesTrunks→TT/LS Disc→Outmode→Select entry

mode→Dial no. of the

line/trunk→Enter→Exit→Exit→Exit

To program a block of lines/trunks:

LinesTrunks→TT/LS Disc→OutMode→Select block of

lines/trunks→Toggle LED

 $On/Off \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure To program a single line/trunk:

 $\overbrace{\text{F4}} \rightarrow \overbrace{\text{F3}} \rightarrow \overbrace{\text{F1}} \rightarrow \overbrace{\text{F6}} \rightarrow \text{Type no. of the line/trunk} \rightarrow \overbrace{\text{F10}}$

 \rightarrow F5 \rightarrow F5

To program a block of lines/trunks:

 $F4 \rightarrow F3 \rightarrow F1 \rightarrow Select block of lines/trunks \rightarrow Toggle letter$

 $G \text{ On/Off} \longrightarrow (F10) \longrightarrow (F5) \longrightarrow (F5) \longrightarrow (F5)$

Procedure: Outmode Signaling for Loop- or Ground-Start Trunks

Console Display/Instructions Additional Information

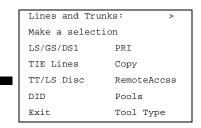
PC

▶ 1. Select the Lines and Trunks menu.

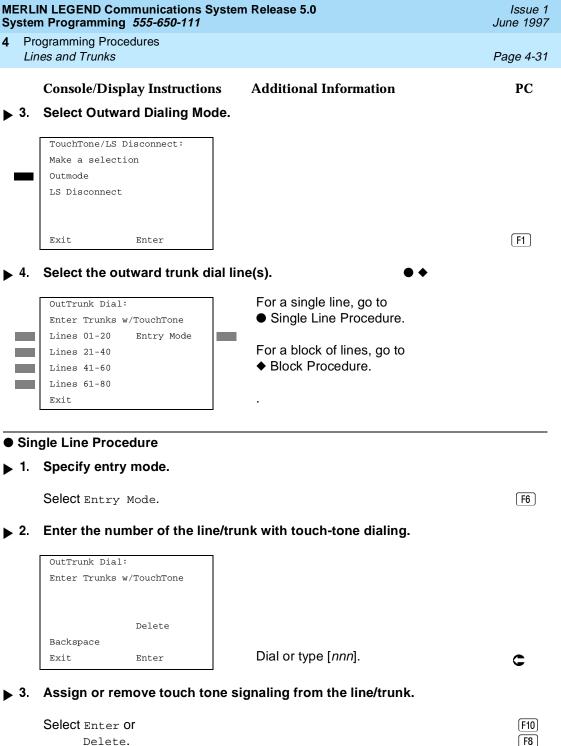


F4

▶ 2. Select Touch-Tone/Loop-Start Disconnect.



F3



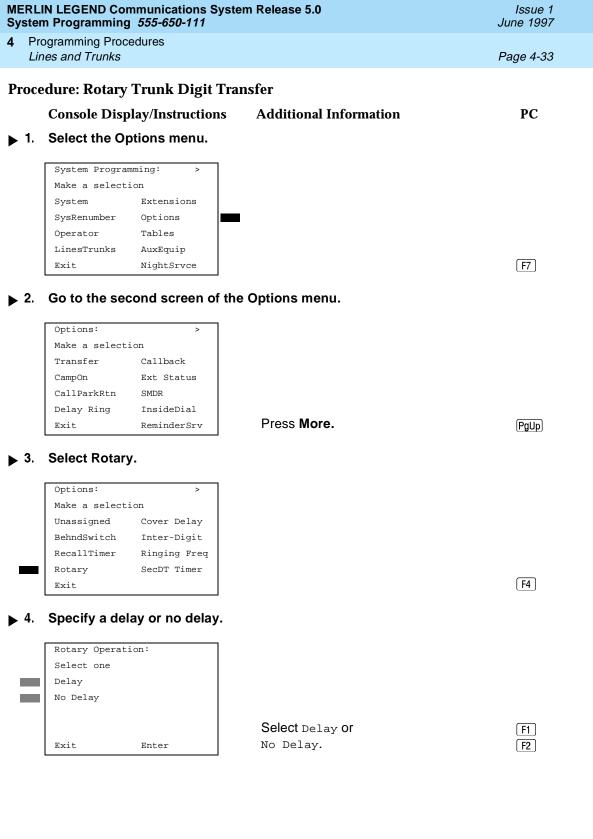
Delete.

You may continue to assign or remove touch tone signaling from additional lines/trunks by repeating Steps 2 and 3.

MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 **Programming Procedures** Lines and Trunks Page 4-32 **Additional Information** PC **Console/Display Instructions** Return to the System Programming menu. Select Exit three times. F5 F5 F5 Block Procedure Specify the block of 20 lines associated with 20 buttons on the system programming console. Select Lines 01-20 [F1] Lines 21-40 F2 Lines 41-60 F3 Lines 61-80 [F4] Specify touch-tone or rotary signaling for each block. Toggle the green LED on or off as required. On = touch-toneOff = rotarvReturn 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 ΑII Idle Condition Not required Planning Form Form 8a, System Features Factory Setting No Delay Valid Entries Delay, No Delay Inspect No No Copy Option Console Procedure Options→More→Rotary→Select option→Enter→Exit

 $F7 \rightarrow PgUp \rightarrow F4 \rightarrow Select option \rightarrow F10 \rightarrow F5$

PC Procedure



4 Programming Procedures

Lines and Trunks

Page 4-34

Console/Display Instructions Additional Information

РC

▶ 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

 $Console\ {\tt Procedure}\ {\tt Options} {\color{red} \longrightarrow} {\color{blue} More} {\color{red} \longrightarrow} {\color{blue} Ringing}\ {\tt Freq} {\color{red} \longrightarrow} {\color{blue} dial}\ {\tt slot}\ {\tt no.} {\color{red} \longrightarrow} {\color{blue} Select}$

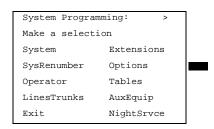
20Hz **or** 25Hz \rightarrow Enter \rightarrow Exit

PC Procedure $F7 \rightarrow PgUp \rightarrow F8 \rightarrow type slot no. \rightarrow F1 or F2 \rightarrow F10 \rightarrow F5$

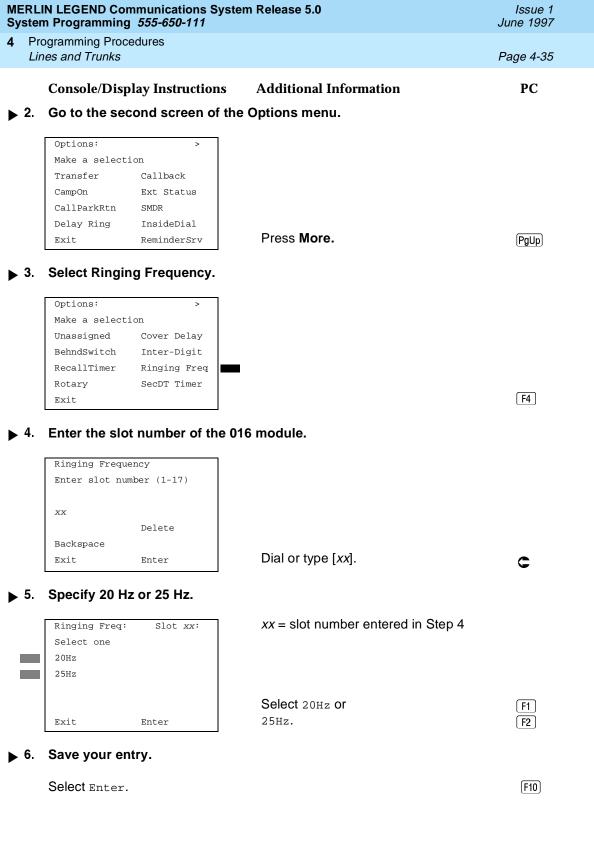
Procedure: Ringing Frequency

Console Display/Instructions Additional Information PC

1. Select the Options menu.



[F7]



Programming Procedures Lines and Trunks

Page 4-36

Additional Information Console/Display Instructions

PC

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 ΑII

Idle Condition Not required

Planning Form Form 8a, System Features

Factory Setting 0 ms.

Valid Entries 0-5000 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

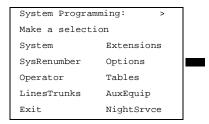
PC Procedure $F7 \rightarrow PgUp \rightarrow F9 \rightarrow Alt + P \rightarrow type$ second dial tone timer

value \rightarrow [F10] \rightarrow [F5]

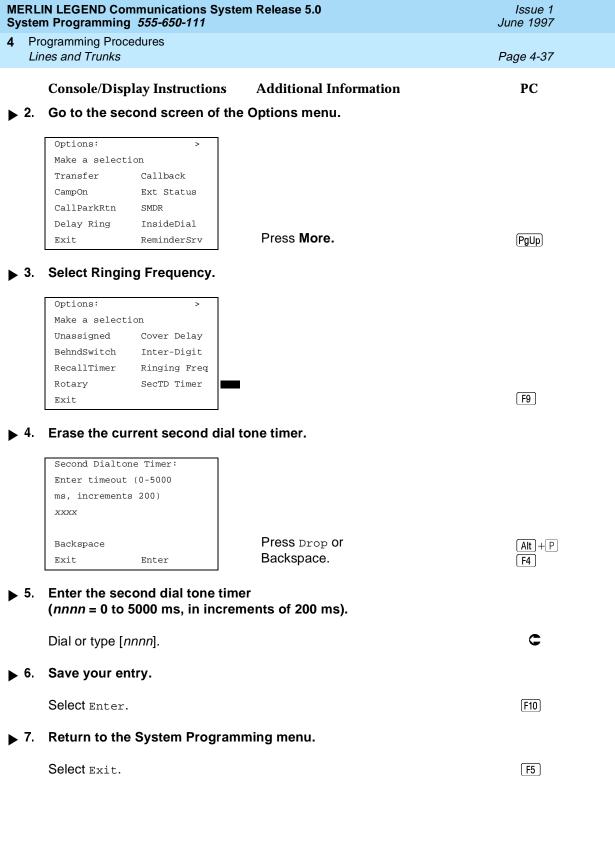
Procedure: Second Dial Tone Timer

Additional Information PC **Console Display/Instructions**

Select the Options menu.



[F7]



Programming Procedures Lines and Trunks

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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 SecurityAlert:

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 loop-start 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"), 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".

Summary: Disconnect Signaling Reliability

Programmable by System Manager, Integrated Administration

Mode ΑII

Idle Condition Not required

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting Unreliable

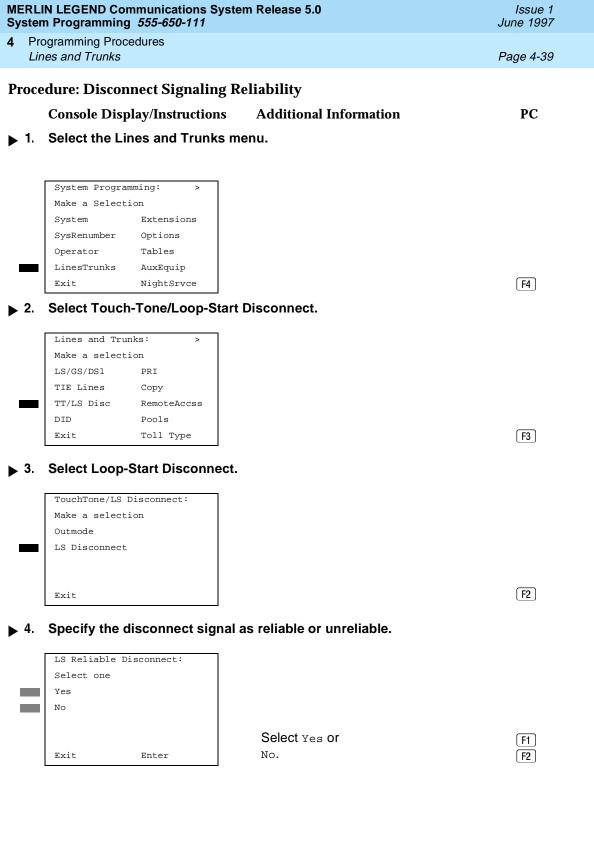
Valid Entries Unreliable, Reliable

Inspect No Copy Option No

Console Procedure LinesTrunks→TT/LS Disc→LS Disconnect→Yes or

 $No \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow F3 \rightarrow F2 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$



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Lines and Trunks

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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 two times. 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.

NOTE:

This option applies only to loop- and ground-start trunks; it does not apply to tie trunks or DID trunks.

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 \rightarrow Enter \rightarrow Exit \rightarrow Exit

To program a block of lines/trunks:

LinesTrunks→Toll Type→Select block of

lines/trunks→Toggle LED

 $On/Off \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

4 Programming Procedures

Lines and Trunks

Page 4-41

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

To program a block of lines/trunks:

[F4]→(F10)→Select block of lines/trunk→Toggle letter G

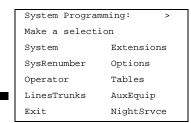
 $On/Off \longrightarrow \boxed{F10} \longrightarrow \boxed{F5} \longrightarrow \boxed{F5}$

Procedure: Toll Type

Console Display/Instructions Additional Information

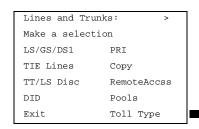
PC

▶ 1. Select the Lines and Trunks menu.



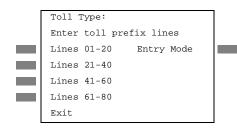
F4

2. Select Toll Type.



F10

▶ 3. Specify the toll type line(s).



For a single line, go to
Single Line Procedure.

For a block of lines, go to

◆ Block Procedure.

ERLIN LEGEND Communications System Release 5.0 ystem Programming 555-650-111 July 2015					
	ogramming Procedures nes and Trunks		Page 4-42		
LII	ies and Trunks		r aye 4-42		
Sin	gle Line Procedure				
	Console/Display Instructions	Additional Information	PC		
1.	Specify entry mode.				
	Select Entry Mode.		F6		
2.	2. Enter the number of the line/trunk that requires a toll prefix (1 or 0) before the area code.				
	Toll: Enter toll prefix lines				
	Delete Backspace Exit Enter	Dial or type [<i>nn</i>].	C		
3.	3. Assign or remove the toll prefix requirement from the line/trunk.				
		·	(F40)		
	Select Enter or Delete.		F10 F8		
		You may continue to assign or remove prefix requirement from additional line repeating Steps 2 and 3.			
4.	Return to the System Program	ming menu.			
	Select Exit three times.		F5 F5 F5		
Blo	ck Procedure				
1.	 Specify the block of 20 lines associated with 20 buttons on the system program- ming console. 				
	Select Lines 01-20		F1		
	Lines 21-40		F2		
	Lines 41-60 Lines 61-80		F3 F4		
2	Specify whether or not a toll p	refix is needed	[14]		
~ .	Succity witched of Hola loll b	I GIIA IS LICCUCU.			

Toggle the green LED on or off as required.
On = toll prefix needed
Off = toll prefix not needed

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Lines and Trunks

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PC

Console/Display Instructions Additional Information

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).



- 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".

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: LinesTrunks→More→HoldDiscnct→Select entry mode→Dial no. of the line/trunk→Enter→Exit→Exit
	To program a block of lines/trunks: LinesTrunks → More → HoldDiscnet → Select block of

lines/trunks→Toggle LED On/Off→Enter→Exit→Exit

4 Programming Procedures

Lines and Trunks

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PC Procedure

To program a single line/trunk:

F4 \rightarrow PgUp \rightarrow F1 \rightarrow F6 \rightarrow Type no. of the

line/trunk \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

To program a block of lines/trunks:

F4 → PgUp → F1 → Select block of lines/trunks → Toggle

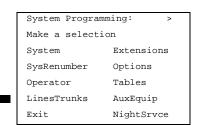
letter G On/Off \rightarrow $F10)<math>\rightarrow$ $F5)\rightarrow$ F5)

Procedure: Hold Disconnect Interval

Console Display/Instructions Additional Information

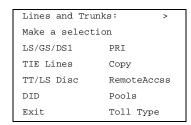
PC

Select the Lines and Trunks menu.



[F4]

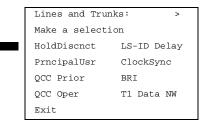
▶ 2. Go to the second screen of the Lines and Trunks menu.



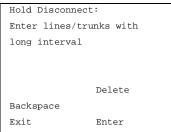
Press More.

PgUp

▶ 3. Select Hold Disconnect Interval.



F1



Dial or type [nnn].

Assign or remove the line/trunk.

Select Enter or Delete.

F10

F8

You may continue to assign or remove a long disconnect interval from additional lines/trunks by repeating Steps 2 and 3.

Return to the System Programming menu.

Select Exit.

F5 F5 F5

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Programming Procedures Lines and Trunks

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Block Procedure

Console/Display Instructions **Additional Information** PC

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

F3 F4

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.

Summary: Principal User for Personal Line

Programmable by System Manager

Mode ΑII

Idle Condition Not required

4 Programming Procedures

Lines and Trunks

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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 $\texttt{LinesTrunks} \rightarrow \texttt{More} \rightarrow \texttt{PrncipalUsr} \rightarrow \texttt{Dial line/trunk}$

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

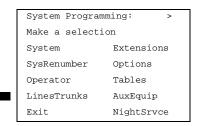
PC Procedure $F4 \rightarrow PgUp \rightarrow F2 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow Type ext.$

Procedure: Principal User for Personal Line

Console Display/Instructions Additional Information

PC

1. Select the Lines and Trunks menu.



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

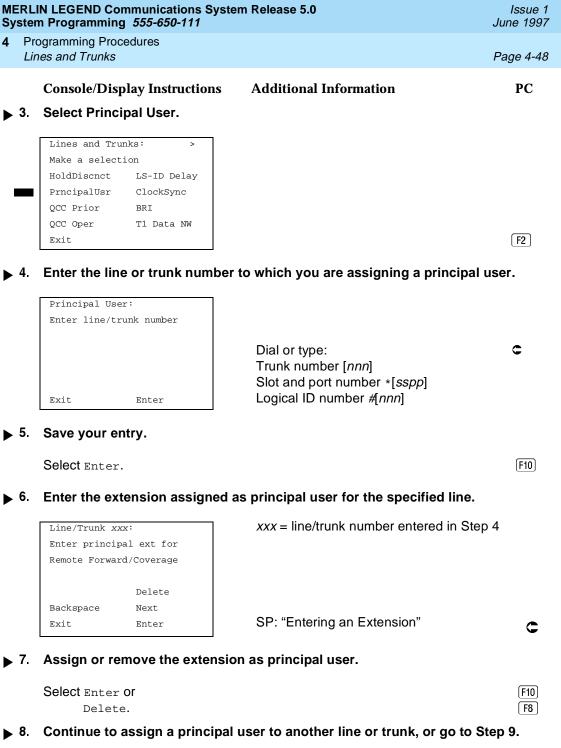
TT/LS Disc RemoteAccss

DID Pools

Exit Toll Type

Press More.

[PgUp]



Select Next. [F9]

> Return to Step 6. The next line/trunk will be displayed on Line 1.

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Lines and Trunks

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Console/Display Instructions Additional Information PC

▶ 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

Console Procedure To program a single line/trunk:

LinesTrunks→More→QCC Prior→Dial priority level→Enter→Select entry mode→Dial trunk

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

To program a block of lines/trunks:

 $\label{eq:linesTrunks} $\rightarrow \textbf{More} \rightarrow \texttt{QCC Prior} \rightarrow \textbf{Dial priority} $$ level \rightarrow \texttt{Enter} \rightarrow \textbf{Select block of lines} \rightarrow \textbf{Toggle LED} $$$

On/Off→Enter→Exit→Exit

MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 **Programming Procedures** Lines and Trunks Page 4-50 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: $F4 \rightarrow PgUp \rightarrow F3 \rightarrow Type priority level \rightarrow F10 \rightarrow Select block of$ lines \rightarrow Toggle letter G On/Off \rightarrow F10 \rightarrow F5 \rightarrow F5 **Procedure: QCC Queue Priority Level Console Display/Instructions** PC Additional Information Select the Lines and Trunks menu. System Programming: Make a selection System Extensions SysRenumber Options Operator Tables LinesTrunks AuxEquip NightSrvce **F4** Exit 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 Press More. PgUp Exit Toll Type Select QCC Queue Priority. Lines and Trunks: Make a selection HoldDiscnct LS-ID Delay PrncipalUsr ClockSync OCC Prior BRI QCC Oper T1 Data NW F3 Exit Enter the QCC priority level (n = 1 to 7). QCC Priority: Enter queue priority (1-7)Backspace

Dial or type [n].

Exit.

Enter

Programming Procedures

Lines and Trunks

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Console/Display Instructions

Additional Information

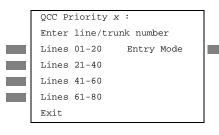
PC

▶ 5. Save your entry.

Select Enter.

F10

6. Specify the QCC priority lines.



x = QCC queue priority entered in Step 4

For a single line, go to

Single Line Procedure.

For a block of lines, go to

◆ Block Procedure.

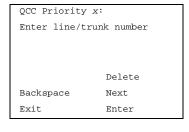
Single Line Procedure

Specify entry mode.

Select Entry Mode.

[F6]

■ 2. Enter the line or trunk with the specified queue priority.



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 priority level.

Select Enter or Delete.

[F10]

F8

You may continue to assign or remove the QCC priority level from additional lines/trunks by repeating Steps 2 and 3.

▶ 4. Continue to assign or remove lines or trunks, or go to Step 5.

Select Next.

[F9]

Return to Step 2. The next QCC priority level will be displayed on Line 1.

ERLIN LEGEND Communications System Release 5.0 ### Issue 1 ### June 1997				
	rogramming Procedures ines and Trunks	Page 4-52		
	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		
Blo	ock Procedure			
	Console Display/Instructions Additional Information	PC		
1.	Specify the block of 20 lines associated with the 20 line buttons on t programming console.	he system		
	Select Lines 01-20 Lines 21-40 Lines 41-60 Lines 61-80	F1 F2 F3 F4		
2.	Assign the queue priority specified.			
	Toggle the green LED on or off as re On = to assign the queue priority Off = not to assign the queue priority			
3.	Return to the System Programming menu.			
	Select Exit twice.	F5 F5		
CC 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 syster includes QCC operator positions.	n that		

2. 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.

4 Programming Procedures
Lines and Trunks

Page 4-53

- If a trunk assigned to ring into the QCC queue is also used for shared remote access, see "Remote Access Trunk Assignment." You must assign remote access before you assign a QCC system operator to receive calls (see "QCC Operator to Receive Calls").
- 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.

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 No

Console Procedure To program a single line/trunk:

LinesTrunks→More→QCC Oper→Dial ext.
no.→Enter→Select entry mode→Dial line/trunk

 $no. \rightarrow Enter \rightarrow Enter \rightarrow Enter$

To program a block of lines/trunks:

 $\texttt{LinesTrunks} {\longrightarrow} \textbf{More} {\longrightarrow} \texttt{QCC Oper} {\longrightarrow} \textbf{Dial ext}.$

no.→Enter→Select block of lines/trunks→Toggle LED

 $On/Off \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure To program a single line/trunk:

 $F4 \rightarrow PgUp \rightarrow F4 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F6 \rightarrow Type$

line/trunk no. \rightarrow F10 \rightarrow F5 \rightarrow F5

To program a block of lines/trunks:

 $F4 \rightarrow PgUp \rightarrow F4 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Select block of lines/trunks \rightarrow Toggle letter G On/Off \rightarrow F10 \rightarrow F5 \rightarrow F5$

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

Save your entry.

Select Enter.

(F10)

Programming Procedures

Lines and Trunks

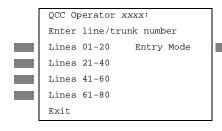
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Console/Display Instructions

Additional Information

PC

 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.

QCC Operator xxxx:

Enter line/trunk number

Delete
Backspace Next
Exit Enter

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]

C

[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 will be displayed on Line 1.

▶ 5. Return to the System Programming menu.

Select Exit twice.

F5 F5

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Block Procedure

Programming Procedures Lines and Trunks

> **Console/Display Instructions Additional Information**

PC

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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

Assign or remove the lines for the specified QCC operator.

Toggle the green LED on or off as required. On = operator receiving calls Off = operator not receiving calls

Return to the System Programming menu.

Select Exit twice.

F5 F5

Loop-Start Identification Delay

Use this procedure to delay the alerting (ringing) of calls arriving on loop-start lines/trunks connected to an 800 GS/LS-ID module at all extensions until approximately six seconds have elapsed since the port module informed the system software that the line was ringing, or the system software has been informed that Caller ID information is available, whichever comes first.

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.

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.

4 Programming Procedures

Lines and Trunks

Page 4-57

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:

 $\label{eq:linestrunks} $$\operatorname{\textbf{More}} \to LS-ID$ $\operatorname{Delay} \to Select entry $$ \operatorname{\textbf{mode}} \to Dial \ no. \ of the \ line/trunk \to Enter \to Exit} \to Exit$

To program a block of lines/trunks:

LinesTrunks→More→LS-ID Delay→Select block of lines/trunks→Toggle LED On/Off→Enter→Exit→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

Procedure: Loop-Start Identification Delay

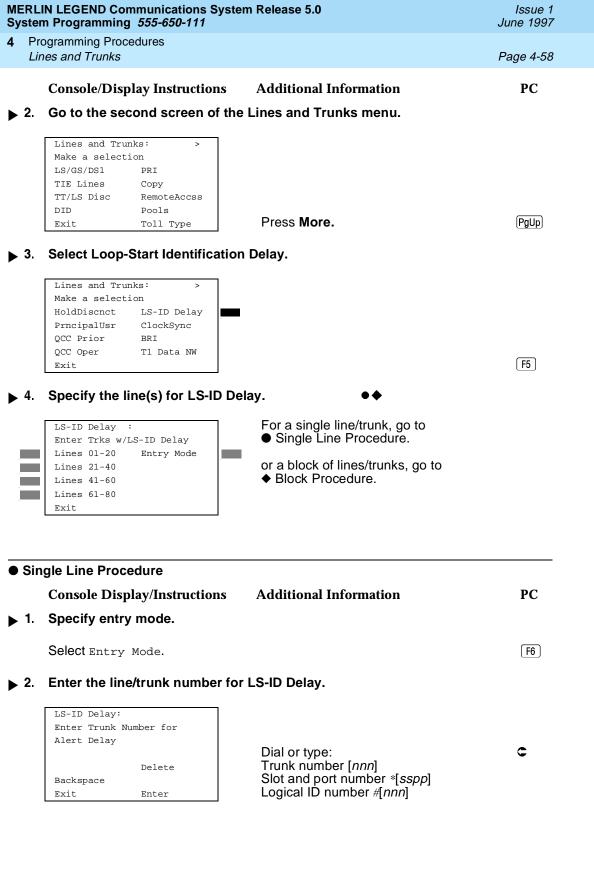
Console/Display Instructions Additional Information

PC

1 Select the Lines and Trunks menu.

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

[F4]



	IN LEGEND Communications Syste m Programming 555-650-111	em Release 5.0	Issue 1 June 1997
	ogramming Procedures nes and Trunks		Page 4-59
	Console/Display Instructions	Additional Information	PC
▶ 3.	Assign or remove the LS-ID De	elay.	
	Select Enter or Delete.		F10 F8
		You may continue to assign or remove LS-ID delay from additional lines/trun repeating Steps 2 and 3.	
4 .	Return to the System Program	ming menu.	
	Select Exit twice.		F5 F5
▶ Blo	ock Procedure		
1.	Specify the block of 20 lines as on the system programming co	ssociated with the 20 line buttons onsole.	
	Select Lines 01-20 Lines 21-40 Lines 41-60 Lines 61-80		F1 F2 F3 F4
2 .	Assign the LS-ID Delay to the a	appropriate lines/trunks.	
		Toggle the green LED on or off as re On = assign the LS-ID Delay Off = remove the LS-ID Delay	quired.
▶ 3.	Return to the System Program	ming menu.	
	Select Exit twice.		F5 F5
Cloc	k Synchronization		
	Use this procedure to specify	the primary, secondary, and tertiary cloc	k source. A

clock source may be either a 100D module or a port on an 800 NI-BRI module. See 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 external endpoint (loop) or to the clock reference source (local).



This procedure is necessary only if your system includes an 800 NI-BRI module or more than one 100D module.

4 Programming Procedures

Lines and Trunks

Page 4-60

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 synchronization→Enter→Secondary→Dial slot no.→Enter→Dial port no. OR Select source of synchronization→Enter→Tertiary→dial slot no.→Enter→Dial port no. OR Select source of

synchronization→Enter→Exit→Exit

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

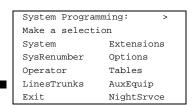
port no. OR Select source of synchronization \rightarrow F10 \rightarrow F5 \rightarrow F5

Procedure: Clock Synchronization

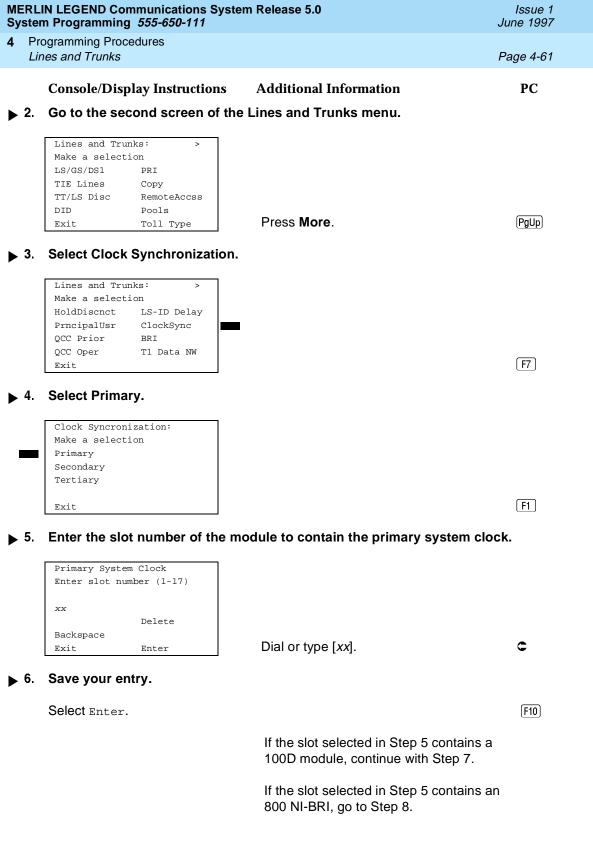
Console Display/Instructions Additional Information

PC

1 Select the Lines and Trunks menu.



F4



Programming Procedures

Lines and Trunks

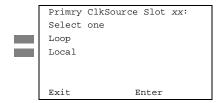
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Console/Display Instructions

Additional Information

PC

7. Specify whether the clock is to be synchronized to an external endpoint (loop) or is to be free running (local), then go to Step 9.

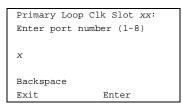


xx = slot number entered in Step x

Select Loop or Local.

F1 F2

▶ 8. Select the 800 NI-BRI module port to be the primary clock source.



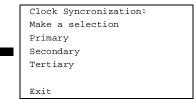
Dial or type [x].

9. Save your entry.

Select Enter.

F10

▶ 10. Select Secondary.



F2

▶ 11. Enter the slot number of the module to contain the secondary system clock.

Secondary System Clock
Enter slot number (1-17)

xx

Delete
Backspace
Exit
Enter

Dial or type [xx].

F5 F5

Select Exit twice.

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Trunks to Pools Assignment

Programming Procedures Lines and Trunks

> 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.

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.

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.



This procedure applies to Hybrid/PBX mode only.

Summary: Trunks to Pools Assignment

Programmable by System Manager

Hybrid/PBX Mode

Idle Condition Trunk idle

Planning Form Form 2c, System Numbering: Line/Trunk Jacks

4 Programming Procedures

Lines and Trunks

Page 4-66

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 extensions numbers are assigned

to ground-start trunks.

Valid Entries Line numbers

Inspect Yes
Copy Option Yes

Console Procedure To program a single line/trunk:

LinesTrunks→Pools→Dial pool dial-out code→Select

entry mode \rightarrow Dial no. of the line/trunk \rightarrow Enter \rightarrow Exit \rightarrow Exit

To program a block of lines/trunks:

LinesTrunks→Pools→Dial pool dial-out code→Select

block of lines/trunks→Toggle LED
On/Off→Enter→Exit→Exit

PC Procedure To program a single line/trunk:

 $F4 \rightarrow F9 \rightarrow Type pool dial-out code \rightarrow F10 \rightarrow F6 \rightarrow Type no.$

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

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.

Lines and Trunks: >

Make a selection

LS/GS/DS1 PRI

TIE Lines Copy

TT/LS Disc RemoteAccss

DID Pools

Exit Toll Type

F9

You may continue to assign or remove additional lines/trunks from the pool by

repeating Steps 2 and 3.

IERLIN LEGEND Communications System Release 5.0 ystem Programming 555-650-111 Ju			Issue 1 June 1997		
	ogramming Procedures nes and Trunks		Page 4-68		
	Console/Display Instructions	Additional Information	PC		
4.	Return to the System Programm	ning menu.			
	Select Exit twice.		F5 F5		
Blo	ock Procedure				
	Console Display/Instructions	Additional Information	PC		
1 .	Specify the block of 20 lines asson the system programming co	sociated with the 20 line buttons nsole.			
	Select Lines 01-20 Lines 21-40 Lines 41-60 Lines 61-80		F1 F2 F3 F4		
2.	Assign the appropriate lines/tru	nks to the pool.			
		Toggle the red LED on or off as requir On = trunk is assigned to specified po Off = trunk is not assigned to specified	ol		
▶ 3.	Return to the System Programn	ning menu.			
	Select Exit twice.		F5 F5		
Сору	opy 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.

Programming Procedures

Lines and Trunks

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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.
- If you are copying options to a block of lines/trunks, they must be sequentially numbered.
- 3. 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.
- 4. 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.

Summary: Copy Options for Lines/Trunks

Programmable by System Manager

Mode All (but note differences)

Idle Condition Not required

Planning Form Form 2c, 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:

LinesTrunks→Copy→Single→Dial copy from trunk

no.→Enter→Dial copy to trunk no.→Enter→Exit→Exit→Exit

To copy blocks of lines/trunks:

LinesTrunks→Copy→Block→Dial copy from trunk

no.→Enter→Dial first copy to trunk no. in block→Enter→Dial last copy to trunk no. in

 $block \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

4 Programming Procedures

Lines and Trunks

Page 4-70

PC Procedure

To copy individual lines/trunks:

 $F4 \longrightarrow F7 \longrightarrow F1 \longrightarrow Type copy to trunk no. \longrightarrow F10 \longrightarrow Type copy from trunk no. \longrightarrow F10 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

To copy blocks of lines/trunks:

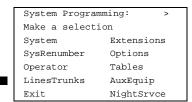
 $F4 \longrightarrow F7 \longrightarrow F2 \longrightarrow T$ ype copy from trunk no. $\longrightarrow T$ ype first copy to trunk no. in block $\longrightarrow F10 \longrightarrow F5 \longrightarrow T$ ype last copy to trunk no. in block $\longrightarrow F10 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

Procedure: Copy Options for Lines and Trunks

Console Display/Instructions Additional Information

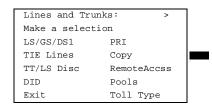
PC

1. Select the Lines and Trunks menu.



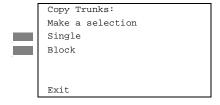
F4

▶ 2. Select Copy.



F7

→ 3. 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

	MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111			Issue 1 June 1997
4		ogramming Procedures es and Trunks		Page 4-71
	4	Console/Display Instructions	Additional Information	PC
•	1.	Enter the trunk number to copy	TIOIII.	
		Copy Trunk Info From: Enter trunk number		
		Backspace Exit Enter	Dial or type: Trunk number [<i>nnn</i>] Slot and port number *[<i>sspp</i>] Logical ID number #[<i>nnn</i>]	C
>	2.	Save your entry.		
		Select Enter.		F10
			If you get the Station Busy message, wa for an idle condition or exit system programming and try again later.	ait
>	3.	Enter the trunk number to copy	to.	
		COPY Trunk xxx To: Enter trunk number	xxx = "copy from" trunk entered in Step	1
		Backspace Next Exit Enter	Dial or type: Trunk number [<i>nnn</i>] Slot and port number *[<i>sspp</i>] Logical ID number #[<i>nnn</i>]	
>	4.	Continue to copy options from	this trunk or to another trunk or go to S	tep 5.
		Select Next.		F9
			Return to Step 3. The next QCC operate will be displayed on Line 1.	or
>	5.	Save your entry.		
		Select Enter.		F10
>	6.	Return to the System Programm	ning menu.	
		Select Exit three times.	F5	F5 F5

Programming Procedures

Lines and Trunks

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◆ Block of Trunks Procedure

Console/Display Instructions A

Additional Information

PC

▶ 1. Enter the trunk number to copy from.

Copy Trunk:
Enter copy from trunk
number

Backspace
Exit Enter

Dial or type: Trunk number [nnn] Slot and port number *[sspp] Logical ID number #[nnn]

2. 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.

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] **MERLIN LEGEND Communications System Release 5.0** System Programming 555-650-111 June 1997 **Programming Procedures** DS1 Facilities Page 4-73

Issue 1

F5 F5 F5

Additional Information PC **Console/Display Instructions**

Save your entry.

Select Enter. F10

Return to the System Programming menu. ▶ 7.

Select Exit three times.

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.

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.

Programming Procedures DS1 Facilities

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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.

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).



NOTE:

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.

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" for more information.

4 Programming Procedures

DS1 Facilities

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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→LS/GS/DS1→Dial slot

 $no. \rightarrow Enter \rightarrow Type \rightarrow PRI \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow$

Exit

To select T1: All Ground, All Loop, or All Unequip:

 $LinesTrunks \rightarrow LS/GS/DS1 \rightarrow Dial slot$

no.→Enter→Type→T1→Enter→Select type of emulation→Enter→Exit→Exit→Exit

To select T1: Ground-Start, Loop-Start, All Tie, or Unequip:

LinesTrunks→LS/GS/DS1→Dial slot

 $no. \rightarrow Enter \rightarrow Type \rightarrow T1 \rightarrow Enter \rightarrow Select type of$

emulation→Enter→Dial channel

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To select T1: All DID:

LinesTrunks→LS/GS/DS1→Dial slot

 $no. \rightarrow Enter \rightarrow Type \rightarrow T1 \rightarrow Enter \rightarrow More \rightarrow All$

 $DID \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To select T1: DID:

LinesTrunks→LS/GS/DS1→Dial slot

 $no. \rightarrow Enter \rightarrow Type \rightarrow T1 \rightarrow Enter \rightarrow More \rightarrow DID \rightarrow Enter \rightarrow D$

ial channel no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit

4 Programming Procedures DS1 Facilities

Page 4-76

```
To select T1- All Tie:
```

 $LinesTrunks \rightarrow LS/GS/DS1 \rightarrow Dial slot$

 $no. \rightarrow Enter \rightarrow Type \rightarrow T1 \rightarrow Enter \rightarrow All$

 $TIE \rightarrow Enter \rightarrow TIE-PBX, Toll, or S56 \rightarrow Enter \rightarrow Dial channel$

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To select T1- Tie:

LinesTrunks→LS/GS/DS1→Dial slot

 $no. \rightarrow Enter \rightarrow Type \rightarrow T1 \rightarrow Enter \rightarrow TIE \rightarrow Enter \rightarrow TIE-PBX,$

Toll, or S56→Enter→Dial channel

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To select T1: All Switched 56 Data:

LinesTrunks→LS/GS/DS1→Dial slot

no.→Enter→Type→T1→Enter→More→ALL S56

Data→Enter→Select Direction, Intype, Outtype, AnsSupv, Disconnect, Inmode, Or Outmode→Program

options→Enter→Exit→Exit→Exit

To select T1: Switched 56 Data:

LinesTrunks→LS/GS/DS1→Dial slot

 $no. \rightarrow Enter \rightarrow Type \rightarrow T1 \rightarrow Enter \rightarrow More \rightarrow S56$

Data→Enter→Dial channel no.→Enter→Select

Direction, Intype, Outtype, AnsSupv, Disconnect,

Inmode, **or** Outmode → **Program**

 $options \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure

To select PRI:

$$\underbrace{\text{F4}} \rightarrow \underbrace{\text{F1}} \rightarrow \text{Type slot no.} \rightarrow \underbrace{\text{F10}} \rightarrow \underbrace{\text{F1}} \rightarrow \underbrace{\text{F2}} \rightarrow \underbrace{\text{F10}} \rightarrow$$

$$\boxed{\mathsf{F5}} \rightarrow \boxed{\mathsf{F5}} \rightarrow \boxed{\mathsf{F5}} \rightarrow \boxed{\mathsf{F5}}$$

To select T1: All Ground, All Loop, All Unequip:

$$F4 \rightarrow F1 \rightarrow Type$$
 slot no. $\rightarrow F10 \rightarrow F1 \rightarrow F10 \rightarrow F$

$$\begin{array}{c} \text{PgUp} \rightarrow \text{Select type of emulation} \rightarrow \text{F10} \rightarrow \text{F5} \rightarrow \text{F5} \rightarrow \text{F5} \rightarrow \text{F5} \end{array}$$

To select T1: Ground-Start, Loop-Start, All Tie, or Unequip:

 $F4 \rightarrow F10 \rightarrow Type slot no. \rightarrow F10 \rightarrow F1 \rightarrow F10 \rightarrow Select type$

of emulation \rightarrow F10 \rightarrow Type channel no. \rightarrow F10 \rightarrow F5 \rightarrow

 $F5 \rightarrow F5 \rightarrow F5$

To select T1: All DID:

$$\underbrace{\text{F4}} \rightarrow \underbrace{\text{F1}} \rightarrow \text{Type slot no.} \rightarrow \underbrace{\text{F10}} \rightarrow \underbrace{\text{F1}} \rightarrow \underbrace{\text{F1}} \rightarrow \underbrace{\text{F10}} \rightarrow \underbrace{\text{PgUp}} \rightarrow \underbrace{\text{PgUp}} \rightarrow \underbrace{\text{F1}} \rightarrow \underbrace{\text{F1$$

 $F7 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

To select T1: DID:

$$F4 \rightarrow F10 \rightarrow T$$
vpe slot

$$\mathsf{no.} \rightarrow \mathsf{F10} \rightarrow \mathsf{F1} \rightarrow \mathsf{F1} \rightarrow \mathsf{F10} \rightarrow \mathsf{PgUp} \rightarrow \mathsf{F1} \rightarrow$$

F10 \rightarrow Type channel no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5

To select T1- All Tie:

$$F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F1 \rightarrow F10 \rightarrow F10 \rightarrow F1, F2,$$

or $(F3) \rightarrow (F10) \rightarrow (F5) \rightarrow (F5) \rightarrow (F5)$

4 Programming Procedures DS1 Facilities

Page 4-77

To select T1- Tie:

 $F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F1 \rightarrow F10 \rightarrow F1), F2,$ or $F3 \rightarrow F10 \rightarrow Type \text{ channel no.} \rightarrow F10 \rightarrow$

To select T1: ALL Switched 56 Data:

F4 \rightarrow F1 \rightarrow F1 \rightarrow F1 \rightarrow F1 \rightarrow F1 \rightarrow F1 \rightarrow F2 \rightarrow F1 \rightarrow F1 \rightarrow F2 \rightarrow F1 \rightarrow F2 \rightarrow F3 \rightarrow F4 \rightarrow F5 \rightarrow F

To select T1: Switched 56 Data:

Table 4-1. Switched 56 Data Signaling Options

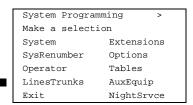
Option	Factory Setting	Range
Direction	Two-Way	Two-Way, Outgoing, Incoming
Intype	Wink-Route by Dial Plan	Wink-Route by Dial Plan,
		Delay-Route by Dial Plan
		Auto-Route by Line Appearance
Outtype	Wink	Wink, Delay, Auto
Answer Supervision	300 ms.	200-4800 ms. (increments of 20 ms)
Disconnect	300 ms.	200-4800 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

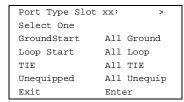
→ 7. Save your entry.

Select Enter.

F10

If you selected PRI, you have finished this procedure. Go to "Frame Format".

▶ 8. Select a trunk type.



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.



Port Type Slot xx:
Select one
DID All DID
S56 Data All S56 Data

Exit Enter

Press the button or function key next to your selection.

Programming Procedures

DS1 Facilities

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Console/Display Instructions

Additional Information

PC

▶ 9. Save your entry.

▲常●◆

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

A Tie Trunk Procedure.

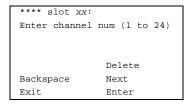
If you selected All TIE trunks, go to
* All Tie Trunk Procedure.

If you selected S56 Data, go to ♦ S56 Data Procedure.

All S56 Data Procedure.

If you selected ALL S56 Data, go to

▶ 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].

C

▶ 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.

Save your entry.

Select Enter. F10

Return to the System Programming menu.

Select Exit four times. F5 F5 F5

Programming Procedures DS1 Facilities

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Console/Display Instructions

Additional Information

PC

▶ 2. Continue to assign direction to the next channel or go to Step 3.

Select Next.

F9

Return to Step 1. The next channel will be displayed on Line 1.

3. Save your entry.

Select Enter.

F10

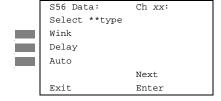
Return to the System Programming menu.

Select Exit four times.

F5 F5 F5

+ Trunk Seizure Type Procedure

▶ 1. Select Trunk Seizure Type.



xx = channel selected in Step x.

** = In or Out

Select Wink, Delay, Or Auto

[<u>f1</u>]

F2 F3

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]

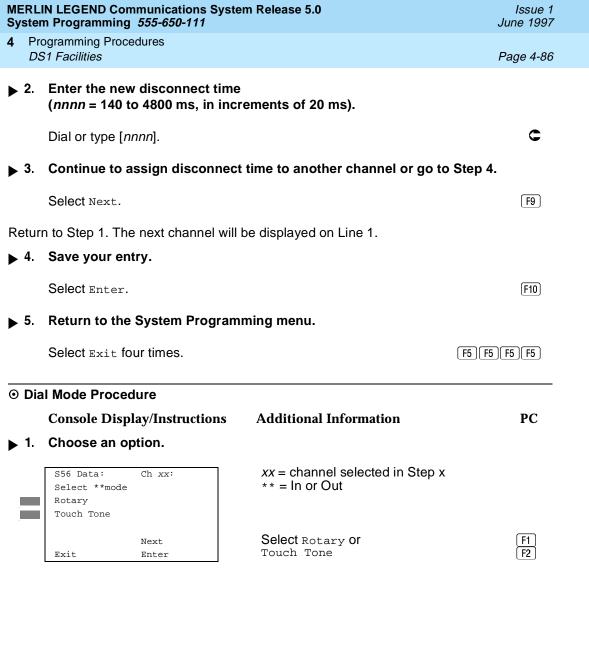
Return to Step 1. The next channel will be displayed on Line 1.

3. Save your entry.

Select Enter.

[F10]

	IERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997			
4		ogramming Procedures 11 Facilities		Page 4-85
•	4.	Console/Display Instructions Return to the System Program	Additional Information ming menu.	PC
		Select Exit four times.	F5 F5	[F5][F5]
0	Ans	swer Supervision Timing Proced	dure	
		Console Display/Instructions	Additional Information	PC
>	1.	Erase the current answer supe	rvision time (<i>nnnn</i>).	
		S56 Data Ch xx: Enter AnsSupervisionTime (20-4800, increment 20) nnnn	xx = number entered in Step 1	
		Backspace Next Exit Enter	Press Drop .	Alt + P
>	2.	Enter the new answer supervis (nnnn = 20 to 4800 ms, in incre		
		Dial or type [nnnn].		C
•	3.	Continue to assign answer sup	pervision time to another channel or go	to Step 4.
		Select Next.		F9
			Return to Step 1. The next channel will displayed on Line 1.	be
•	4.	Save your entry.		
		Select Enter.		(F10)
•	5.	Return to the System Program	ming menu.	
		Select Exit four times.	F5 F5	F5) F5)
* I	Disc	connect Timing Procedure		
		Console/Display Instructions	Additional Information	PC
•	1.	Erase the current disconnect ti	me (<i>nnnn</i>).	
		S56 Data Ch xx: Enter Disconnect time (140-4800) nnnn	xx = number entered in Step 1	
		Backspace Next Exit Enter	Press Drop.	Alt + P



Two Way Outgoing Incoming Next Exit Enter

Select Two Way, Outgoing, Or Incoming

F1 F2 [F3]

Save your entry.

Select Enter.

Press Drop.

Alt + P

Backspace

Exit

Next

Enter

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4		ogramming Procedures 11 Facilities		Page 4-89
	2	Console/Display Instructions	Additional Information	PC
>	۷.	Enter the new answer superv (nnnn = 20 to 4800 ms, in incr		
		Dial or type [nnnn].		C
>	3.	Save your entry.		
		Select Enter.		F10
>	4.	Return to the System Program	nming menu.	
		Select Exit four times.		F5 F5 F5 F5
*	Dis	connect Timing Procedure		
		Console Display/Instructions Erase the current disconnect		PC
	1.	All S56 Data Enter Disconnect time (140-4800) nnnn Backspace Next Exit Enter	Press Drop .	(Alt)+(P)
>	2.	Enter the new disconnect tim (nnnn = 140 to 4800 ms, in inc	e	
		Dial or type [nnnn].		C
>	3.	Save your entry.		
		Select Enter.	_	(F10)
	4.	Return to the System Program	nming menu.	
		Select Exit four times.		F5 F5 F5 F5

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4 Programming Procedures

DS1 Facilities

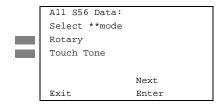
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Dial Mode Procedure

Console/Display Instructions Additional Information

PC

1. Choose an option.



** = In or Out

Select Rotary or Touch Tone

F1 F2

2. Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit four times.

F5 F5 F5 F5

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:

 $digits \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

Programming Procedures

DS1 Facilities

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To specify Delete Digits:

LinesTrunks→More→T1 Data NW→S56 Dial Plan Routing→Delete Digits→Drop→Dial delete digits→Enter→Exit→Exit

To specify Add Digits:

LinesTrunks→More→T1 Data NW→S56 Dial Plan Routing→Add Digits→Drop→Dial add digits→Enter→Exit→Exit

PC Procedure

To specify Expected Digits:

To specify Delete Digits:

$$\begin{array}{c} \hline {\rm F4} \longrightarrow {\rm PgUp} \longrightarrow {\rm F9} \longrightarrow {\rm F1} \longrightarrow {\rm F2} \longrightarrow {\rm Alt} + {\rm P} \longrightarrow {\rm Type \ delete} \\ {\rm digits} \longrightarrow {\rm F10} \longrightarrow {\rm F5} \longrightarrow {\rm F5} \longrightarrow {\rm F5} \\ \end{array}$$

To specify Add Digits:

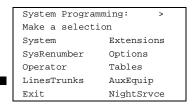
$$\begin{array}{c} \hline {\rm F4} \longrightarrow {\rm PgUp} \longrightarrow {\rm F9} \longrightarrow {\rm F1} \longrightarrow {\rm F3} \longrightarrow {\rm Alt} + {\rm P} \longrightarrow {\rm Type} \ {\rm add} \\ {\rm digits} \longrightarrow {\rm F10} \longrightarrow {\rm F5} \longrightarrow {\rm F5} \longrightarrow {\rm F5} \\ \end{array}$$

Switched 56 Data Dial Plan Routing

Console Display/Instructions Additional Information

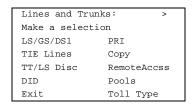
PC

1. Select the Lines and Trunks menu.



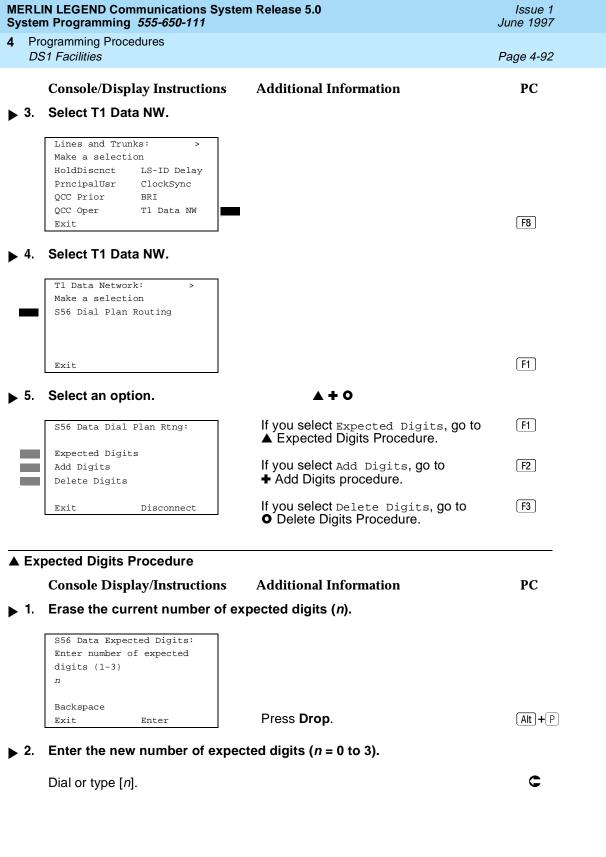
F4

■ 2. Go to the second screen of the Lines and Trunks menu.



Press More.

PgUp



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4		ogramming Procedures 11 Facilities		Page 4-93
		Console/Display Instruction	ns Additional Information	PC
>	3.	Save your entry.		
		Select Enter.		F10
>	4.	Return to the System Prog	ramming menu.	
		Select Exit four times.		F5 F5 F5 F5
+	Add	d Digits Procedure		
>	1.	Erase the current number of	of digits to add $(nnnn = 0 \text{ to } 9999)$.	
		S56 Data Add Digits: Enter digits to add		
		nnnn		
		Backspace Exit Enter	Press Drop.	Alt + P
>	2.	Enter the new number of d	igits to add $(n = 0 \text{ to } 3)$.	
		Dial or type [n].		C
>	3.	Save your entry.		
		Select Enter.		(F10)
>	4.	Return to the System Prog	ramming menu.	
		Select Exit four times.		F5 F5 F5 F5
0	Del	ete Digits Procedure		
		Console Display/Instruction	ns Additional Information	PC
•	1.	Erase the current number of	of digits to delete (n).	
		S56 Data Delete Digits: Enter number of digits to delete (0-4)		
		Backspace Exit Enter	Press Drop .	Alt + P

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	4 Programming Procedures DS1 Facilities Pa				
. 0	Console/Display Instru		PC		
▶ 2.		of digits to delete $(n = 0 \text{ to } 4)$.	•		
	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		
Fram	ne Format				
Sum	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. 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				

 $\begin{tabular}{ll} \hline \tt F4 & \to \tt F10 & \to \tt F10 \\ \hline \to \tt F10 & \to \tt F10 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \to \tt F5 \\ \hline \end{tabular} \rightarrow \begin{tabular}{ll} \tt F2 \\ \hline \end{tabu$

PC Procedure

MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111			Issue 1 June 1997
	ogramming Procedures 61 Facilities		Page 4-95
Proce	edure: Frame Format		
	Console Display/Instructions Additional Addi	onal 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 Loop-Start/Ground-Start/DS1.		
-	Lines and Trunks: > Make a selection LS/GS/DS1 PRI TIE Lines Copy TT/LS Disc RemoteAccss DID Pools Exit Toll Type		F1
▶ 3.	Enter the slot number in the control un	it that contains the 100D modu	lo
> 5.	(nn = 1 to 17).	it that contains the 1000 modu	i c
	Loop/Ground/DS1: Enter slot number(1-17)		
	Backspace Exit Enter Dial o	r type [<i>nn</i>].	c
> 4.	Save your entry.		
	Select Enter.		F10
▶ 5.	Select Frame Format.		
_	DS1 Slot xx: Make a selection Type Line Comp FrameFormat ChannelUnit Suppression	lot number entered in Step 3	
	Signaling Exit		F2

MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 **Programming Procedures** DS1 Facilities Page 4-96 Additional Information PC **Console/Display Instructions** Select a format type. xx = slot number entered in Step 3 DS1 Slot xx: Select one D4 Compatible Extended Super Frame Select D4 Compatible or F1 F2 Extended Super Frame. Save your entry. Select Enter. F10 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. Summary: Zero Code Suppression Programmable by System Manager Mode ΑII 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 Nο Console Procedure LinesTrunks→LS/GS/DS1→Dial slot no.→Enter→Suppression→AMI-ZCS or $B8ZS \rightarrow Enter \rightarrow Exit \rightarrow Exit$ PC Procedure F4 \rightarrow F1 \rightarrow Type slot no. \rightarrow F10 \rightarrow F3 \rightarrow F1 or

 $F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

MERLI Syster	IERLIN LEGEND Communications System Release 5.0 ystem Programming 555-650-111 June 1997					
Pro	Programming Procedures					
DS	S1 Facilities			Page 4-97		
Proce	Console Disp	ode Suppression olay/Instructions nes and Trunks r	Additional Information	PC		
. .	Ocicot the Li	iles alla Traliks i	nena.			
2.	System Program Make a select System SysRenumber Operator LinesTrunks Exit Select Loop- Lines and Trum Make a select LS/GS/DS1	ion Extensions Options Tables AuxEquip NightSrvce Start/Ground-Sta	art/DS1.	F4		
	TIE Lines TT/LS Disc DID Exit	Copy RemoteAccss Pools Toll Type		F1		
3.	(nn = 1 to 17) Loop/Ground/D Enter slot nu).	control unit that contains the 100D modu	ile		
4 .	Backspace Exit Save your er	Enter	Dial or type [nn].	C		
	Select Enter.			(F10)		

MERLIN LEGEND Communications System Release 5.0 Issue 1 June 1997 System Programming 555-650-111 **Programming Procedures** DS1 Facilities Page 4-98 Additional Information PC **Console/Display Instructions** Select Suppression. **▶** 5. xx = slot number entered in Step 3 DS1 Slot xx: Make a selection Line Comp Type FrameFormat ChannelUnit Suppression Signaling F3 Exit Select AMI zero code suppression or bipolar 8 zero substitution. xx = slot number entered in Step 3 DS1 Slot xx: Select one AMI-ZCS Select AMI-ZCS or [F1] F2 B8ZS. Enter Exit 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. NOTE: 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)

Robbed Bit, Common Channel

Robbed bit

Factory Setting

Valid Entries

4 Programming Procedures

DS1 Facilities

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Inspect No Copy Option No

Console Procedure $LinesTrunks \rightarrow LS/GS/DS1 \rightarrow Dial slot$

 $no. \rightarrow Enter \rightarrow Signaling \rightarrow Select type of$

 $signaling \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F4 \rightarrow Select type of}$

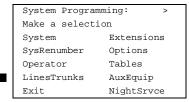
signaling \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Signaling Mode

Console Display/Instructions Additional Information

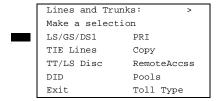
PC

▶ 1. Select the Lines and Trunks menu.



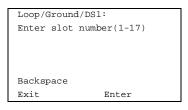
F4

▶ 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).

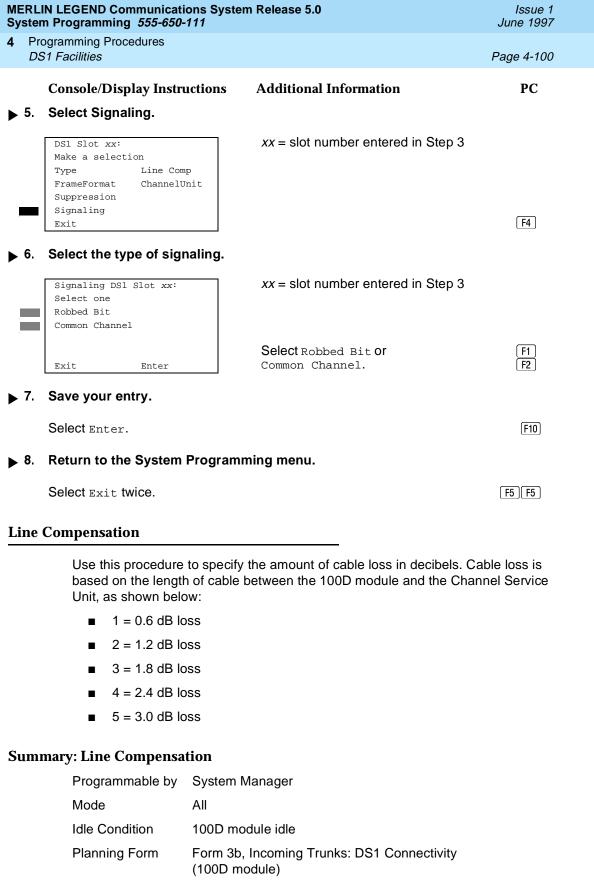


Dial or type [nn].

C

▶ 4. Save your entry.

Select Enter.



4 Programming Procedures

DS1 Facilities

Page 4-101

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→Drop→Dial line compensation

value→Enter→Exit→Exit

PC Procedure $F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F6 \rightarrow Alt + P \rightarrow Type line$

compensation value \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)

Procedure: Line Compensation

Console Display/Instructions Additional Information

PC

1 Select the Lines and Trunks menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F4

▶ 2. Select Loop-Start/Ground-Start/DS1.

Lines and Trunks: >
Make a selection

LS/GS/DS1 PRI

TIE Lines Copy

TT/LS Disc RemoteAccss

DID Pools

Exit Toll Type

F1

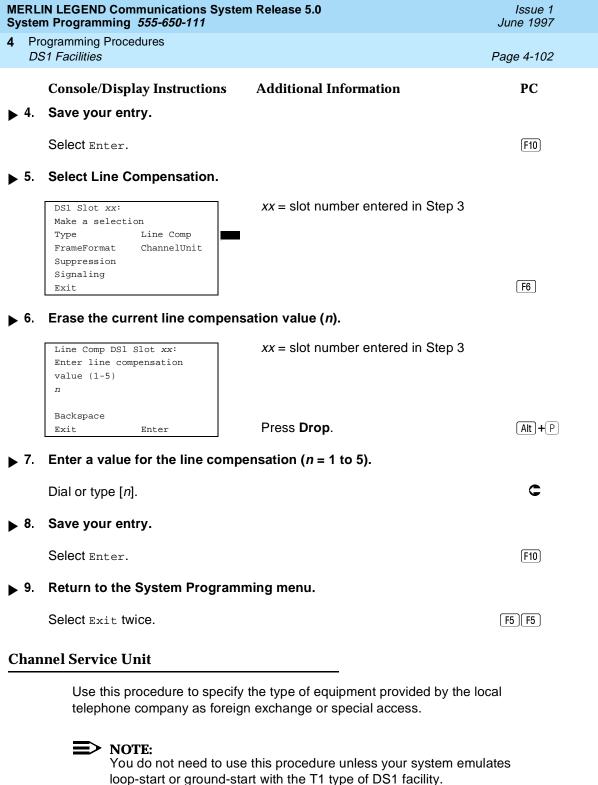
▶ 3. Enter the slot number in the control unit that contains the 100D module (nn = 1 to 17).

Loop/Ground/DS1:
Enter slot number(1-17)

Backspace
Exit Enter

Dial or type [nn].

C



4 Programming Procedures

DS1 Facilities

Page 4-103

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

 $no. \rightarrow Enter \rightarrow ChannelUnit \rightarrow Foreign Exchange Of$

Special Access \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F1 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow F8 \rightarrow F1 \text{ or}$

 $F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

Procedure: Channel Service Unit

Console Display/Instructions Additional Information

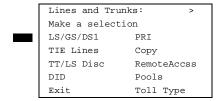
PC

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 Loop-Start/Ground-Start/DS1.



F10

F5 F5

Save your entry.

Select Exit twice.

Return to the System Programming menu.

Select Enter.

4 Programming Procedures
Tie Trunks
Page 4-105

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 "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
Copy Option Yes

Console Procedure LinesTrunks→TIE Lines→Direction→Dial trunk

no.→Enter→Specify direction→Enter→Exit→Exit

PC Procedure $[F4] \rightarrow [F2] \rightarrow [F1] \rightarrow Type trunk no. \rightarrow [F10] \rightarrow Specify$

direction \rightarrow F10 \rightarrow F5 \rightarrow F5

4 Programming Procedures
Tie Trunks

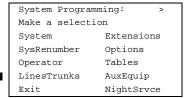
Page 4-106

Procedure: Direction

Console Display/Instructions Additional Information

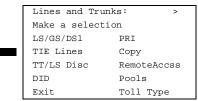
PC

Select the Lines and Trunks menu.



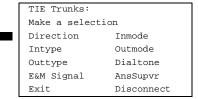
F4

2. Select TIE Lines.



F2

▶ 3. Select Direction.



F1

▶ 4. Enter the tie trunk number.

Direction:				
Enter	trunk	for	assignmt	
Backs	pace			
Exit			Enter	
Exit			Enter	

Dial or type: Trunk number [nnn] Slot and port number *[sspp] Logical ID number #[nnn]

5. Save your entry.

Select Enter.

F10

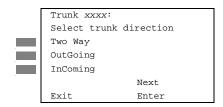
If you get the Trunk Busy message, wait for an idle condition or exit system programming and try again later.

Programming Procedures

Tie Trunks

Page 4-107

▶ 6. Specify the trunk direction.



xxxx = trunk entered in Step 4

Select Two Way,
OutGoing, Or
InComing.

F1 F2 F3

▶ 7. Continue to assign the direction to another trunk or go to Step 8.

Select Next.

F9

Return to Step 6. The next trunk will be displayed on Line 1.

8. Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit twice.

F5 F5

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.

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.

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Programming Procedures

Tie Trunks

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Summary: Tie Trunk Type

Programmable by System Manager

Mode All

Idle Condition Tie trunk idle

Planning Form Form 3c, Incoming Trunks: Tie

Factory Setting Wink

Valid Entries Wink, Delay, Immediate, Automatic

Inspect No
Copy Option Yes

Console Procedure LinesTrunks \rightarrow TIE Lines \rightarrow Intype or Outtype \rightarrow 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]

Procedure: Tie Trunk Type

Console Display/Instructions Additional Information

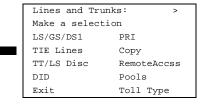
PC

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.



F2

PC

Console Display/Instructions Additional Information

▶ 3. Select Intype (incoming) or Outtype (outgoing).

TIE Trunks:

Make a selection

Direction Inmode

Intype Outmode

Outtype Dialtone

E&M Signal AnsSupvr

Exit Disconnect

Select Intype or Outtype.

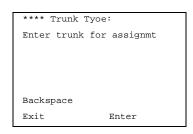
F2 F3

Programming Procedures

Tie Trunks

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▲ 4. Enter the tie trunk number.



**** = option name selected in Step 3

Dial or type:
Trunk number [nnn]
Slot and port number *[sspp]
Logical ID number #[nnn]

5. Save your entry.

Select Enter.

F10

F1

F2

F3

[F4]

6. Specify the tie trunk type.



xxxx = trunk entered in Step 4
**** = option name selected in Step 3

Select Wink,
Delay,
Immed, Of
Auto.

▶ 7. Continue to assign a type to another trunk or go to Step 8.

Select Next. F9

Return to Step 6. The next trunk will be displayed on Line 1.

8. Save your entry.

Select Enter. [F10]

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Programming Procedures Tie Trunks

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Console Display/Instructions Additional Information

PC

Return to the System Programming Menu.

Select Exit two times.

F5 F5

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.

Summary: E&M Signal

Programmable by System Manager

ΑII Mode

Idle Condition Tie trunk idle

Planning Form Form 3c, Incoming Trunks: Tie

1S Factory Setting

Valid Entries 1S, 1C, 5

Inspect No

Copy Option Yes

Console Procedure LinesTrunks→TIE Lines→E&M Signal→Dial trunk

 $no. \rightarrow Enter \rightarrow Specify signaling type \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow F2 \rightarrow F4 \rightarrow Type trunk no. \rightarrow F10 \rightarrow Specify signaling$

type \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

4 Programming Procedures Tie Trunks

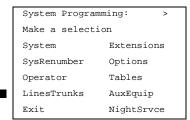
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Procedure: E&M Signal

Console Display/Instructions Additional Information

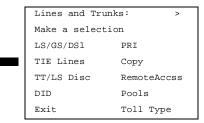
PC

▶ 1. Select the Lines and Trunks menu.



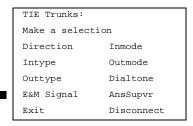
F4

▶ 2. Select Tie Lines.



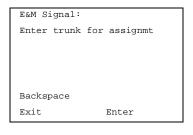
F2

3. Select E&M Signal.



[F4]

4. Enter a tie trunk number.



Dial or type:
Trunk number [nnn]
Slot and port number *[sspp]
Logical ID number #[nnn]

C

5. Save your entry.

Select Enter.

[F10]

MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 **Programming Procedures** Tie Trunks Page 4-112 **Console Display/Instructions** PC **Additional Information** Specify the type of signaling for the trunk. xxx = trunk entered in Step 4 Trunk xxx: Select E&M Trk Signaling Type1S Type1C F1 Type 5 Select Type1S, [F2] Next Type1C, or F3 Exit. Enter Type5. Continue to assign E&M signaling to another trunk or go to Step 8. Select Next. F9 Return to Step 6. The next trunk will be displayed on Line 1. Save your entry. F10 Select Enter. Return to the System Programming menu. F5 F5 Select Exit twice. Dial Mode Use this procedure to specify whether an incoming or outgoing tie trunk is touch-tone 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. **Summary: Dial Mode** Programmable by System Manager Mode ΑII Idle Condition Not required Form 3c, Incoming Trunks: Tie Planning Form

Factory Setting

Valid Entries

Rotary

Rotary, Touch-tone

4 Programming Procedures

Tie Trunks Page 4-113

Inspect Yes
Copy Option Yes

Console Procedure To program a single line/trunk:

LinesTrunks→TIE Lines→Inmode **of** Outmode→Entry

Mode→Dial line/trunk no.→Enter or

 $Delete \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To program a block of lines/trunks:

 $\label{linesTrunks} \begin{array}{ll} \texttt{LinesTrunks} {\rightarrow} \texttt{TIE Lines} {\rightarrow} \texttt{Inmode or Outmode} {\rightarrow} \textbf{Select} \\ \textbf{block of lines} {\rightarrow} \texttt{Toggle LED On/Off} {\rightarrow} \texttt{Exit} {\rightarrow} \texttt{Exit} \\ \end{array}$

PC Procedure To program a single line/trunk:

F4 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5

To program a block of lines/trunks:

 $\overbrace{\text{F4}} \rightarrow \overbrace{\text{F2}} \rightarrow \overbrace{\text{F6}} \text{ or } \overbrace{\text{F7}} \rightarrow \text{Select block of lines} \rightarrow \text{Toggle letter}$

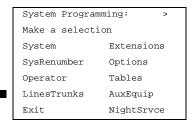
 $G On/Off \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Dial Mode

Console Display/Instructions Additional Information

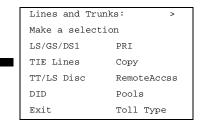
PC

▶ 1. Select the Lines and Trunks menu.



[F4]

2. Select Tie Lines.



Programming Procedures

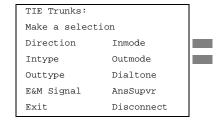
Tie Trunks

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Console Display/Instructions Additional Information

PC

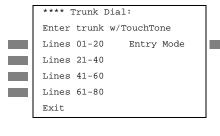
▶ 3. Select Inmode signaling or Outmode signaling.



Select Inmode or Outmode.

F6 F7

4. 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

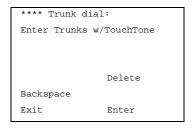
◆ Block Procedure.

- Single Line Procedure
- ▶ 1. Specify entry mode.

Select Entry Mode.

[F6]

2. Enter the number of the line/trunk.



**** = option name selected in Step 3

Dial or type [nnn].

■ 3. Assign or remove touch-tone dial mode from the line/trunk.

Select Enter or Delete.

F10

F8

You may continue to assign or remove touch-tone dial mode from additional lines/trunks by repeating Steps 2 and 3.

MERLIN LEGEND Communications System Release 5.0Issue 1System Programming 555-650-111June 1997					
	• 10 1 5 111111				
110	e Trunks			Page 4-115	
	Console Display/Instr	uctions	Additional Information	PC	
▶ 4.	Return to the System	Programi	ming menu.		
	Select Exit three times	3 .		F5 F5 F5	
♦ Blo	ock Procedure				
	Console/Display Instr	uctions	Additional Information	PC	
▶ 1.	Specify the block of 2 programming console		sociated with the 20 line butto	ons on the system	
	Select Lines 01-20 Lines 21-40 Lines 41-60 Lines 61-80			F1 F2 F3 F4	
▶ 2.	Specify touch-tone or	rotary si	gnaling for each line/trunk.		
	Toggle the green LED on or off as required. On = touch-tone Off = rotary				
▶ 3.	Return to the System	Programi	ming menu.		
Select Exit three times. F5 F5 F5				F5 F5 F5	
Tie T	Frunk 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).					
Sum	mary: Tie Trunk Dial	Tone			
	Programmable by	System N	Manager		
	Mode	All			
	Idle Condition	Not requ	ired		
	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 4-116

Console Procedure To program a single line/trunk:

LinesTrunks→TIE Lines→Dialtone→Entry Mode→Dial

 $trunk no. \rightarrow Enter or Delete \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To program a block of lines/trunks:

LinesTrunks \rightarrow TIE Lines \rightarrow Dialtone \rightarrow Select block of lines/trunks \rightarrow Toggle LED On/Off \rightarrow Exit \rightarrow Exit

PC Procedure To program a single line/trunk:

$$F4$$
 $\rightarrow F2$ $\rightarrow F8$ $\rightarrow F6$ $\rightarrow Type trunk no. $\rightarrow F10$ or$

 $\boxed{F8} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

To program a block of lines/trunks:

$$F4$$
 \rightarrow $F2$ \rightarrow $F8$ \rightarrow Select block of lines \rightarrow Toggle letter G

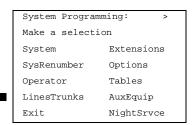
 $On/Off \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Tie Trunk Dial Tone

Console/Display Instructions Additional Information

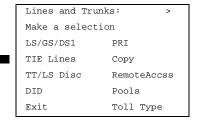
PC

▶ 1. Select the Lines and Trunks menu.



F4

2. Select Tie Lines.



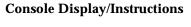
F2

3. Select Dial Tone.

TIE Trunks:		
Make a selection		
Direction	Inmode	
Intype	Outmode	
Outtype	Dialtone	
E&M Signal	AnsSupvr	
Exit	Disconnect	

Programming Procedures
Tie Trunks

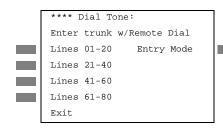
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Additional Information

PC

4. 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.

● Single Line Procedure

Console/Display Instructions

Additional Information

PC

1. Specify entry mode.

Select Entry Mode.

F6

▶ 2. Enter the number of the trunk (nnn).

OutTrunk Dial :
Enter Trunks w/TouchTone

Delete
Backspace
Exit Enter

Dial or type [nnn].

_

3. Assign or remove remote dial tone.

Select Enter or Delete.

F10

[F8]

You may continue to assign or remove remote dial tone from additional lines/trunks by repeating Steps 2 and 3.

▶ 4. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

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4 Programming Procedures

Tie Trunks Page 4-118

♦ Block Procedure

Console Display/Instructions Additional Information

PC

■ 1. Specify the block of 20 lines associated with the 20 buttons on the system programming console.

Select Lines 01-20[F1]
Lines 21-40[F2]
Lines 41-60[F3]
Lines 61-80[F4]

▶ 2. Specify remote or local dial signaling for each block.

Toggle the green LED on or off as required.
On = remote dial tone

Off = local dial tone

3. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

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 4800 ms, in increments of 20 ms

Inspect No
Copy Option Yes

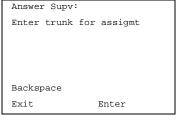
Console Procedure LinesTrunks→TIE Lines→AnsSupvr→Dial trunk

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial no. of ms \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\rightarrow F2 \rightarrow F9 \rightarrow Type \text{ trunk no.} \rightarrow F10 \rightarrow F10 \rightarrow Type no. of$

 $ms \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

MERL Syste	IN LEGEND Co	ommunications S g <i>555-650-111</i>	ystem Release 5.0	Issue 1 June 1997
	rogramming Prod ie Trunks	cedures		Page 4-119
Proc			Supervision Time	
) 1.		play Instructior ines and Trunk		PC
▶ 2.	System Progra Make a select System SysRenumber Operator LinesTrunks Exit Select Tie Li	Extensions Options Tables AuxEquip NightSrvce		F4
→ 3.	Make a select LS/GS/DS1 TIE Lines TT/LS Disc DID Exit Select Answ TIE Trunks:	PRI Copy).	F2
▶ 4.	Make a select Direction Intype Outtype E&M Signal Exit	Inmode Outmode Dialtone AnsSupvr Disconnect		F9



Dial or type: Trunk number [nnn] Slot and port number *[sspp] Logical ID number #[nnn]

F10

Save your entry.

Select Enter.

	MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997					
4		ogramming Procedures Trunks			Page 4-120	
	6	Console Display/Instr		Additional Information	PC	
>	0.	Trunk xxxx: Enter AnsSupervisionTim (20-4800, increment 20) nnnn		xxxx = trunk entered in Step 4		
		Backspace Next Exit Enter		Press Drop .	(Alt)+(P)	
>	7.	Enter the answer sup	ervision t	time (<i>nnnn</i> = 0 to 4800 ms, incre	ments of 20).	
		Trunk xxxx: Enter AnsSupervisionTim (20-4800, increment 20)	e	xxxx = trunk entered in Step 4		
		Backspace Next Exit Enter		Dial or type [<i>nnnn</i>].	C	
>	8.	Continue to assign th	e supervi	ision time to another trunk or go	to Step 9.	
		Select Next.			F9	
				Return to Step 6. The next true played on Line 1.	nk will be dis-	
>	9.	Save your entry.				
		Select Enter.			F10	
>	10.	Return to the System	Program	ming menu.		
		Select Exit twice.			F5 F5	
D	isco	onnect Time				
	Use this procedure to specify the tie trunk disconnect time limit in milliseconds.					
Sı	Summary: Disconnect Time					
J.		Programmable by Mode Idle Condition Planning Form	System All Not requ	Manager uired s, Incoming Trunks: Tie		
	g					

4 Programming Procedures

Tie Trunks Page 4-121

Factory Setting 300 ms

Valid Entries 140 to 2400 ms

Inspect No Copy Option Yes

Console Procedure LinesTrunks→TIE Lines→Disconnect→Dial trunk

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial no. of ms \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow F2 \rightarrow F10 \rightarrow Type \text{ trunk no.} \rightarrow F10 \rightarrow Alt + P \rightarrow Type$

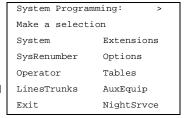
no. of ms \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Disconnect Time

Console/Display Instructions Additional Information

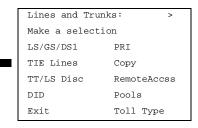
PC

■ 1. Select the Lines and Trunks menu.



F4

2. Select Tie Lines.



F2

▶ 3. Select Disconnect.

TIE Trunks:

Make a selection

Direction Inmode

Intype Outmode

Outtype Dialtone

E&M Signal AnsSupvr

Exit Disconnect

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ease 5.0 Issue 1 June 1997

4 Programming Procedures DID Trunks

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Console Display/Instructions Additional Information

PC

▶ 10. Return to the System Programming menu.

Select Exit twice. F5 F5

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

NOTE:

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

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition 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

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Console Procedure To program a single line/trunk:

LinesTrunks→DID→Block→Dial trunk block

 $no. \rightarrow Enter \rightarrow Entry Mode \rightarrow Type the line/trunk no. \rightarrow Enter$

 $or \; \texttt{Delete} {\longrightarrow} \texttt{Exit} {\longrightarrow} \texttt{Exit} {\longrightarrow} \texttt{Exit}$

To program a block of lines/trunks:

 $\label{eq:linestrunks} $$\operatorname{DID} \to \operatorname{Block} \to Dial \ trunk \ block \\ no. \to \operatorname{Enter} \to Select \ trunk \ lines \to Toggle \ LED$

 $On/Off \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure To program a single line/trunk:

F4 \rightarrow F1 \rightarrow Type trunk block no. \rightarrow F10 \rightarrow Type the line/trunk no. \rightarrow F10 or F8 \rightarrow F5 \rightarrow F5

To program a block of lines/trunks:

 $F4 \longrightarrow F4 \longrightarrow F1 \longrightarrow Type trunk block no. \longrightarrow F10 \longrightarrow Select trunk lines \longrightarrow Toggle letter G On/Off \longrightarrow F10 \longrightarrow F5$

 \rightarrow F5 \rightarrow F5

Procedure: Block Assignment

Console/Display Instructions Additional Information

PC

1. Select the Lines and Trunks menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

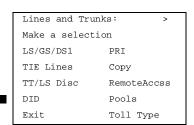
Operator Tables

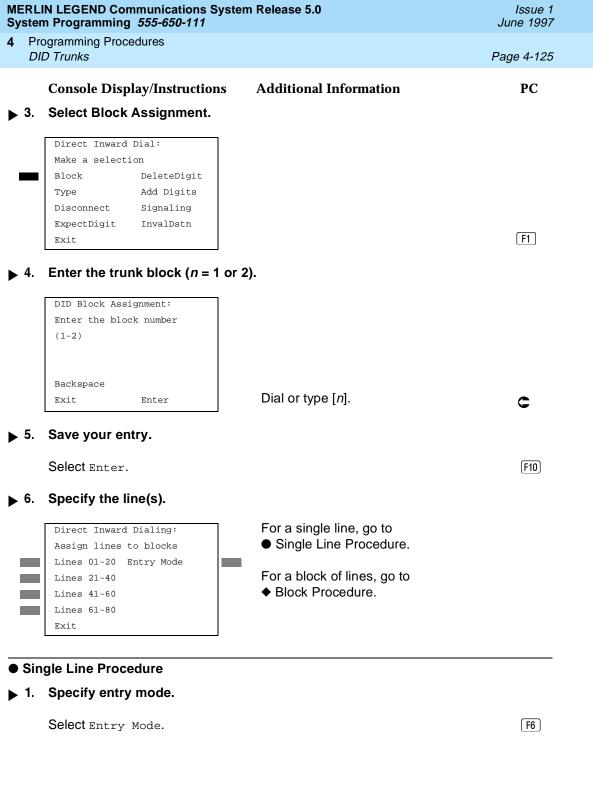
LinesTrunks AuxEquip

Exit NightSrvce

F4

2. Select DID.





MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111 June 1997						
4 Pr	Programming Procedures					
Di	D Trunks		Page 4-126			
▶ 2.	Enter the trunk number.					
	Block x: Enter line/trunk number	x = block entered in Step 4				
	Delete Backspace Next Exit Enter	Dial or type [nnn].	C			
▶ 3.	Assign or remove the trunk.					
	Select Enter or Delete.		F10 F8			
		You may continue to assign or remov trunks from the block by repeating Stand 3.				
▶ 4.	Continue to enter trunks for the	other trunk block or go to Step 5.				
	Select Next.		F9			
		Return to Step 2. The block will be displayed on Line 1.				
▶ 5.	Save your entry.					
	Select Enter.		(F10)			
▶ 6.	Return to the System Programming menu.					
	Select Exit three times.	ſ	F5 F5 F5			
♦ Blo	ock Procedure					
 Specify the DID trunks associated with 20 buttons on the system programming console. 						
	Select Lines 01-20 Lines 21-40 Lines 41-60 Lines 61-80		F1 F2 F3 F4			

4 Programming Procedures

DID Trunks

Page 4-127

PC

▶ 2. Assign or remove the trunk.

Console Display/Instructions

Toggle the green LED on or off as required.

Additional Information

On = assign DID trunk to block Off = remove DID trunk from block

▶ 3. 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 wink-start. 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

Inspect No

Copy Option No

Console Procedure LinesTrunks \rightarrow DID \rightarrow Type \rightarrow Dial trunk block

no.→Enter→Immed or Wink→Enter→Exit→Exit

PC Procedure $F4 \rightarrow F4 \rightarrow F2 \rightarrow Type \text{ trunk block no.} \rightarrow F10 \rightarrow F1 \text{ or}$

 $F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

Procedure: DID Trunk Type

Console/Display Instructions Additional Information

PC

■ 1. Select the Lines and Trunks menu.

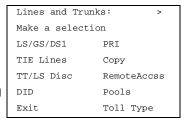
System Programming: >
Make a selection
System Extensions
SysRenumber Options
Operator Tables
LinesTrunks AuxEquip
Exit NightSrvce

4 Programming Procedures

DID Trunks

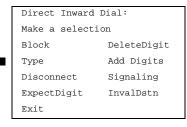
Page 4-128

▶ 2. Select DID.



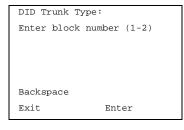
[F4]

→ 3. Select Type.



F2

▶ 4. Enter the trunk block (n = 1 or 2).



Dial or type [n].

C

▶ 5. Save your entry.

Select Enter.

(F10)

MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 **Programming Procedures** DID Trunks Page 4-129 **Additional Information** PC **Console Display/Instructions** Specify immediate-start or wink-start. x = block number entered in Step 4 DID Block x: Select type Immed Wink Select Immed or [F1] Next Wink. F2 Exit. Enter Continue to specify trunk type for the other trunk block or go to Step 8. Select Next. F9 Return to Step 6. The next trunk will be displayed on Line 1. Save your entry. F10 Select Enter. Return to the System Programming menu. Select Exit twice. F5 F5 **Disconnect Time** Use this procedure to specify the DID trunk disconnect time limit in milliseconds. **Summary: Disconnect Time** Programmable by System Manager Mode Hybrid/PBX Idle Condition Not required Form 3d, Incoming Trunks: DID Planning Form Factory Setting 500 ms Valid Entries 10 to 2400 ms, in increments of 10 ms Inspect No Yes Copy Option Console Procedure LinesTrunks→DID→Disconnect→Dial trunk $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial no. of ms \rightarrow Enter \rightarrow Exit \rightarrow Exit$

 $F4 \longrightarrow F4 \longrightarrow F3 \longrightarrow Type \text{ trunk no.} \longrightarrow F10 \longrightarrow Alt + P \longrightarrow Type$

no. of ms \rightarrow F10 \rightarrow F5 \rightarrow F5

PC Procedure

4 Programming Procedures *DID Trunks*

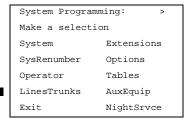
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Procedure:Disconnect Time

Console/Display Instructions Additional Information

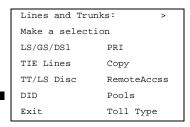
PC

▶ 1. Select the Lines and Trunks menu.



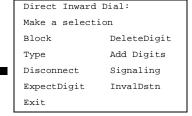
F4

≥ 2. Select DID.



[F4]

3. Select Disconnect.



Programming Procedures

DID Trunks

Page 4-132

Expected Digits

Use this procedure to tell the system how many digits are sent by the local telephone company.

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

 $\textbf{Console Procedure } \texttt{LinesTrunks} \boldsymbol{\rightarrow} \texttt{DID} \boldsymbol{\rightarrow} \texttt{ExpectDigit} \boldsymbol{\rightarrow} \textbf{Dial trunk block}$

no. \rightarrow Enter \rightarrow **Drop** \rightarrow Dial no. of digits \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F4 \rightarrow F4 \rightarrow Type \text{ trunk block no.} \rightarrow F10 \rightarrow Alt +$

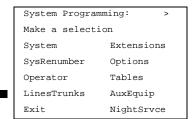
 $\mathbb{P} \rightarrow \mathsf{Type} \ \mathsf{no.} \ \mathsf{of} \ \mathsf{digits} \ \mathsf{F10} \rightarrow \mathsf{F5} \rightarrow \mathsf{F5}$

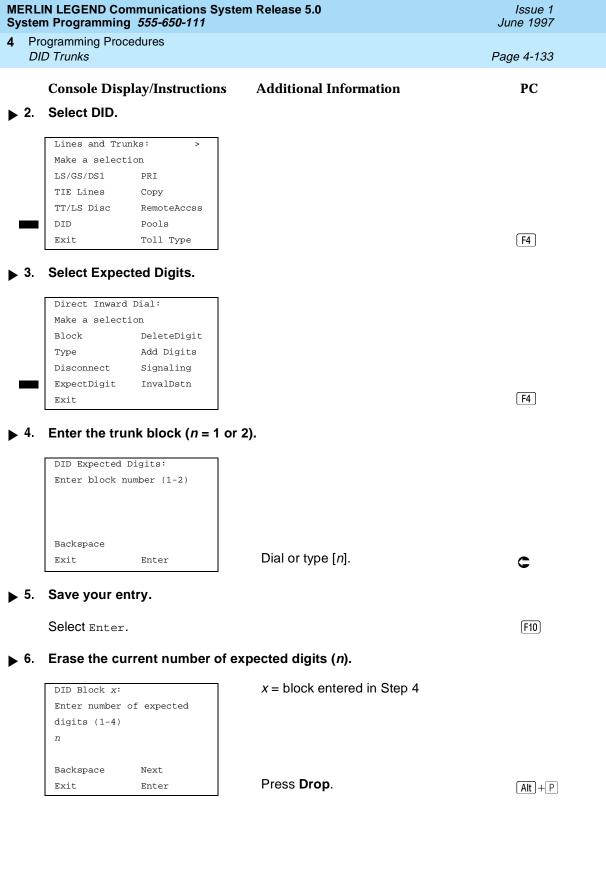
Procedure: Expected Digits

Console/Display Instructions Additional Information

PC

■ 1. Select the Lines and Trunks menu.





MI Sy	ERLI sten	N LEGEND Communicat n Programming <i>555-650</i>	ions Syste -111	m Release 5.0	Issue 1 June 1997
4		ogramming Procedures D <i>Trunks</i>			Page 4-134
	DIL	o Tranko			1 age + 10+
		Console Display/Instr	uctions	Additional Information	PC
▶	7.	Enter the number of e	expected	digits $(n = 1 \text{ to } 4)$.	
		Dial or type [n].			C
>	8.	Continue to specify e	xpected o	digits for the other trunk block or go	to Step 9.
		Select Next.			F9
				Return to Step 6. The next block w displayed on Line 1.	vill be
>	9.	Save your entry.			
		Select Enter.			F10
>	10.	Return to the System	Program	ming menu.	
		Select Exit twice.			F5 F5
D	elet	e Digits			
		digits sent by the lo	cal teleph	the number of leading digits to be delectors to be delectors company. Use this procedure where company is greater than the number	en the number
S	umr	nary: Delete Digits			
		Programmable by	System	Manager	
		Mode	Hybrid/F	PBX	
		Idle Condition	Not requ	iired	
		Planning Form	Form 3d	, Incoming Trunks: DID	
		Factory Setting	0 digits		
		Valid Entries	0 to 4 di	gits	
		Inspect	No		
		Copy Option	No		

Console Procedure $LinesTrunks \rightarrow DID \rightarrow DeleteDigit \rightarrow Dial trunk block no. \rightarrow Enter \rightarrow Drop \rightarrow Dial no. of digits \rightarrow Enter \rightarrow Exit \rightarrow Exit$

no. of digits \rightarrow F10 \rightarrow F5 \rightarrow F5

 $F4 \longrightarrow F4 \longrightarrow F6 \longrightarrow Type trunk block no. \longrightarrow Alt + P \longrightarrow Type$

PC Procedure

Save your entry.

Select Enter. [F10]

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4		gramming Procedures O <i>Trunks</i>			Page 4-136			
		Console Display/Instru	ıctions	Additional Information	PC			
>	6.	Erase the current num	ber of dele	ete digits (<i>n</i>).				
		DID Block x: Enter number of digits to delete (0-4)		x = block entered in Step 4				
		Backspace Next Exit Enter		Press Drop.	(Alt)+(P)			
_	7	Enter the number of d	igits to dol	•				
>	1.		igits to dei	ete (11 = 0 to 4).				
		Dial or type [n].			C			
•	8.	Continue to specify de	elete digits	for the other trunk block or go to Ste	p 9.			
		Select Next.			F9			
				Return to Step 6. The next block will be displayed on Line 1.	e			
>	9.	Save your entry.						
		Select Enter.			F10			
>	10.	Return to the System	Programm	ing menu.				
		Select Exit two times.			F5 F5			
A	dd I	Digits						
		the digits sent by th	e local tele nt by the tel	he number of leading digits that must be phone company. Use this procedure whe lephone company is fewer than the numb	en the			
Su	ımn	nary: Add Digits						
		Programmable by	System Ma	anager				
		Mode	Hybrid/PB	X				
		Idle Condition Not required						
		Planning Form	Form 3d, I	ncoming Trunks: DID				
		Factory Setting	0					
		Valid Entries	1 to 9999					
		Inspect	No					

4 Programming Procedures

DID Trunks

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Copy Option No

Console Procedure LinesTrunks→DID→Add Digits→Dial trunk block

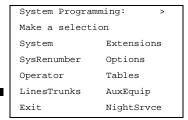
no.→Enter→**Drop**→Dial added digits→Enter→Exit→Exit

Procedure: Add Digits

Console Display/Instructions Additional Information

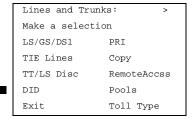
PC

1. Select the Lines and Trunks menu.



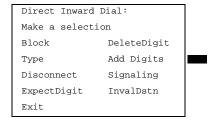
[F4]

2. Select DID.



F4

▶ 3. Select Add Digits.



[F7]

MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111				
4		ogramming Procedures D <i>Trunks</i>		Page 4-138
		Console Display/Instructions	Additional Information	PC
	4.	Enter the trunk block ($n = 1$ or 2	?).	
		DID Add Digits: Enter block number (1-2)		
		Backspace		
		Exit Enter	Dial or type [n].	C
>	5.	Save your entry.		
		Select Enter.		(F10)
>	6.	Erase the current number of ad	ded digits (<i>nnn</i>).	
		DID Block x:	x = block entered in Step 4	
		Enter digits to add		
		nnn		
		Backspace Next	Para Para	
		Exit Enter	Press Drop .	(Alt)+[P]
>	7.	Enter the number of digits to ac	dd (n = 1 to 9999).	
		Dial or type [n].		C
>	8.	Continue to specify added digit	s for the other trunk block or go to Ste	р 9.
		Select Next.		F9
			Return to Step 6. The next block will be displayed on Line 1.	е
>	9.	Save your entry.		
		Select Enter.		(F10)
>	10.	Return to the System Programm	ning menu.	
		Select Exit twice.		F5 F5

4 Programming Procedures

DID Trunks

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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.

Summary: Signaling

Programmable by System Manager

Mode Hybrid/PBX

Planning Form Form 3d, Incoming Trunks: DID

Not Required

Factory Setting Rotary

Valid Entries Rotary, Touch-tone

Inspect No Copy Option No

Idle Condition

Console Procedure LinesTrunks→DID→Signaling→Dial trunk block

 $no. \rightarrow Enter \rightarrow Rotary \ Of \ TouchTone \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\underbrace{\text{F4}} \rightarrow \underbrace{\text{F8}} \rightarrow \text{Type trunk block no.} \rightarrow \underbrace{\text{F10}} \rightarrow \text{F1} \text{ or}$

 $\boxed{\texttt{F2} \longrightarrow \texttt{F10} \longrightarrow \texttt{F5} \longrightarrow \texttt{F5}}$

Procedure: Signaling

Console Display/Instructions Additional Information

PC

1. Select the Lines and Trunks menu.

System Programming: >

Make a selection

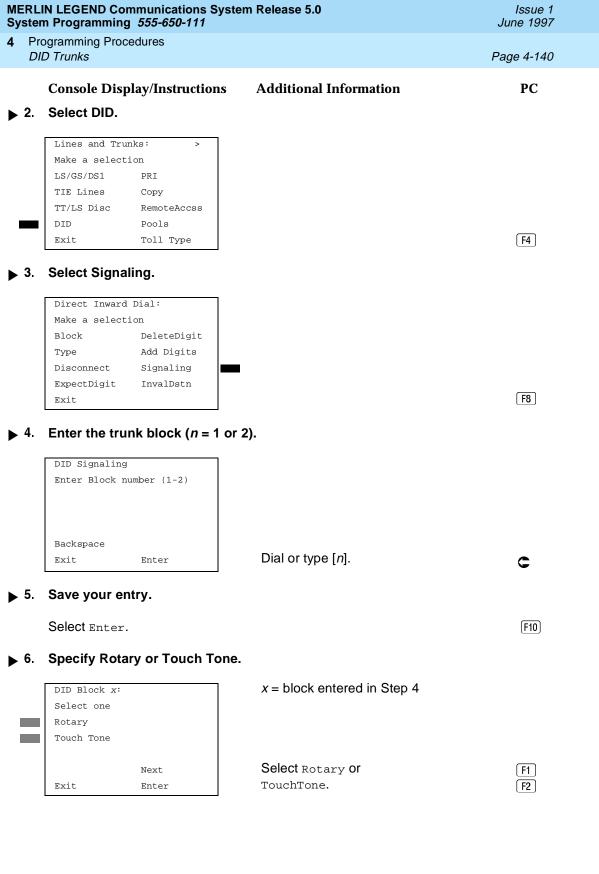
System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce



4 Programming Procedures DID Trunks

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Console Display/Instructions Additional Information PC

▶ 7. Continue to specify type for the other trunk block or go to Step 8.

Select Next. F9

Return to Step 6. The next block will be displayed on Line 1.

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" in Chapter 3 for information on assigning a backup position.

Summary: Invalid Destination

Programma	ble 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

 $\textbf{Console Procedure } \texttt{LinesTrunks} {\longrightarrow} \texttt{DID} {\longrightarrow} \texttt{InvalDstn} {\longrightarrow} \texttt{Send to Backup}$

Extension Of Return Fast Busy→Enter→Exit→Exit

PC Procedure $F4 \rightarrow F4 \rightarrow F9 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

4 Programming Procedures DID Trunks

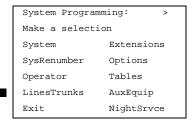
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Procedure: Invalid Destination

Console Display/Instructions Additional Information

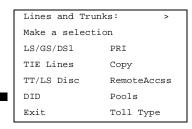
PC

▶ 1. Select the Lines and Trunks menu.



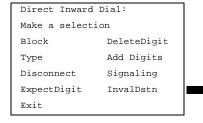
F4

2. Select DID.



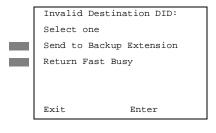
[F4]

3. Select Invalid Destination.



F9

▶ 4. Specify how to handle calls directed to an invalid destination.



Select Send to Backup Extension Or Return Fast Busy.

F1 F2

▶ 5. Save your entry.

Select Enter.

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Programming Procedures

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Additional Information Console Display/Instructions

PC

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Return to the System Programming menu.

Select Exit twice. F5 F5

PRI Facilities

PRI Facilities

▶ 6.

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
- **Timers and Counters**
- Terminal Equipment Identifier
- Dial Plan Routing
- Outgoing Tables
- **Network Selection Tables**
- Special Services Tables
- Call-by-Call Service Table

NOTE:

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". 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).

4 Programming Procedures
PRI Facilities
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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

Beginning with Release 4.2, 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

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—PRI—SwitchType—Dial slot

number→Enter→Specify switch type→Enter

PC Procedure $F4 \rightarrow F6 \rightarrow F9 \rightarrow Type$ slot number $\rightarrow F10 \rightarrow Alt + P \rightarrow Type$

slot no.→F10

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4 Programming Procedures
PRI Facilities

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 Copy Option No

Console Procedure LinesTrunks→PRI→PhoneNumber→Dial trunk

no.→Enter→**Drop**→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

Select the Lines and Trunks menu.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

	m Programming 555-650-111	June 1997
	ogramming Procedures RI Facilities	Page 4-147
	Console Display/Instructions Additional Information	PC
7.	Enter a telephone number of up to 12 digits to be assigned to the channel ($N = \text{any combination of 0 to 9}$).	
	Dial or type [N].	C
▶ 8.	Continue to assign the telephone number to another PRI channel or go to Step 9.	
	Select Next.	F9
	Return to Step 6. The next PRI Chawill be displayed on Line 1.	annel
9 .	Save your entry.	
	Select Enter.	F10
1 0.	Return to the System Programming menu.	
	Select Exit twice.	F5 F5
B-Ch	annel Groups	
	Use this procedure to perform the following:	
	Assign B-channels to a group.	
	 Associate individual ISDN channels (that can place and recei the B-channels in each group. 	ve calls) on
	B-channels are partitioned into trunk groups when PRI service is ordered trunk groups defined when service is ordered must match the B-chadefined when MERLIN LEGEND is programmed.	
	Each B-channel can be assigned to only one group, and each ISDN be associated with only one group. Up to 80 B-channel groups can established.	
	Each group can contain up to 23 channels; however, all channels as signal through the same D-channel (that is, must be connected to the module).	-
	B-channels must be assigned in the order of system search (through for an available channel. To minimize call attempts on the same line arrange B-channels in the opposite order of the hunting arrangement the network service provider.	or trunk,
	B-channels must be identified by control unit slot and port numbers s not associated with a line/trunk number or a logical ID.	since they are

4 Programming Procedures PRI Facilities

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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.



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.

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.→Enter→Dial B-channel slot and port

 $\begin{array}{l} \text{nos.} {\rightarrow} \text{Enter} {\rightarrow} \text{Lines} {\rightarrow} \text{Dial group no.} {\rightarrow} \text{Enter} {\rightarrow} \text{Entry} \\ \text{Mode} {\rightarrow} \text{Dial line/trunk no.} {\rightarrow} \text{Enter} {\rightarrow} \text{Exit} {\rightarrow} \text{Exit} \\ \end{array}$

To program a block of lines/trunks:

 $LinesTrunks \rightarrow PRI \rightarrow B-ChannlGrp \rightarrow B$ Channels $\rightarrow Dial$

group no.→Enter→Dial B-channel slot and port

 $no. \rightarrow Enter \rightarrow Lines \rightarrow Dial group no. \rightarrow Enter \rightarrow Select$

specific lines/trunks→Toggle LED
On/Off→Exit→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:

 $F4 \longrightarrow F6 \longrightarrow F2 \longrightarrow F1 \longrightarrow Type$ group no. $\longrightarrow Type$ B-channel slot and port nos. $\longrightarrow F5 \longrightarrow Type$ group no. $\longrightarrow F10 \longrightarrow Select$

specific lines/trunks→Toggle letter G

 $On/Off \rightarrow F5 \rightarrow F5 \rightarrow F5$

4 Programming Procedures PRI Facilities

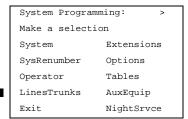
Page 4-149

Procedure: B-Channel Groups

Console Display/Instructions Additional Information

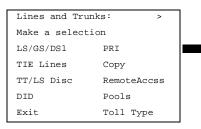
PC

▶ 1. Select the Lines and Trunks menu.



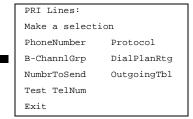
F4

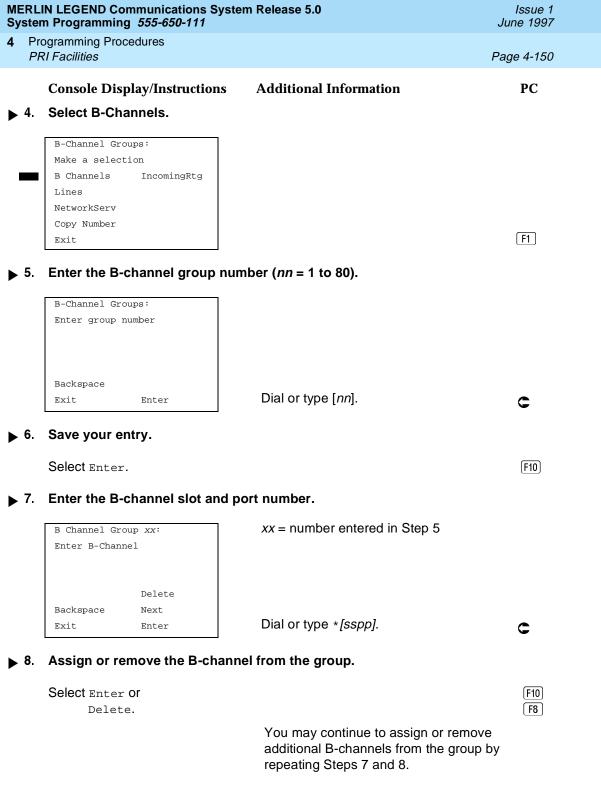
≥ 2. Select PRI.



[F6]

3. Select B-Channel Groups.

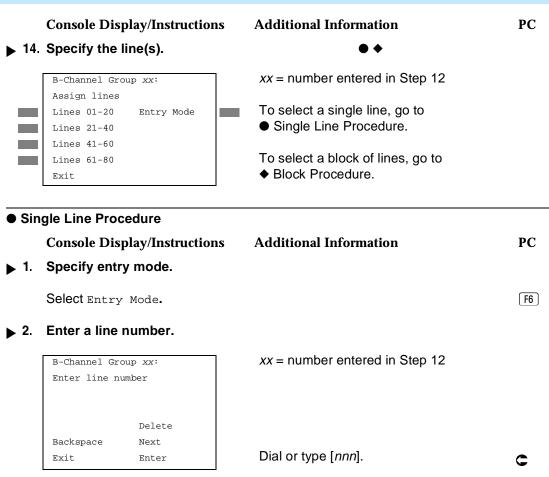




	IN LEGEND Communications Sy n Programming <i>555-650-111</i>	stem Release 5.0	Issue 1 June 1997
	ogramming Procedures RI Facilities		Page 4-151
	Console Display/Instructions	s Additional Information	PC
9.	Continue to assign B-chann	els to another group or go to Step 10.	
	Select Next.		F9
		Return to Step 7. The next group w displayed on Line 1.	ill be
10.	Save your entry.		
	Select Enter.		(F10)
11.	Select Lines.		
12.	B-Channel Groups: Make a selection B Channels IncomingRtg Lines NetworkServ Copy Number Exit Enter the B-channel group r B-Channel Groups: Enter group number	number (<i>nn = 1 to 80</i>).	F2
12	Backspace Exit Enter Save your entry.	Dial or type [<i>nn</i>].	C
IJ.	Select Enter.		(F10)

M Sy 4

Programming Procedures
PRI Facilities
Page 4-152



▶ 3. Assign or remove the line number from the B-channel group.

Select Enter or
Delete. F10

You may continue to assign or remove additional lines from the B-Channel group by repeating Steps 7 and 8.

▶ 4. Continue to assign the line number to another B-channel group or go to Step 5.

Select Next. F9

Return to Step 2. The next group will be displayed on Line 1.

▶ 5. Save your entry.

Select Enter. F10

MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111 June 1997							
	ogramming Procedures RI Facilities			Page 4-153			
	Console Display/Instru	actions	Additional Information	PC			
▶ 6.	Return to the System	Program	ming menu.				
	Select Exit three times	3.		[F5][F5][F5]			
♦ Blo	ock Procedure						
1 .	Specify the block of 2 ming console.	0 lines as:	sociated with 20 buttons on the	e system program-			
▶ 2.	Select Lines 01-20 Lines 21-40 Lines 41-60 Lines 61-80 Assign the line(s) to t	he B-char	nnel group.	F1 F2 F3 F4			
,	(.,		Toggle the green LED on or off as required. On = lines are assigned to B-Off = lines are not assigned to				
▶ 3.	Return to the System	Programr	ning menu.				
	Select Exit three times	S.		F5 F5 F5			
Network Service							
	B-channel group [M	legacom V	the type of outgoing service prov VATS and 800, MultiQuest® Serv S), or Software Defined Network	rice, ACCUNET®			
You can enter a service not shown on the Network Service screen by using the five-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."							
Sum	mary: Network Servic	e					
	Programmable by	System N	Manager				
	Mode	Hybrid/P	BX, Key				
	Idle Condition	Not requi	ired				
	Planning Form	Form 3b, (100D m	Incoming Trunks: DS1 Connectiondule)	vity			
	Factory Setting	Not appli	cable				

4 Programming Procedures PRI Facilities

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Valid Entries AT&T Toll, Local, Miscellaneous

Inspect No Copy Option No

 $\textbf{Console Procedure } \bot \texttt{inesTrunks} {\rightarrow} \texttt{PRI} {\rightarrow} \texttt{B-ChannlGrp} {\rightarrow} \texttt{NetworkServ} {\rightarrow} \textbf{Dial}$

group no.→Enter→Specify network

 $service \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow F6 \rightarrow F2 \rightarrow F3 \rightarrow Type group no. \rightarrow F10 \rightarrow Specify$

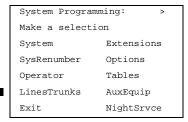
network service \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

Procedure: Network Service

Console Display/Instructions Additional Information

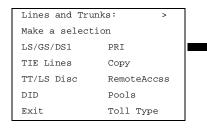
PC

1. Select the Lines and Trunks menu.



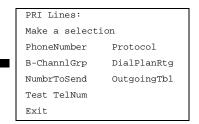
F4

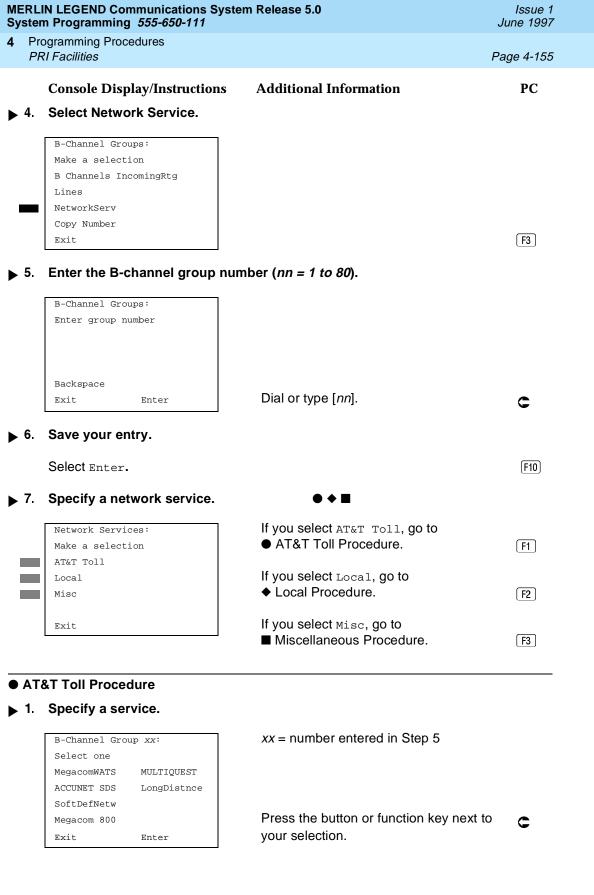
≥ 2. Select PRI.



F6

▶ 3. Select B-Channel Groups.





	IERLIN LEGEND Communications System Release 5.0Issue 1ystem Programming 555-650-111June 1997					
1		ogramming Procedures RI Facilities		Page 4-157		
		Console Display/Instructions A	dditional Information	PC		
>	2.	Save your entry.				
		Select Enter.		F10		
>	3.	Erase the current network service	code.			
		B-Channel Group xx: X Enter Network Service (5 digit code of 0,1) nnnnn	xx = group number entered in Step 5			
		Backspace Exit Enter	Select Drop.	Alt +P		
>	4.	Enter the five-digit network code th	nat corresponds to the selected se	ervice.		
		Dial or type [nnnnn].		C		
>	5.	Save your entry.				
		Select Enter.		(F10)		
>	Repeat Steps 5 through 7 of the main procedure for each miscellaneous service group number.					
>	7. Return to the System Programming menu.					
		Select Exit four times.	F5	F5 F5 F5		
C	ору	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.

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.

4 Programming Procedures PRI Facilities

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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

Factory Setting Do not copy

Valid Entries Do not copy, Copy

Inspect No Copy Option No

 $\textbf{Console Procedure } \bot \texttt{inesTrunks} \rightarrow \texttt{PRI} \rightarrow \texttt{B} \ \texttt{ChannlGrp} \rightarrow \texttt{Copy Number} \rightarrow \textbf{Dial}$

group no. \rightarrow Enter \rightarrow Specify copy or no copy \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F6 \rightarrow F2 \rightarrow F4 \rightarrow Type group no. \rightarrow F10 \rightarrow Specify$

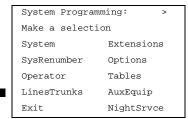
copy or no copy \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5

Procedure: Copy Telephone Number to Send

Console Display/Instructions Additional Information

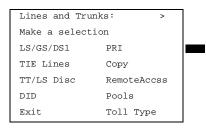
PC

▶ 1. Select the Lines and Trunks menu.



F4

2. Select PRI.



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4 Programming Procedures PRI Facilities

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Console Display/Instructions Additional Information

PC

▶ 8. Continue to assign the copy option to another B-channel group or go to Step 9.

Select Next. [F9]

Return to Step 7. The next group will be displayed on Line 1.

9. Save your entry.

Select Enter. [F10]

▶ 10. Return to the System Programming menu.

F5 F5 F5

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.

Summary: Incoming Routing

Select Exit three times.

Programmable by System Manager

Mode Line appearance: Hybrid/PBX, Key; Dial Plan Routing:

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

Inspect No Copy Option No

Console Procedure LinesTrunks \rightarrow PRI \rightarrow B-ChannlGrp \rightarrow Incoming Rtg \rightarrow Dial

B-channel group no.→Enter→Specify method of

 $routing \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F4} \rightarrow \boxed{F6} \rightarrow \boxed{F2} \rightarrow \boxed{F6} \rightarrow \boxed{Type B-channel group}$

no. \rightarrow [F10] \rightarrow Specify method of routing \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] \rightarrow [F5]

Programming Procedures PRI Facilities

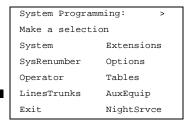
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Procedure: Incoming Routing

Console Display/Instructions Additional Information

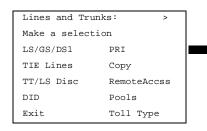
PC

▶ 1. Select the Lines and Trunks menu.



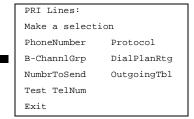
F4

2. Select PRI.



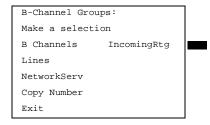
[F6]

3. Select B-Channel Groups.



F2

4. Select Incoming Routing.



[F6]

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4 Programming Procedures PRI Facilities

Telephone Number to Send

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 non-uniform extension numbers, for example, where there are some three-digit extension numbers and some four-digit extension numbers, one base number may not be sufficient to represent all the external telephone numbers of all extensions.

Summary: Telephone Number to Send

Programmable by System Manager

Mode All

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

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial base no. \rightarrow Enter \rightarrow Dial line$

no.→Enter→**Drop**→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

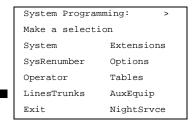
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Procedure: Telephone Number to Send

Console Display/Instructions Additional Information

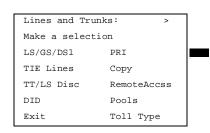
PC

▶ 1. Select the Lines and Trunks menu.



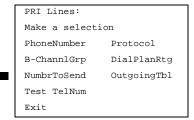
F4

≥ 2. Select PRI.



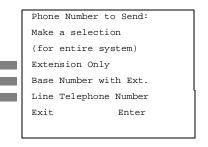
F6

3. Select Number to Send.



F3

▶ 4. Specify the type of number to send.



If you select Extension Only, continue with Step 5.

F1

F2

If you select Base Number with Ext.,
go to

 Base Number with Extension Procedure.

If you select Line Telephone Number, [3] go to ♦ Line Telephone Number Procedure.

ME Sys	Issue 1 June 1997			
4		ogramming Procedures RI Facilities		Page 4-165
•	Bas	se Number with Extension Pro	cedure	
		Console Display/Instructions	Additional Information	PC
>	1.	Erase the current base number	er (<i>N</i>).	
		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 numb (N = any combination of 0 to 9	· •	
		Dial or type [N].		C
>	3.	Save your entry.		
		Select Enter.		F10
>	4.	Return to the System Program	nming menu.	
		Select Exit twice.		F5 F5
•	Lin	e Telephone Number Procedur	re	
•	1.	Enter the line number (nnn).		
		Phone Number to Send:		
		Enter line number		
		Backspace		
		Exit Enter	Dial or type [nnn].	C
	_	2	-	
	2.	Save your entry.		
		Select Enter.		(F10)

		n Programming <i>555-650</i>		em Release 5.0	Issue 1 June 1997		
4		ogramming Procedures RI Facilities			Page 4-166		
		Console Display/Instr	uctions	Additional Information	PC		
•	3.	Erase the current tele		umber (<i>n</i>).			
		Line xxx: Enter phone number to send on outgoing calls		xxx = line entered in Step 1			
		Backspace Next Exit Enter		Press Drop .	(Alt)+(P)		
>	4.	Enter a telephone nur (N = any combination		ip to 12 digits to send			
		Dial or type [N].			C		
>	5.	Continue to assign th	e telepho	one number to another line or go to Ste	ep 6.		
		Select Next.			F9		
				Return to Step 3. The next line will be displayed on Line 1.	Э		
•	6.	Save your entry.					
		Select Enter.			F10		
•	7	Return to the System	Program	iming menu			
	•	•	riogram	mining mena.			
		Select Exit twice.			<u>[F5]</u> [F5]		
Te	st '	Геlephone Number					
		Use this procedure module installed in		n a test line or trunk telephone number for ol unit.	each 100D		
	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.						
Su	ımı	nary: Test Telephone	Numbe	r			
		Programmable by	System	Manager			
		Mode	Hybrid/F	PBX, Key			
		Idle Condition	Not requ	uired			
		Planning Form	Form 3b (100D m	o, Incoming Trunks: DS1 Connectivity nodule)			

4 Programming Procedures PRI Facilities

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Factory Setting Not applicable

Valid Entries Telephone number of up to 12 digits

Inspect No Copy Option No

Console Procedure LinesTrunks→PRI→Test TelNum→Dial slot

no.→Enter→**Drop**→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.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

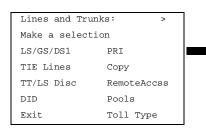
Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F4

▶ 2. Select PRI.



F6

3. Select Test Telephone Number.

PRI Lines:

Make a selection

PhoneNumber Protocol

B-ChannlGrp DialPlanRtg

NumbrToSend OutgoingTbl

Test TelNum

Exit

F5 F5

Select Exit twice.

Programming Procedures PRI Facilities Page 4-169

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.

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 acknowledgement 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 acknowledgement 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.

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PRI Facilities
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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.

<u>Table 4-2</u> shows the factory setting for each timer and counter and the valid range for each threshold.

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} \rightarrow \texttt{PRI} \rightarrow \texttt{Protocol} \rightarrow \texttt{Timers} \rightarrow \texttt{Dial slot} $$ no. \rightarrow \texttt{Enter} \rightarrow \texttt{Select timer/counter} \rightarrow \texttt{Drop} \rightarrow \texttt{Dial no. of} $$ ms/octets/and so on \rightarrow \texttt{Enter} \rightarrow \texttt{Exit} $\rightarrow$$
PC Procedure	$F4$ \rightarrow $F6$ \rightarrow $F1$ \rightarrow $Type slot no. \rightarrow F10 \rightarrow Select timer/counter \rightarrow Att + P \rightarrow Type no. of ms/octets/and so on \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Table 4-2. Timers and Counters

Timer/Counter	Purpose	Factory Setting	Valid Range
T200 Timer	Maximum response time	1 second	1000 to 3000 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

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Table 4-2. Timers and Counters-Continued

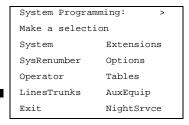
Timer/Counter	Purpose	Factory Setting	Valid Range
T305 Timer	Disconnect timeout	4 seconds	4 to 30 seconds
T308 Timer	Release timeout	4 seconds	4 to 12 seconds
T309 Timer	Signal loss	90 seconds	30 to 120 seconds
T310 Timer	Call Proc. timeout	60 seconds	2 to 120 seconds
T313 Timer	Connect timeout	4 seconds	4 to 60 seconds
T316 Timer	Restart timeout	120 seconds	30 to 120 seconds

Procedure: Timers and Counters

Console Display/Instructions Additional Information

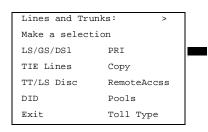
PC

▶ 1. Select the Lines and Trunks menu.



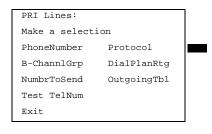
F4

▶ 2. Select PRI.



F6

3 Select Protocol.



[F6]

Press the button or function key next to

your selection.

T316 Timer

Exit

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	gramming Procedures I Facilities		Page 4-173
	Console Display/Instructions	Additional Information	PC
8.	Erase the current setting.		
	(Display depends on timer/counter selected).		
	Backspace Next		
	Exit Enter	Press Drop .	Alt + P
9.	Enter the new setting (see T	able 4-2).	
	Dial or type [nnnn].		C
10.	Continue to assign the settir	ng to another slot or go to Step 11.	
	Select Next.		F9
		Return to Step 8. The next slot will be displayed on Line 1.)
11.	Save your entry.		
	Select Enter.		F10
12.	Return to the System Progra	mming menu.	
	Select Exit four times.	F5)	F5 F5 F5
erm	inal Equipment Identifier		
	connected to each D-chan	gn the link layer address of a piece of equip nel. Normally, only one piece is connected Ferminal Equipment Identifier (TEI) is 0.	



A 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 ΑII

Idle Condition Not required

4 Programming Procedures PRI Facilities

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Planning Form Sb, Incoming Trunks: DS1 Connectivity

(100D module)

Factory Setting 0

Valid Entries 0 to 63

Inspect No

Copy Option No

Console Procedure LinesTrunks→PRI→Protocol→TEI→Dial slot

no. \rightarrow Enter \rightarrow **Drop** \rightarrow Dial new ID no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F6 \rightarrow F6 \rightarrow F2 \rightarrow Type \text{ slot no.} \rightarrow F10 \rightarrow Alt +$

 $P \rightarrow Type new ID no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Terminal Equipment Identifier

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 PRI.

Lines and Trunks: >

Make a selection

LS/GS/DS1 PRI

TIE Lines Copy

TT/LS Disc RemoteAccss

DID Pools

Exit Toll Type

F6

▶ 3. Select Protocol.

PRI Lines:

Make a selection

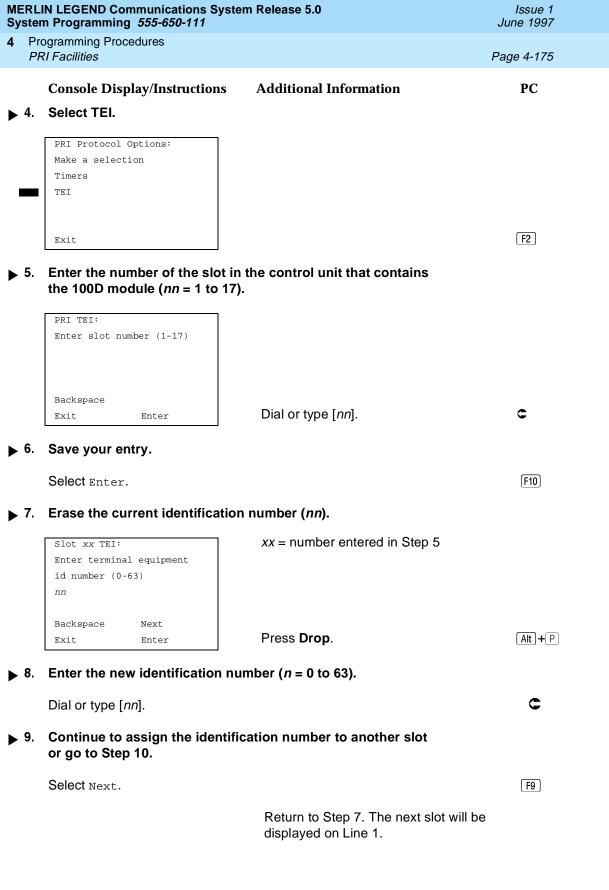
PhoneNumber Protocol

B-ChannlGrp DialPlanRtg

NumbrToSend OutgoingTbl

Test TelNum

Exit



MERLIN LEGEND Communications System Release 5.0 System Programming *555-650-111*

4 Programming Procedures PRI Facilities

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Issue 1

June 1997

PC

Console Display/Instructions Additional Information

▶ 10. Save your entry.

Select Enter. F10

▶ 11. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

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 exchage)
 - DMS Tie Trunk

NOTES:

1.You can enter a service not shown on the Network Service screen by using the five-digit binary code that represents the service in the Network Facilities Information Element of ISDN PRI layer three signaling protocol. (Contact your service provider for more information about the codes.) See "Miscellaneous Procedures."

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2. 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.

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

 $no. \rightarrow Enter \rightarrow Select service \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To specify Patterns:

 $LinesTrunks \rightarrow PRI \rightarrow DialPlanRtg \rightarrow Patterns \rightarrow Dial entry$

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial$

 $pattern \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To specify Total Digits:

 $\texttt{LinesTrunks} \xrightarrow{\texttt{PRI}} \texttt{DialPlanRtg} \xrightarrow{\texttt{Total Digits}} \texttt{Dial}$

entry no. \rightarrow Enter \rightarrow Drop \rightarrow Dial digits \rightarrow Enter \rightarrow Exit \rightarrow Exit

To specify Delete Digits:

LinesTrunks→PRI→DialPlanRtg→Delete Digits→Dial

entry no. \rightarrow Enter \rightarrow **Drop** \rightarrow Dial delete digits \rightarrow Enter \rightarrow Exit \rightarrow Exit

To specify Add Digits:

 $\texttt{LinesTrunks} \rightarrow \texttt{PRI} \rightarrow \texttt{DialPlanRtg} \rightarrow \texttt{Add Digits} \rightarrow \textbf{Dial}$

entry no.→Enter→**Drop**→Dial add digits→Enter→Exit→Exit

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PC Procedure

To specify Service:

$$F4 \longrightarrow F6 \longrightarrow F7 \longrightarrow F2 \longrightarrow Type entry no. \longrightarrow F10 \longrightarrow Select$$

service $\longrightarrow F10 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

To specify Patterns:

$$F4 \longrightarrow F6 \longrightarrow F7 \longrightarrow F2$$
 Type entry no. $\longrightarrow F10 \longrightarrow Alt$ + $P \longrightarrow Type$ pattern $\longrightarrow F10 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

To specify Total Digits:

$$F4 \longrightarrow F6 \longrightarrow F7 \longrightarrow F3$$
 Type entry no. $\longrightarrow F10 \longrightarrow Alt$ + P \longrightarrow Type digits $\longrightarrow F10 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

To specify Delete Digits:

$$F4 \rightarrow F6 \rightarrow F7 \rightarrow F4$$
 Type entry no. $\rightarrow F10 \rightarrow Alt + P \rightarrow Type$ delete digits $\rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

To specify Add Digits:

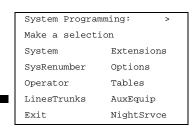
$$F4 \rightarrow F6 \rightarrow F7 \rightarrow F5$$
 Type entry no. $\rightarrow F10 \rightarrow Alt$ + P \rightarrow Type add digits $\rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Procedure: Dial Plan Routing

Console Display/Instructions Additional Information

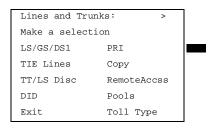
PC

1. Select the Lines and Trunks menu.



[F4]

2. Select PRI.



Dial or type [nn].

F10

Backspace

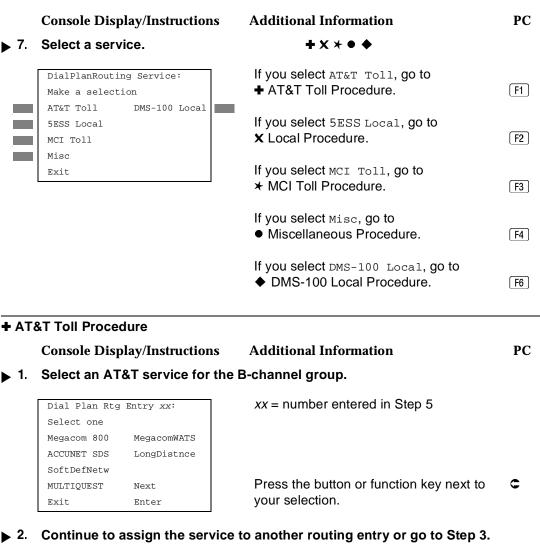
Save your entry.

Select Enter.

Enter

Exit

Programming Procedures PRI Facilities Page 4-180



F9 Select Next.

> Return to Step 1. The next dial plan routing entry will be displayed on Line 1.

Save your entry.

Select Enter. (F10)

Program additional options by returning to Step 4 of the main procedure or go to Step 5.

MCI 800

Exit.

Enter

F10

Save your entry.

Select Enter.

	IN LEGEND Communications Syster n Programming 555-650-111	m Release 5.0	Issue 1 June 1997
	ogramming Procedures RI Facilities		Page 4-183
	Console Display/Instructions	Additional Information	PC
4.	Erase the current network servi	ice (<i>nnnnn</i>).	
	Dial Plan Rtg Entry xx: Enter Network Service (5 digit code of 0,1) nnnnn	xx = number entered in Step 5	
	Backspace Exit Enter	Select Drop .	Alt + P
5.	Enter the five-digit code that co	orresponds to the service selected.	
	Dial or type [nnnnn].		C
6.	Continue to assign the code to	another routing entry or go to Step 7.	
	Select Next.		F9
		Return to Step 4. The next dial plan routing entry will be displayed on Line	: 1.
7.	Save your entry.		
	Select Enter.		(F10)
8.	Program additional options by procedure or go to Step 9.	returning to Step 4 of the main	
9.	Return to the System Programm	ning menu.	
	Select Exit three times.		F5 F5 F5
DN	IS-100 Local Procedure		
	Console Display/Instructions	Additional Information	PC
1.	Select a miscellaneous service.		
	Dial Plan Rtg Entry xx: Select one	xx = number entered in Step 5	
- - - - - - -	DMS-Private DMS-TieTrk DMS-INWATS DMS-OUTWATS DMS-FX Next Exit Enter	Select DMS-Private DMS-INWATS DMS-OUTWATS DMS-FX, Or DMS-TieTrk	F1 F2 F3 F4 F6

M Sy

F10

Select Enter.

		N LEGEND Communications Systen Programming 555-650-111	m Release 5.0	Issue 1 June 1997
4		ogramming Procedures RI Facilities		Page 4-186
		Console Display/Instructions	Additional Information	PC
	3.	Erase the current number of to	tal 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 .	$\begin{bmatrix} Alt \end{bmatrix} + \begin{bmatrix} P \end{bmatrix}$
>	4.	Enter the new total number of	digits (<i>nn</i> = 0 to 14).	
		Dial or type [nn].		C
•	5.	Continue to assign the digits to	o another routing entry or go to Step 6	5.
		Select Next.		F9
			Return to Step 3. The next dial plan routing entry will be displayed on Line	e 1.
>	6.	Save your entry.		
		Select Enter.		F10
>	7.	Program additional options by to Step 8.	returning to Step 4 of the main proceed	dure or go
>	8.	Return to the System Program	ming menu.	
		Select Exit three times.		F5 F5 F5
	Del	ete Digit Procedure		
>	1.	Enter the entry number ($nn = 0$	to 15).	
		DialPlanRtg DeleteDigits: Enter entry no. (0-15)		
		Backspace Exit Enter	Dial or type [<i>nn</i>].	c

	N LEGEND Communications System Programming <i>555-650-111</i>	Release 5.0	Issue 1 June 1997
	ogramming Procedures RI Facilities		Page 4-187
	Console Display/Instructions	Additional Information	PC
2.	Save your entry.		
	Select Enter.		F10
3.	Erase the current number of dele	ete digits (<i>nn</i>).	
	Dial Plan Rtg Entry xx: Enter number of digits to delete (0-14) nn	xx = number entered in Step 1	
	Backspace Next Exit Enter	Press Drop .	Alt + P
4.	Enter the new number of digits to	o delete (n = 0 to 14).	
	Dial or type [nn].		C
5.	Continue to assign the delete dig	gits to another routing entry or go to	Step 6.
	Select Next.		F9
		Return to Step 3. The next dial plan routing entry will be displayed on Line	e 1.
6.	Save your entry.		
	Select Enter.		F10
7.	Program additional options by reprocedure or go to Step 8.	eturning to Step 4 of the main	
8.	Return to the System Programmi	ing menu.	
	Select Exit three times.		F5 F5 F5

M Sy

Program additional options by returning to Step 4 of the main procedure

▶ 7.

or go to Step 8.

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Console Display/Instructions Additional Information

PC

8. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

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.

NOTE:

PRI tables that work with pools and ARS apply to Hybrid/PBX mode only.

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.)



U.S. customers rarely need to program additional Network Selection tables because long-distance carrier codes match 10*** or 101****.

Summary: Network Selection 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 Not applicable

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Valid Entries Prefix for long distance carrier

Inspect No Copy Option No

 $\textbf{Console Procedure LinesTrunks} {\rightarrow} \texttt{PRI} {\rightarrow} \texttt{OutgoingTbl} {\rightarrow} \texttt{NetwkSelect} {\rightarrow} \textbf{Dial}$

entry no. \rightarrow Enter \rightarrow Drop \rightarrow Dial prefix \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F4 \rightarrow F6 \rightarrow F8 \rightarrow F1 \rightarrow Type \ entry \ no. \rightarrow F10 \rightarrow Alt +$

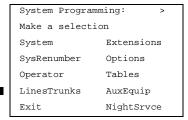
 $P \rightarrow Type prefix \rightarrow (F10) \rightarrow (F5) \rightarrow (F5) \rightarrow (F5)$

Procedure: Network Selection Tables

Console Display/Instructions Additional Information

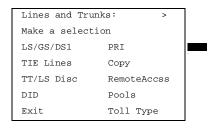
PC

1. Select the Lines and Trunks menu.



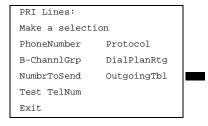
F4

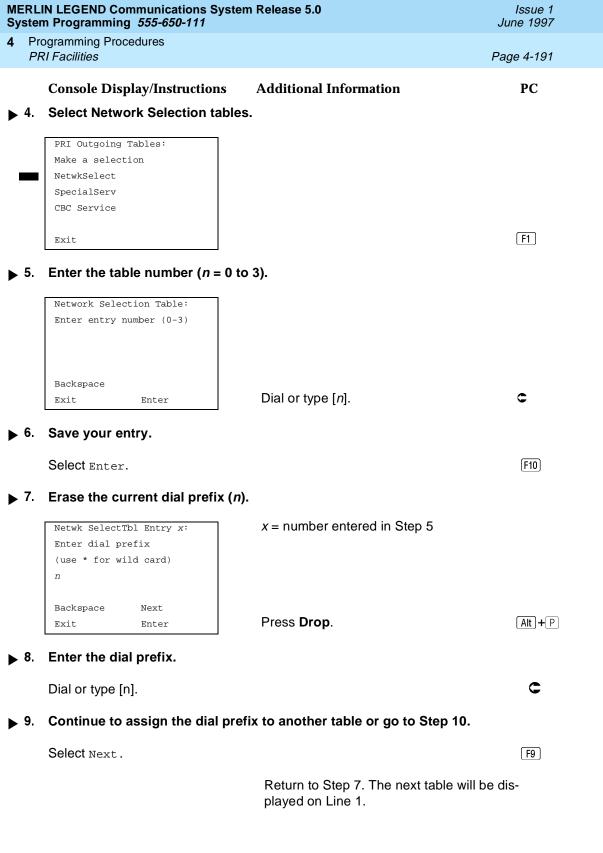
2. Select PRI.



[F6]

▶ 3. Select Outgoing Tables.





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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 three times. F5 F5 F5

Special Services Tables

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.

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:

 $\texttt{LinesTrunks} {\longrightarrow} \texttt{PRI} {\longrightarrow} \texttt{OutgoingTbl} {\longrightarrow} \texttt{SpecialServ} {\longrightarrow} \texttt{Patte}$

rn→Dial entry no.→Enter→**Drop**→Dial pattern→Enter→Exit→Exit→Exit

To specify Operator:

LinesTrunks→PRI→OutgoingTbl→SpecialServ→
Operator→Dial entry no.→Enter→Select type of
Operator→Enter→Exit→Exit→Exit

Exit→Exit

To specify Type of Number:

LinesTrunks→PRI→OutgoingTbl→SpecialServ→

TypeOfNumbr→Dial entry no.→Enter→Select type→Enter→Exit→Exit→Exit→Exit

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To specify Delete Digits: $\texttt{LinesTrunks} \xrightarrow{} \texttt{PRI} \xrightarrow{} \texttt{OutgoingTbl} \xrightarrow{} \texttt{SpecialServ} \xrightarrow{}$ DeleteDigit→Dial entry no.→Enter→Drop→Dial $pattern \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$ PC Procedure To specify Pattern: $F4 \longrightarrow F6 \longrightarrow F8 \longrightarrow F2 \longrightarrow F1 \longrightarrow Type entry no. \longrightarrow F10 \longrightarrow$ 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. \rightarrow [F10] \rightarrow Select type of operator \rightarrow F10] \rightarrow F5] \rightarrow F5] \rightarrow F5] To specify Type of Number: $F4 \rightarrow F6 \rightarrow F8 \rightarrow F2 \rightarrow F3 \rightarrow Type entry no. \rightarrow F10 \rightarrow$ Type number type \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 To specify Delete Digits: $F4 \longrightarrow F6 \longrightarrow F8 \longrightarrow F2 \longrightarrow F4 \longrightarrow Type entry no. \longrightarrow F10 \longrightarrow$

Alt + $P \rightarrow Type$ digits to be deleted $\rightarrow F10 \rightarrow F5 \rightarrow F5$

Table 4-3. Special Services Table

 \rightarrow F5 \rightarrow F5

	Pattern		
Table	(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

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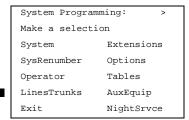
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Procedure: Special Services Tables

Console Display/Instructions Additional Information

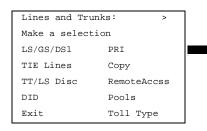
PC

▶ 1. Select the Lines and Trunks menu.



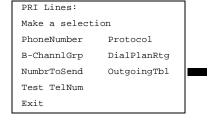
F4

≥ 2. Select PRI.



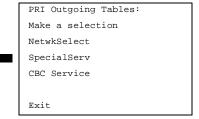
[F6]

3. Select Outgoing Tables.

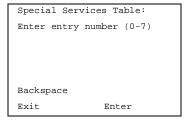


F8

▶ 4. Select the Special Services tables.



Enter the table number (n = 0 to 7).



Dial or type [n].

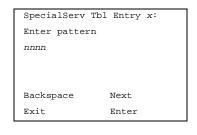
C

Save your entry.

Select Enter.

F10

Erase the current pattern (nnnn).



x = number entered in Step 1

Press **Drop**. Alt + P

Enter the pattern to be matched.

Dial or type [nnnn].

C

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PC

▶ 5. Continue to assign the delete digits to another table or go to Step 6.

Select Next. F9

Additional Information

Return to Step 3. The next table will be displayed on Line 1.

▶ 6. Save your entry.

N S

Select Enter. F10

7. Return to the System Programming menu.

Console Display/Instructions

Select Exit four times.

F5 F5 F5 F5

Call-by-Call Service Table

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" 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 carier services available for a DMS-100 switch type:
 - DMS Private
 - DMS OUTWATS

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- 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

Planning Form Form 3b, Incoming Trunks: DS1 Connectivity

(100D module)

Factory Setting Not applicable

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:

 $\texttt{LinesTrunks} \rightarrow \texttt{PRI} \rightarrow \texttt{OutgoingTbl} \rightarrow \texttt{CBC}$

Service→Patterns→Dial list no.→Enter→Drop→Dial

 $pattern \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To specify Voice/Data:

LinesTrunks→PRI→OutgoingTbl→CBC

Service→Voice/Data→Dial list no.→Enter→Select voice, data, or both→Enter→Exit→Exit→Exit→Exit

To specify Network Service:

 $\texttt{LinesTrunks} \xrightarrow{} \texttt{PRI} \xrightarrow{} \texttt{OutgoingTbl} \xrightarrow{} \texttt{CBC}$

Service→NetwkServ→Dial list no.→Enter→Select

 $service \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To specify Delete Digits:

 $\texttt{LinesTrunks} {\longrightarrow} \texttt{PRI} {\longrightarrow} \texttt{OutgoingTbl} {\longrightarrow} \texttt{CBC}$

Service \rightarrow DeleteDigit \rightarrow Dial list no. \rightarrow Enter \rightarrow Drop \rightarrow Dial no. of

 $digits \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

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PC Procedure

To specify Patterns:

$$\begin{array}{c} \hline {\rm F4} \longrightarrow {\rm F6} \longrightarrow {\rm F8} \longrightarrow {\rm F3} \longrightarrow {\rm F1} \longrightarrow {\rm Type \ list \ no.} \longrightarrow {\rm F10} \longrightarrow \\ \hline {\rm Alt} + {\rm P} \longrightarrow {\rm Type \ pattern} \longrightarrow {\rm F10} \longrightarrow {\rm F5} \longrightarrow {\rm F5} \longrightarrow {\rm F5} \longrightarrow {\rm F5} \\ \hline \end{array}$$

To specify Voice/Data:

$$\begin{array}{c} \hline {\text{F4}} \longrightarrow \hline {\text{F6}} \longrightarrow \overline{\text{F8}} \longrightarrow \overline{\text{F3}} \longrightarrow \overline{\text{F2}} \longrightarrow \overline{\text{Type list no.}} \longrightarrow \overline{\text{F10}} \longrightarrow \overline{\text{Select}} \\ \text{voice, data, or both} \longrightarrow \overline{\text{F10}} \longrightarrow \overline{\text{F5}} \longrightarrow \overline{\text{F5}} \longrightarrow \overline{\text{F5}} \longrightarrow \overline{\text{F5}} \end{array}$$

To specify Network Service:

$$F4 \rightarrow F6 \rightarrow F8 \rightarrow F3 \rightarrow F3 \rightarrow Type \text{ list no.} \rightarrow F10 \rightarrow Select$$

 $Service \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$

To specify Delete Digits:

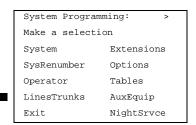
$$\begin{array}{c} \hline \texttt{F4} \longrightarrow \hline \texttt{F6} \longrightarrow \hline \texttt{F8} \longrightarrow \hline \texttt{F3} \longrightarrow \hline \texttt{F4} \longrightarrow \texttt{Dial list no.} \longrightarrow \hline \texttt{F10} \longrightarrow \\ \hline \texttt{Alt} + \hline \texttt{P} \longrightarrow \texttt{Dial no. of digits} \longrightarrow \hline \texttt{F5} \longrightarrow \\ \hline \end{array}$$

Procedure: Call-by-Call Service

Console Display/Instructions Additional Information

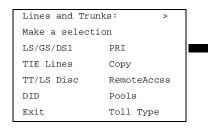
PC

▶ 1. Select the Lines and Trunks menu.



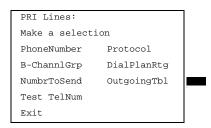
F4

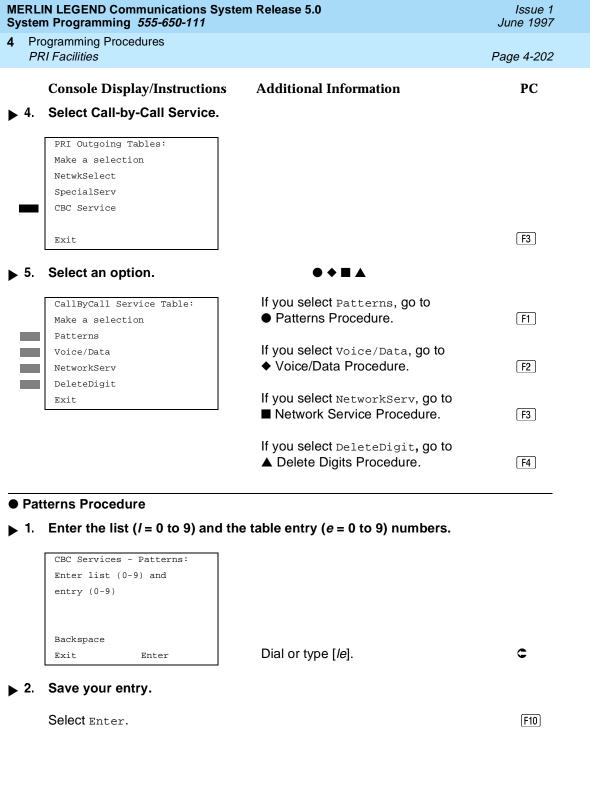
≥ 2. Select PRI.

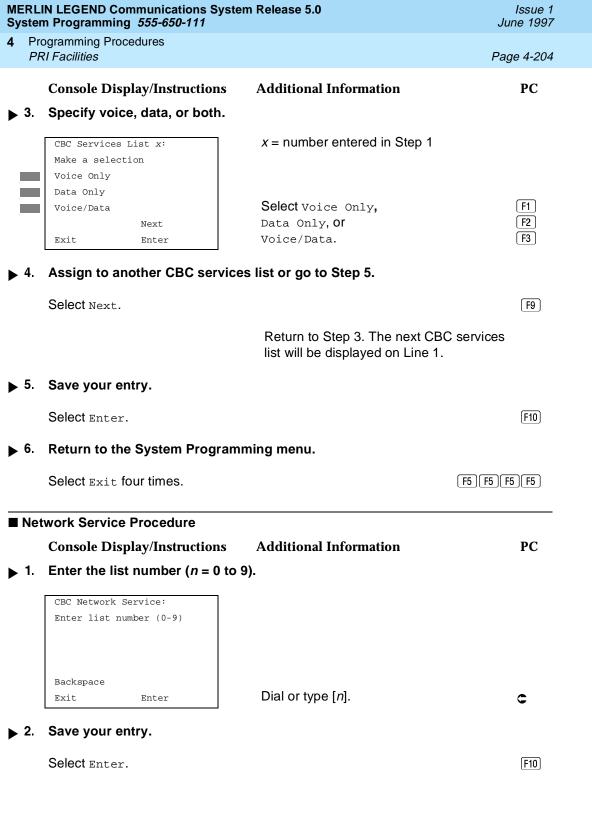


[F6]

▶ 3. Select Outgoing Tables.







Programming Procedures PRI Facilities

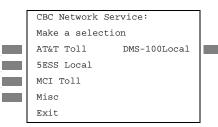
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Additional Information

PC

Specify a Network Service.



If you select AT&T Toll, go to **◆** AT&T Toll Procedure.

+ O * A +

If you select Local, go to.

• 5ESS Local Procedure.

F2

F1

If you select MCI Toll, go to ★ MCI Toll Procedure.

F3

If you select Misc, go to ▲ Miscellaneous Procedure.

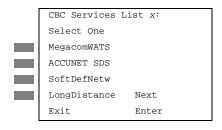
F4

If you select DMS-100, go to ◆ DMS-100 Procedure.

F6

+ AT&T Toll Procedure

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.

Continue to specify AT&T Toll service for another list number or go to Step 3.

F9 Select Next.

> Return to Step 1. The next CBC services list will be displayed on Line 1.

Save your entry.

Select Enter. (F10)

Return to the System Programming menu.

Select Exit four times. F5 F5 F5 F5

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Console Display/Instructions

Additional Information

PC

▶ 1. Specify a local service.



x = number entered in Step 1 of the

■ Network Service Procedure.

Select OUTWATS, 56/64 Digtl, Or VirtPrivNet.

F1 F2

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 will be displayed on Line 1.

3. Save your entry.

Select Enter.

[F10]

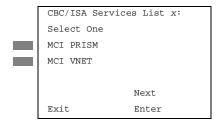
Return to the System Programming menu.

Select Exit four times.

[F5][F5][F5][F5]

▲ MCI Toll Procedure

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.

▶ 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 will be displayed on Line 1.

F5 F5 F5 F5

Select Exit four times.

F5 F5 F5 F5

Select Exit four times.

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

NOTES:

- 1. The 800 NI-BRI module is only available in Release 4.0 and later.
- 2. 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" in "Lines and Trunks".

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.

NOTE:

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

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 LinesTrunks \rightarrow More \rightarrow BRI \rightarrow SPID/DN. \rightarrow 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.

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/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

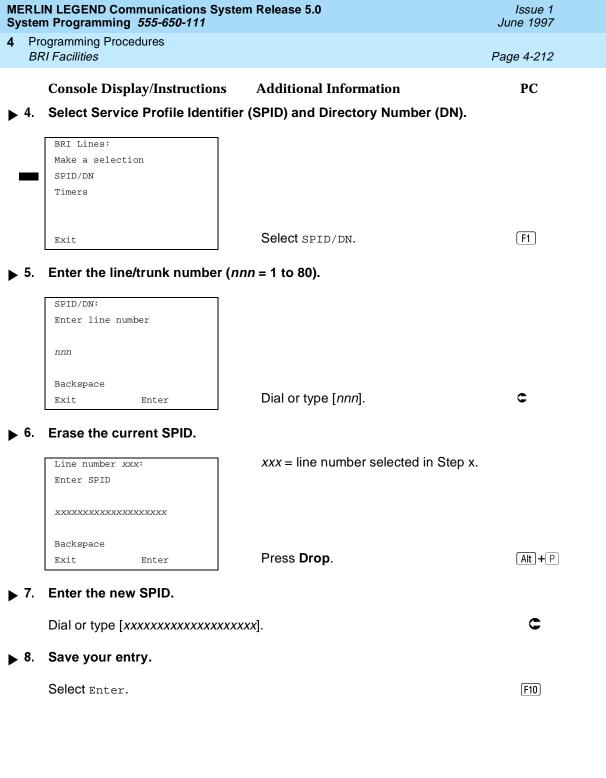
PrncipalUsr ClockSync

QCC Prior BRI

QCC Oper T1 Data NW

Exit

F8



MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 **Programming Procedures** BRI Facilities Page 4-213 **Additional Information** PC **Console Display/Instructions** Erase the current DN. xxx = line number selected in Step x. Line xxx: Enter DN xxxxxxxxxx Backspace Next Press **Drop**. **Alt**]+[P] Exit. Enter 10. Enter the new DN. Dial or type [xxxxxxxxxxx]. C 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.



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 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 acknowledgement of a message sent from the communications system to the network.
- **T203 Timer.** Maximum time that the link layer can remain inactive.
- **T303 Timer.** Times the delay in network response when the communications system sends a setup message to initiate an outgoing call.

4 Programming Procedures
BRI Facilities

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- **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.

Summary: Timers

Programmable by System Manager

Mode Key, Hybrid/PBX

Idle Condition Not required

Planning Form

Factory Setting See <u>Table 4-4</u>

Valid Entries See Table 4-4

Inspect No

Copy Option No

Console Procedure LinesTrunks→More→BRI→Timers→Select

timer→**Drop**→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]

4 Programming Procedures BRI Facilities

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Procedure: Timers

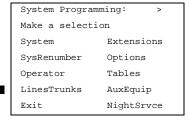
Table 4-4. Timers

Timer/Count		Factory		
er	Purpose	Setting	Valid Range	Increments
T200 Timer	maximum response time	1000 ms	500 to 5000 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

Console Display/Instructions Additional Information

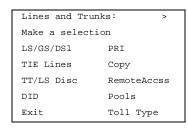
PC

. 1. Select the Lines and Trunks menu.



F4

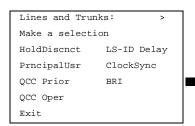
▶ 2. Go to the second screen of the Lines and Trunks menu.



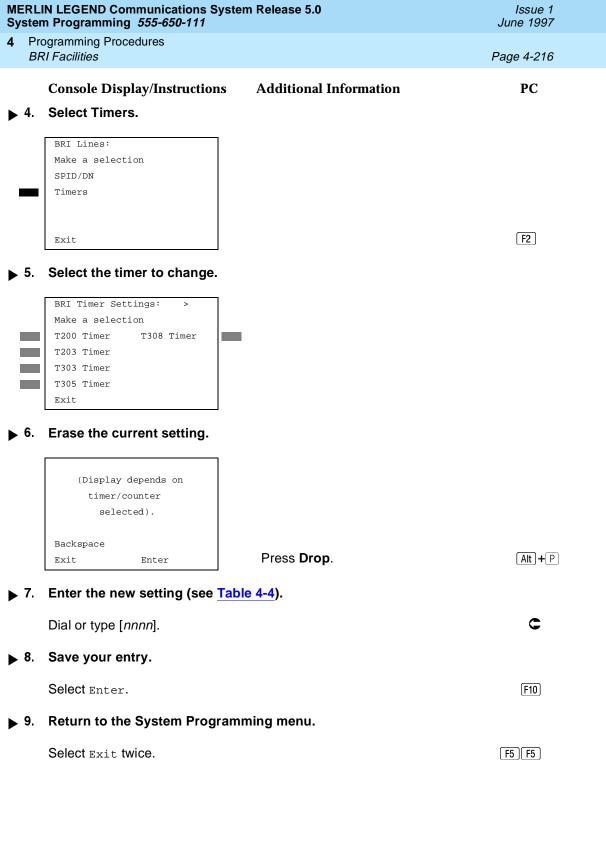
Press More.

(PgUp)

3. Select BRI.



F8



Programming Procedures Telephones

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Telephones

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 telephone to either an individual telephone or a block of telephones.
- 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 telephones 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 Telephones

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 <u>"Assign Intercom or System Access Buttons"</u> procedures to add or change Intercom (**Icom**) or System Access (**SA**) buttons.

Individual lines/trunks can be assigned to a maximum of 64 telephones. Individual pools can be assigned as a **Pool** button on a maximum of 64 telephones.

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

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

4 Programming Procedures

Telephones Page 4-218

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 telephones. 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.

Summary: Assign Trunks or Pools to Telephones

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 Adjunct: MLX Telephone

Form 4f, Tip/Ring Equipment

Form 5a, Direct-Line Console (DLC): Analog Form 5b, Direct-Line Console (DLC): Digital

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Form 5c. MFM Adjunct: DLC Data Form 1a, Modem Data Station Data Form 1b, 7500B Data Station

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

Console Procedure To program a single line/trunk:

Extensions \rightarrow Lines/Trunks \rightarrow Dial ext. no.→Enter→Entry Mode→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.→Enter→Select trunk range→Toggle LED

 $On/Off \rightarrow Enter \rightarrow Exit \rightarrow Exit$

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[F10] letter G On/Off \rightarrow [F10] \rightarrow [F5] \rightarrow [F5] Programming Procedures

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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.

Summary: Copy Line/Trunk Assignments

Programmable by System Manager

Mode All

Idle Condition Telephone 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

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 telephone in block \rightarrow Enter \rightarrow Dial ext. no of last telephone in

 $block \rightarrow Enter \rightarrow Exit \rightarrow Exit$

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PC Procedure

To copy to a single extension:

 $F6 \longrightarrow F2 \longrightarrow F1 \longrightarrow Type$ copy from ext. no. $\longrightarrow F10 \longrightarrow Type$ copy to ext. no. $\longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

To copy to a block of extensions:

 $F6 \longrightarrow F2 \longrightarrow F2 \longrightarrow T$ ype copy from ext. no. $\longrightarrow F10 \longrightarrow T$ ype ext. no. of first telephone in block $\longrightarrow F10 \longrightarrow T$ ype ext. no. of last telephone in block $\longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

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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)

NOTES:

- 1.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.
- System Access or Intercom buttons can be assigned to only the first 10 buttons on a telephone.
- 3. You can assign a combination of up to 10 System Access or Intercombuttons to each telephone (excluding QCC operator positions).
- 4. You can remove System Access or Intercom buttons, but at least one must remain on the telephone.
- 5. 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.

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.

6. System Access and Intercom buttons are centrally programmed and cannot be programmed by individual telephone users.

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Telephones

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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 Station
Data Form 1b, 7500B Data Station

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 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. 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.

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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.)

Conole Procedure To program extension:

More \rightarrow Cntr-Prg \rightarrow Program Ext. \rightarrow Dial ext.

 $\begin{array}{l} \textbf{no.} {\rightarrow} \textbf{Enter} {\rightarrow} \textbf{Start} {\rightarrow} \textbf{Program} \\ \textbf{extension} {\rightarrow} \textbf{Enter} {\rightarrow} \textbf{Exit} {\rightarrow} \textbf{Exit} \end{array}$

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 $Type ext. no. <math>\rightarrow$ 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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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 ΑII

Idle Condition Not required

Form 4b, Analog Multiline Telephone Planning Form

Form 5a, Direct-Line Console (DLC): Analog

Data Form 1a, Modem Data Stations

Factory Setting All models of analog multiline telephones (except the

analog multiline display console) have BIS/HFAI capability.

Valid Entries Extension numbers

Yes Inspect No

Copy Option

Console Procedure Extensions→BIS/HFAI→Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

 $F6 \rightarrow F8 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5 \rightarrow F5$ PC Procedure

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

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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 stations.



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

Mode All

Idle Condition System idle

Planning Form Form 4b, Analog Multiline Telephone

Form 5a, Direct-Line Console (DLC)

Analog Data Form 1a, Modem Data Station

Factory Setting Not applicable

Valid Entries Extension numbers

Inspect Yes

Copy Option Yes

Console Procedure Extensions→VoiceSignl→Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow F10 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow F5 \rightarrow F5$

Analog Multiline Telephones in Data Stations

See "Data Features".

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

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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.

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 (ASCAP) or Broadcast Music Incorporated (BMI)]. Magic on Hold requires no such license and can be purchased from your Lucent Technologies dealer.
- 2. Only one Music on Hold line/trunk jack is allowed per system.
- 3. 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.
- 4. You cannot assign the line/trunk identified for use with Music on Hold to a button on any telephone 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.

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 Form 2c, System Numbering: Line/Trunk Jacks

Factory Setting Not Applicable

Valid Entries Line/trunk number

Inspect No

Copy Option No

Console Procedure AuxEquip→MusicOnHold→Dial line/trunk

 $no. \rightarrow Enter \rightarrow Exit$

PC Procedure $F9 \rightarrow F1 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow F5$

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Loudspeaker Paging

Use this procedure to identify the line/trunk jack reserved for connection of loudspeaker paging equipment.

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 ASCAP or BMI). Magic on Hold requires no such license and can be purchased from your Lucent Technologies dealer.
- 2. A maximum of three single-zone or multizone loudspeaker paging systems can be connected to the system.
- 3. 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.
- 4. 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 $\boxed{F9 \rightarrow F2} \rightarrow \text{Type line/trunk no.} \rightarrow \boxed{F10} \rightarrow \boxed{F5}$

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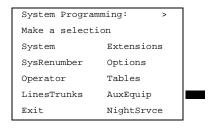
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Procedure: Loudspeaker Paging

Console Display/Instructions Additional Information

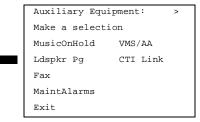
PC

▶ 1. Select the Auxiliary Equipment menu.



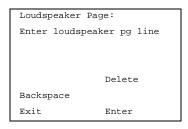
9

▶ 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]

4. Assign or remove the line/trunk assignment.

Select Enter or
Delete.

F10

F8

▶ 5. Return to the System Programming menu.

Select Exit.

[F5]

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Fax

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 <u>Chapter 3, "Common Administrative Procedures"</u>, 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→Fax→Extension→Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Msg Waiting \rightarrow$

Dial fax machine ext. no. \rightarrow Enter \rightarrow Dial MWI ext. no. \rightarrow Enter \rightarrow Threshold \rightarrow **Drop** \rightarrow Dial no. of

 $seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F9 \rightarrow F3} \rightarrow \boxed{F1} \rightarrow \boxed{Type}$ ext. no. $\rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F2} \rightarrow \boxed{Type}$

fax machine ext. no. \rightarrow F10 \rightarrow Type MWI ext.

no. \rightarrow F10] \rightarrow F3] \rightarrow Alt] + P \rightarrow Type no. of seconds

 $F10 \rightarrow F5 \rightarrow F5$

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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

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

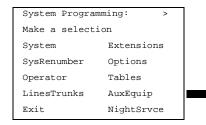
PC Procedure $\boxed{F9} \rightarrow \boxed{F4} \rightarrow \boxed{Type line/trunk no.} \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

Procedure: Maintenance Alarms

Console Display/Instructions Additional Information

PC

1. Select the Auxiliary Equipment menu.



9

MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 **Programming Procedures** Telephones Page 4-233 **Additional Information** PC **Console Display/Instructions** Select Maintenance Alarms. Auxiliary Equipment: Make a selection MusicOnHold VMS/AA Ldspkr Pg CTI Link Fax MaintAlarms **F4** Exit. Enter the line/trunk jack to which the maintenance alarm is connected. Maintenance Alarms: Enter maintenance alarm line number C Dial or type: Trunk number [nnn] Delete Slot and port number *[sspp] Backspace Logical ID number #[nnn] Exit Enter Assign or remove the line/trunk. Select Enter or [F10] F8 Delete. 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 11/111.

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

Programming Procedures Telephones

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Group Type procedure in "Optional Group Features" to assign VMI ports as either integrated or generic.



A SecurityAlert:

See "Security Risks Associated with the Automated Attendant Feature of Voice Messaging Systems" and "Security Risks Associated with Transferring through Voice Messaging Systems" 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

(See forms packaged with application.) Planning Form

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 Copy Option No

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

 $ms \rightarrow Enter \rightarrow Exit \rightarrow Exit$

 $F9 \rightarrow F6 \rightarrow F1 \rightarrow Alt + P \rightarrow Type no. of$ PC Procedure

> rings \rightarrow [F10] \rightarrow [F2] \rightarrow [Alt] + [P] \rightarrow Type no. of $ms \rightarrow F10 \rightarrow F3 \rightarrow Alt + P \rightarrow Type no. of$

 $ms \rightarrow F10 \rightarrow F5 \rightarrow F5$

Programming Procedures

Telephones

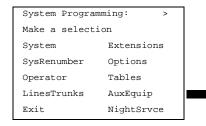
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Procedure: Voice Messaging System and Automated Attendant

Console Display/Instructions Additional Information

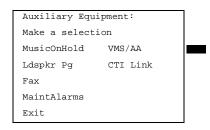
PC

■ 1. Select the Auxiliary Equipment menu.



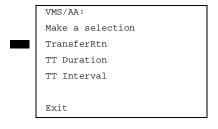
[F9]

▶ 2. Select Voice Messaging/Automated Attendant.



F6

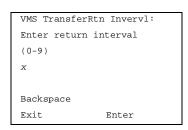
3. Select Transfer Return.



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).



Press **Drop**.

Alt + P

/IERL Systei	Issue 1 June 1997					
	Programming Procedures Telephones					
	Console Display/Instructions Select Touch-Tone Interval.	Additional Information	PC			
_	VMS/AA: Make a selection TransferRtn TT Duration TT Interval	If you do not want to change the setting for touch-tone interval, you have finish this procedure. Go to Step 15.	ed			
	Exit		F3			
▶ 12.	Touch-Tone Interval: Enter interval length (50-200 ms) xxx Backspace	iterval setting (<i>xxx</i>).				
	Exit Enter	Press Drop .	Alt + P			
▶ 13. Enter the touch-tone interval in milliseconds (<i>nnn</i> = 50 to 200).						
	Dial or type [nnn].		C			
1 4.	Save your entry.					
	F10					
▶ 15. Return to the System Programming menu.						
	Select Exit twice.		F5 F5			
Computer Telephony Integration (CTI) Link						

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.

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 telephone module ports. You must chose an extension that is on an MLX port module (008 MLX or 408 MLX).
- You cannot use a port programmed as a potential Operator position as the CTI Link extension.

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- 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 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 TSAPI CTI link, the system performs the following actions:

- The programmed buttons for that extension revert to the default for a non-operator 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.

NOTES:

- 1. Be sure to restore the board after finishing any programming activities.
- 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

4 Programming Procedures
Telephones

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Summary: CTI Link

Programmable by System Manager

Mode Hybrid/PBX
Idle Condition Not required
Planning Form (See Form 2b)

Factory Setting No port programmed as CTI link

Valid Entries Any extension on an MLX port board except the System Pro-

gramming console port and the first and fifth ports.

Inspect Yes

Copy Option No

Console Procedure Busy out the board first:*

 $Menu \rightarrow Maintenance \rightarrow Slot \rightarrow Dial the slot$

 $no. \rightarrow Enter \rightarrow Busy-Out \rightarrow Yes$

* This is a Maintenance step. Start the procedure from the main menu, not the System Programming screen.

Program the CTI Link:

AuxEquip→CTI Link→Dial extension num-

 $ber \rightarrow Enter \rightarrow Exit \rightarrow Exit$

Restore the slot:*

Menu→Maintenance→Slot→Dial the slot

 $no. \rightarrow Enter \rightarrow Restore \rightarrow Yes$

* This is a Maintenance step. Start the procedure from the main menu, not the System Programming screen.

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:*

 $F6 \rightarrow F2 \rightarrow Dial \text{ the slot no.} \rightarrow F10 \rightarrow F3 \rightarrow F1$

* This is a Maintenance step. Start the procedure from the main menu, not the System Programming screen.

Procedure: CTI Link

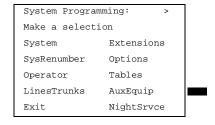
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Console Display/Instructions Additional Information

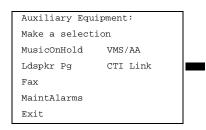
PC

▶ 1. Select the Auxiliary Equipment menu.



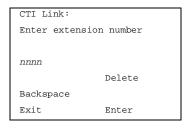
F9

2. Select CTI Link.



[F7]

3. Enter Extension Number.



If you enter an invalid extension number you will see an error screen as shown in "CTI Link Programming Errors."

Dial or type [nnnn].

C

4. Save your entry.

Select Enter.

F10

▶ 5. Return to the System Programming menu.

Select Exit twice.

F5 F5

CTI Link Programming Errors

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.

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System Not in Hybrid/PBX Mode

CTI Link Extensions:
Extension xxxx Failed.

System Not in
Hybrid/PBX Mode.

Exit

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 telephone module ports. You must chose an extension that is on an MLX port module (008 MLX or 408 MLX).

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.

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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.

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 Infomation 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.

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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.

Optional Telephone Features

The summaries in this section detail the steps in programming the following optional features:

- Extension Language
- Pool Dial-Out Code
- Call Restrictions
- Copy Call Restrictions
- ARS Restriction Level for Extensions
- Forced Account Code Entry
- Microphone Operation
 - 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, 7500B Data Station

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Factory Setting English

Valid Entries English, French, Spanish

Inspect No Copy Option No

Console Procedure To program a single extension:

 $\begin{tabular}{ll} More \rightarrow Language \rightarrow Extensions \rightarrow Single \rightarrow Dial ext. \\ no. \rightarrow Enter \rightarrow Select a language \rightarrow Enter \rightarrow Exit \rightarrow Exit. \\ \end{tabular}$

To program a block of extensions:

More→Language→Extensions→Block→Dial starting ext. no.→Enter→Dial ending ext. no.→Enter→Select a

language→Enter→Exit→Exit

PC Procedure To program a single extension:

 $\overline{PgUp} \rightarrow \overline{F6} \rightarrow \overline{F2} \rightarrow \overline{F1} \rightarrow \overline{Type} \text{ ext. no. } \rightarrow \overline{F10} \rightarrow \overline{Select}$

a language $\rightarrow \overline{F10} \rightarrow \overline{[F5]} \rightarrow \overline{F5}$

To program a block of extensions:

FgUp → F6 → F2 → F2 → Type starting ext. no. → F10 → Type ending ext. no. → Select a language → F10 →

 $F5 \rightarrow F5$

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.

Summary: Pool Dial-Out Code

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Telephone 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 Station
Data Form 1b, 7500B Data Station

Factory Setting Main pool: 70; All other pools: 890 to 899. All telephones can

dial any line/trunk pool dial-out code.

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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→Enter→Exit→Exit

PC Procedure $F6 \rightarrow F3 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow Type \text{ pool dial-out}$

 $code \rightarrow F10 \rightarrow F5 \rightarrow F5$

Call Restrictions

Use this procedure to change individual telephone calling restrictions to one of the following:

- Unrestricted
- Restricted from making all outgoing calls
- Restricted from making toll calls



SecurityAlert:

Toll fraud can occur if telephones are not properly restricted. See <u>"Security of Your System: Preventing Toll Fraud"</u> in <u>Appendix A</u> for more information and security procedures.

Summary: Call Restrictions

Programmable by System Manager

Mode All

Idle Condition Telephone 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 Station
Data Form 1b, 7500B Data Station

Factory Setting Unrestricted

Valid Entries Unrestricted, Outward restricted, Toll restricted

Inspect No Copy Option Yes

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Console Procedure Extensions→Restriction→Dial ext.

 $no.{\rightarrow} \texttt{Enter} {\rightarrow} \textbf{Select restriction} {\rightarrow} \texttt{Enter} {\rightarrow} \texttt{Exit}$

PC Procedure $F6 \rightarrow F4 \rightarrow Type \text{ ext. no.} \rightarrow F10 \rightarrow Select$

restriction \rightarrow [F10] \rightarrow [F5]

Copy Call 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.

NOTE:

Dial-out code restrictions are not copied.

Summary: Copy Call Restrictions

Programmable by System Manager

Mode All

Idle Condition "Copy to" telephone(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 Station Data Form 1b, 7500B Data Station

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

To copy to a block of extensions:

 $\begin{array}{l} {\tt Extensions} {\rightarrow} {\tt RestrctCopy} {\rightarrow} {\tt Block} {\rightarrow} {\tt Dial\ copy\ from\ ext.} \\ {\tt no.} {\rightarrow} {\tt Enter} {\rightarrow} {\tt Dial\ first\ no.\ in\ copy\ to\ block} {\rightarrow} {\tt Enter} {\rightarrow} {\tt Exit} {\rightarrow} {\tt Exit} \\ {\tt last\ no.in\ copy\ to\ block} {\rightarrow} {\tt Enter} {\rightarrow} {\tt Exit} {\rightarrow} {\tt Exit} \\ \end{array}$

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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

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 telephones 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.

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→More→ARS Restrict→Dial ext.

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial restriction level \rightarrow Enter \rightarrow Exit$

PC Procdure $\lceil F6 \rceil \rightarrow \lceil F9 \rfloor p \rightarrow \lceil F6 \rceil \rightarrow Type \text{ ext. no.} \rightarrow \lceil F10 \rceil \rightarrow \lceil Alt \rceil + \lceil P \rceil \rightarrow Type$

restriction level→F10→F5

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Forced Account Code Entry

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Use this procedure to assign or remove Forced Account Code Entry. When this feature is programmed on individual telephones, 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 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 Station Data Form 1b, 7500B Data Station

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 $F6 \longrightarrow F7 \longrightarrow Toggle letter R On/Off or Type ext.$

 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

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.

NOTE:

The microphone cannot be disabled on analog multiline telephones or on MLX telephones used as QCC operator positions.

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Summary: Microphone Operation

Telephones

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 4d, MLX Telephone

Form 5b, Direct-Line Console (DLC): Digital

Enabled Factory Setting

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]

Authorization Code

Use this procedure to assign an authorization code to an extension. The authorization code can range from 2 to 11 characters and must be unique for each extension.

Summary: Authorization Codes

Programmable by System Manager

ΑII Mode

Idle Condition Not required

Planning Form Form 6h, Authorization Codes

Factory Setting Not assigned

Valid Entries 2 - 11 characters (0 - 9, *)

Yes Inspect Copy Option No

Console Procedure Extensions→More→Auth Code→Dial ext.

no.→Enter→Dial Authorization $Code \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F9 \rightarrow Type ext. no. \rightarrow F10 \rightarrow Type authorization$

 $code \rightarrow F10 \rightarrow F5 \rightarrow F5$

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Remote Call Forwarding

Use this procedure to allow or disallow the Remote Call Forwarding capability, which allows users to forward calls to an outside number.



NOTE:

This feature is not recommended unless you have ground-start trunks. See "Disconnect Signaling Reliability" and "Hold Disconnect Interval."



A SecurityAlert:

See <u>"Security of Your System: Preventing Toll Fraud"</u> in <u>Appendix A</u> for more information and security procedures on preventing toll fraud with Remote Call Forwarding.

Summary: Remote 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 Station
Data Form 1b, 7500B Data Station

Factory Setting Disallowed

Valid Entries Disallowed, allowed

Inspect Yes
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 $F6 \rightarrow F8 \rightarrow Toggle letter R On/Off or Type ext.$

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

Programming Procedures Telephones

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Delayed Call Forwarding

Delayed Call Forwarding allows users to answer or screen a call arriving at their extension before the call is forwarded through Call Forwarding, Remote Call Forwarding, or Follow Me. 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.



NOTE:

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 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 Station Data Form 1b, 7500B Data Station

Factory Setting 0 rings

Valid Entries 0 - 9 rings

Inspect Yes Copy Option No

Console Procedure Extensions→More→Delay Frwd→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

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Telephones

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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.



A single-line set can never perform a trunk-to-trunk transfer.

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 Station
Data Form 1b, 7500B Data Station

Factory Setting Disabled

Valid Entries Enabled, Disabled

Inspect Yes
Copy Option No

Console Procedure Extensions→More→More→TrkTransfer→Toggle LED

On/Off or Dial ext. no. \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F6 \rightarrow PgUp \rightarrow F7 \rightarrow Toggle letter R On/Off or Type ext.$

 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

Programming 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 <u>Chapter 3, "Common Administrative Procedures"</u>, 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 Operator→Hold Timer→Drop→Dial no. of

 $seconds \rightarrow Enter \rightarrow Exit$

PC Procedure $F3 \rightarrow F3 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow F10 \rightarrow F5$

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.

4 Programming Procedures QCC Optional Features

Page 4-254

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 \rightarrow Enter \rightarrow Exit

PC Procedure $F3 \rightarrow F4 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5$

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 <u>Chapter 3, "Common Administrative Procedures"</u>, for detailed programming information.

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Hold Return

Programming Procedures QCC Optional Features

> 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.

Summary: Hold Return

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Calls remain on hold Factory Setting

Valid Entries Remain on hold, Return to QCC queue

Inspect No

No Copy Option

Console Procedure Operator → Queued Call → Hold Rtrn → Return to Queue

Of Remain on Hold→Enter→Exit→Exit

 $F3 \rightarrow F2 \rightarrow F1 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$ PC Procedure

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

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Factory Setting Automatic Release

Valid Entries Auto Hold, Auto Release

Inspect No Copy Option No

 $\textbf{Console Procedure} \text{ Operator} {\longrightarrow} \textbf{Queued Call} {\longrightarrow} \textbf{HoldRelease} {\longrightarrow} \textbf{Auto Hold or}$

Auto Release→Enter→Exit→Exit

PC Procedure $\boxed{F3 \rightarrow F2 \rightarrow F1}$ or $\boxed{F2 \rightarrow F10 \rightarrow F5} \rightarrow F5$

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

 $\textbf{Console Procedure Operator} {\longrightarrow} \textbf{Queued Call} {\longrightarrow} \textbf{Threshold} {\longrightarrow} \textbf{Drop} {\longrightarrow} \textbf{Dial no. of}$

 $calls \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F3} \rightarrow \boxed{F2} \rightarrow \boxed{F3} \rightarrow \boxed{Alt} + \boxed{P} \rightarrow Type no. of$

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.

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4 Programming Procedures

QCC Optional Features

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

of seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $\boxed{F3} \rightarrow \boxed{F4} \rightarrow \boxed{Alt} + \boxed{P} \rightarrow \boxed{Type no. of}$

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 queue.

Summary: Calls-In-Queue Alert

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting Disable

Valid Entries Enable, Disable

Inspect Yes
Copy Option No

Console Procedure Operator→Queued Call→InQue Alert→Dial ext.

no.→Enter→InQue Alert Enable of InQue Alert

 $Disable \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F3} \rightarrow \boxed{F2} \rightarrow \boxed{F6} \rightarrow Type \text{ ext. no.} \rightarrow \boxed{F10} \rightarrow \boxed{F1} \text{ or}$

 $\boxed{F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5}$

Programming Procedures QCC Optional Features

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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).

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

 $\begin{array}{l} type \longrightarrow \text{Operator} \longrightarrow Dial \ coverage \ group \ no. \longrightarrow \texttt{Enter} \longrightarrow Dial \\ ext. \ no. \longrightarrow \texttt{Enter} \longrightarrow \texttt{Exit} \longrightarrow \texttt{Exit} \longrightarrow \texttt{Exit} \longrightarrow \texttt{Exit} \longrightarrow \texttt{Exit} \end{array}$

PC Procedure $F3 \rightarrow F2 \rightarrow F7 \rightarrow Select a call type \rightarrow F2 \rightarrow Type coverage$

group no. \rightarrow [F10] \rightarrow Type ext.

 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Programming Procedures

QCC Optional Features

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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

Console Procedure Operator→Queued Call→Call Types→Select call

type→Priority→**Drop**→Dial priority level→Enter→Exit→Exit→Exit→Exit

PC Procedure $\overline{F3} \rightarrow \overline{F2} \rightarrow \overline{F7} \rightarrow Select call type \rightarrow \overline{F1} \rightarrow \overline{Alt} + \overline{P} \rightarrow Type$

priority level \rightarrow [F10] \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.

Programming Procedures

QCC Optional Features

Page 4-260

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 $F3 \rightarrow F2 \rightarrow F8 \rightarrow Type \text{ ext. no.} \rightarrow F5 \rightarrow F5 \rightarrow F5$

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

Console Procedure Operator→Queued Call→ExtndComplt→Automatic

Complete Of Manual Complete→Enter→Exit→Exit

PC Procedure $\overline{F3} \rightarrow \overline{F2} \rightarrow \overline{F9} \rightarrow \overline{F1}$ or $\overline{F2} \rightarrow \overline{F10} \rightarrow \overline{F5} \rightarrow \overline{F5}$

4 Programming Procedures

QCC Optional Features

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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

Console Procedure Operator \rightarrow Queued Call \rightarrow Return Ring \rightarrow **Drop** \rightarrow

Dial no. of rings \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $\boxed{F3} \rightarrow \boxed{F2} \rightarrow \boxed{F10} \rightarrow \boxed{Alt} + \boxed{P} \rightarrow$

Type no. of rings \rightarrow F10 \rightarrow 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 will receive 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.

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Summary: Position Busy Backup

Mode

Programmable by System Manager

Hybrid/PBX

Idle Condition Not required

Planning Form Form 6a, Optional Operator Features

Factory Setting No backup

Valid Entries Calling group number

Inspect No

No Copy Option

Console Procedure Operator→Oueued Call→More→OCC

 $\mathtt{Backup} \rightarrow \mathtt{Drop} \rightarrow \mathtt{Dial} \ \mathtt{ext.} \ \mathtt{number} \rightarrow \mathtt{Enter} \rightarrow \mathtt{Exit} \rightarrow \mathtt{Exit}$

PC Procedure $F3 \longrightarrow F2 \longrightarrow PgUp \longrightarrow F1 \longrightarrow Alt + P \longrightarrow Type ext.$

number \rightarrow F10 \rightarrow F5 \rightarrow 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 Nο

Copy Option Nο

Console Procedure Operator→Queued Call→More→Voice Annc→Enabled Of Disabled→Enter→Exit→Exit

PC Procedure $F3 \longrightarrow F2 \longrightarrow PgUp \longrightarrow F2 \longrightarrow F1$ or $F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

Programming Procedures
Optional Group Features

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Optional Group Features

This section contains programming summaries for the following optional features:

- Call Pickup Groups
- Group Paging
- Group Coverage Member Assignments
- Group Coverage Delay Interval
- Group Calling Member Assignments
- Group Calling Line/Trunk or Pool Assignments

See Chapter 3, "Common Administrative Procedures", for detailed programming information.

Call Pickup Groups

Use this procedure to assign or remove an extension from a call pickup group. A call pickup group consists of telephone users who can answer each other's calls either by pressing a button or by dialing a code.



- 1.A maximum of 30 call 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: Call Pickup Groups

Programmable by. System Manager

Mode All

Idle Condition Not required

Planning Form Form 7a, Call Pickup Groups

No

Factory Setting Not applicable

Valid Entries Call pickup group number, extension number

Inspect Yes

Copy Option

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.

 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

Programming Procedures Optional Group Features Page 4-264

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 ΑII

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 $F6) \rightarrow PgUp \rightarrow F2 \rightarrow Type paging group no. \rightarrow F10 \rightarrow Type ext.$

 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

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 4, "Centralized Telephone Programming," for information about the appropriate centralized programming procedure.

4 Programming Procedures Optional Group Features

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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"). 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".

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."

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

Console Procedure Extensions→More→Group Cover→Dial group

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

PC Procedure $F6 \rightarrow PgUp \rightarrow F3 \rightarrow Type \text{ group no.} \rightarrow F10 \rightarrow Type \text{ ext.}$

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.

Summary: Group Coverage Delay Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7c, Group Coverage

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4 Programming Procedures
Optional Group Features

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 \rightarrow Enter \rightarrow Exit

PC Procedure $(F7) \rightarrow (PgUp) \rightarrow (F6) \rightarrow (Alt) + (P) \rightarrow Type$ the number of

rings \rightarrow [F10] \rightarrow [F5]

Group Calling Member Assignments

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:

- 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.
- 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."

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

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Valid Entries Extension numbers

Inspect Yes
Copy Option No

 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{Grp Calling} {\longrightarrow} \textbf{Members} {\longrightarrow} \textbf{Dial calling}$

group ext. no.→Enter→Dial ext. no.→Enter→Exit→Exit→Exit

PC Procedure \nearrow F6 \rightarrow PgUp \rightarrow F4 \rightarrow F9 \rightarrow Type calling group ext. no. \rightarrow

 $F10) \rightarrow Type ext. no. \rightarrow F10) \rightarrow F5 \rightarrow F5 \rightarrow F5$

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→More→Grp Calling→Line/Pool→Dial

calling group ext. no.→Enter→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]

Optional Group Calling Features

This section includes programming summaries for the following optional group calling features:

Hunt Type

4 Programming Procedures Optional Group Features

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- Group Calling Delay 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

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.

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

 $Console\ Procedure\ {\tt Extensions} {\longrightarrow} {\color{blue}{\bf More}} {\rightarrow} {\tt Grp}\ {\tt Calling} {\color{blue}{\rightarrow}} {\tt Hunt}\ {\tt Type} {\color{blue}{\rightarrow}} {\tt Dial}$

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

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Group Calling Delay Announcements

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Optional Group Features

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.

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→More→Grp Calling→DelayAnnce→Dial

calling group ext. no.→Enter→Primary Announcement or Secondary Announcement→Enter Exstenion number of

Announcent device \rightarrow Enter \rightarrow Exit \rightarrow Exit

F6 → Pgup → F4 → F2 → Type calling group ext. no. → F10 → F1 or F2 → Type ext. no. of announcement

 $device \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

Group Coverage Receiver

PC Procedure

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.

NOTE:

Integrated Administration uses calling group 30 as the default group to cover AUDIX Voice Power.

4 Programming Procedures Optional Group 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.→Enter→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 calls when the number of calls waiting in the queue for a calling group is equal to or greater than the programmed threshold or when the time that a call has spent in the queue exceeds the programmed timeout value.

Overflow coverage can be provided only by calling groups or the QCC queue (Hybrid/PBX only), not by individual extensions. Group members can be notified when the number of calls waiting in the queue reaches the threshold.

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

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Factory Setting Overflow coverage: none Threshold: 1 call

Timeout: 0 sec

Valid Entries Overflow coverage: Backup extension number

Threshold: 1 to 99 calls Timeout: 0 to 900 seconds

Inspect Nο

4

Copy Option Nο

Console Procedure Extensions \rightarrow More \rightarrow Grp Calling \rightarrow Overflow \rightarrow Dial

calling group ext. no. \rightarrow Enter \rightarrow Dial ext.

 $no. \rightarrow Enter \rightarrow Number Based Overflow \rightarrow Drop \rightarrow Dial no. of$ $calls \rightarrow Enter \rightarrow Time Based Overflow \rightarrow Drop \rightarrow Dial no. of$

 $seconds \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F8 \rightarrow Type calling group ext.$

> $no. \rightarrow F10 \rightarrow Type backup ext. no. \rightarrow F10 \rightarrow F1 \rightarrow Alt +$ $P \rightarrow Type no. of call \rightarrow (F10) \rightarrow (F2) \rightarrow (Alt) + P \rightarrow Type no. of$

seconds \rightarrow F10 \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.

Summary: Group Calling Message-Waiting Indicator

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting No message-waiting receiver assigned

Extension number Valid Entries

Inspect Nο

Copy Option Nο

4 Programming Procedures Optional Group Features

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 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{Grp Calling} {\longrightarrow} \textbf{Message} {\longrightarrow} \textbf{Dial calling}$

group ext. no. \rightarrow Enter \rightarrow Dial ext. no. for MWI

 $receiver \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F6 \rightarrow PgUp \rightarrow F4 \rightarrow F4 \rightarrow Type$ calling group ext.

no. \rightarrow F10 \rightarrow Type ext. no. for MWI receiver \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 after the Announcement Interval.

Summary: Group Calling Announcement Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting ??

Valid Entries 1-900 seconds

Inspect Yes

Copy Option No

Console Procedure Extensions→More→Grp Calling→DelayAnnce→

Announcement Interval -> Enter the Announcement Interval

 \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $(F6) \rightarrow (PgUp) \rightarrow (F4) \rightarrow (F2) \rightarrow (F3) \rightarrow Type$ the Announcement

Interval \rightarrow F10 \rightarrow F5 \rightarrow F5

Group Calling Repeat Announcement

Use this procedure to set the secondary announcement to repeat after the Announcement Interval.

Summary: Group Calling Repeatable

Announcement

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7d, Group Calling

Factory Setting Not repeatable

Valid Entries Yes. No

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Inspect No Copy Option No

 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{Grp Calling} {\longrightarrow} \textbf{DelayAnnce} {\longrightarrow} \textbf{Dial}$

calling group ext. no.→Enter→Repeatable

 $\texttt{Announcement} {\longrightarrow} \texttt{Yes} \ \textbf{Of} \ \texttt{No} {\longrightarrow} \texttt{Enter} {\longrightarrow} \texttt{Exit} {\longrightarrow} \texttt{Exit}$

PC Procedure $\lceil F6 \rceil \rightarrow \lceil PgUp \rceil \rightarrow \lceil F4 \rceil \rightarrow \lceil F2 \rceil \rightarrow \lceil F4 \rceil \rightarrow Type calling group ext. no.$

 \rightarrow F2 or F3 \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.

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 \rightarrow More \rightarrow Grp Calling \rightarrow Queue Alarm \rightarrow Dial

calling group ext. no. \rightarrow Enter \rightarrow Alarm Threshold 1 or

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]

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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

Inspect No Copy Option No

 $\textbf{Console Procedure Extensions} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{Grp Calling} {\longrightarrow} \textbf{Xtnl Alert} {\longrightarrow} \textbf{Dial}$

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 stations (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.

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- 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 VM**. 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 Copy Option No

Console Procedure Extensions \rightarrow More \rightarrow Grp

Calling→More→Group→Type Dial calling group ext.

no.→Enter→Specify login

 $type {\longrightarrow} \texttt{Enter} {\longrightarrow} \texttt{Exit} {\longrightarrow} \texttt{Exit} {\longrightarrow} \texttt{Exit}$

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]

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

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- 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 Telephones
- Disallowed Lists
- Assign Disallowed Lists to Telephones

See <u>Chapter 3, "Common Administrative Procedures"</u>, for detailed programming information.

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.

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

4 Programming Procedures

System Features

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Copy Option No

Console Procedure Options \rightarrow Transfer \rightarrow Return Time \rightarrow **Drop** \rightarrow Dial no. of

 $rings \rightarrow Enter \rightarrow Exit \rightarrow Exit$

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.

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 will remain 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

4 Programming Procedures

System Features

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Console Procedure To program One-Touch Transfer:

Options \rightarrow Transfer \rightarrow One

Touch→Transfer→Enter→Manual Of Automatic→Enter→Exit→Exit

To program One-Touch Hold:

 $Options \rightarrow Transfer \rightarrow One$

 $\texttt{Touch} \xrightarrow{} \texttt{Hold} \xrightarrow{} \texttt{Enter} \xrightarrow{} \texttt{Exit} \xrightarrow{} \texttt{Exit}$

PC Procedure To program One-Touch Transfer:

 $F7 \longrightarrow F1 \longrightarrow F2 \longrightarrow F1 \longrightarrow F10 \longrightarrow F1$ or $F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

To program One-Touch Hold:

 $F7 \longrightarrow F1 \longrightarrow F2 \longrightarrow F2 \longrightarrow F10 \longrightarrow F5 \longrightarrow F5$

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.



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 Lucent Technologies.

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 \rightarrow Transfer \rightarrow Audible \rightarrow Music on Hold or

 $\texttt{Ringback} {\longrightarrow} \texttt{Enter} {\longrightarrow} \texttt{Exit} {\longrightarrow} \texttt{Exit}$

PC Procedure $F7 \rightarrow F1 \rightarrow F3 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

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

 $Ring \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F7 \rightarrow F1 \rightarrow F4 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

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

Console Procedure Options→CampOn→Drop→Dial no. of

 $seconds \rightarrow Enter \rightarrow Exit$

PC Procedure $F7 \rightarrow F2 \rightarrow Alt + P \rightarrow Type no. of seconds \rightarrow F10 \rightarrow F5$

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. MERLIN LEGEND Communications System Release 5.0 System Programming *555-650-111*

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Summary: Call Park Return Time

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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 Options \rightarrow CallParkRtn \rightarrow **Drop** \rightarrow Dial no. of

 $seconds \rightarrow Enter \rightarrow Exit$

PC Procedure $[F7] \rightarrow [F3] \rightarrow [Alt] + [P] \rightarrow Type no. of seconds \rightarrow [F5] \rightarrow [F5]$

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.

Summary: Delay Ring Interval

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 7c, Group Coverage

Factory Setting 2 rings

Valid Entries 1 to 6 rings

Inspect No Copy Option No

Console Procedure Options→Delay Ring→Drop→Dial no. of

 $rings \rightarrow Enter \rightarrow Exit$

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.

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System Features

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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 Options \rightarrow Callback \rightarrow Drop \rightarrow Dial no. of

 ${\sf rings} {\rightarrow} {\tt Enter} {\rightarrow} {\tt Exit}$

PC Procedure $F7 \rightarrow F6 \rightarrow Alt + P \rightarrow Type no. of rings \rightarrow F10 \rightarrow F5$

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

 $\textbf{Console Procedure Options} {\longrightarrow} \texttt{Ext Status} {\longrightarrow} \texttt{Hotel or}$

 $GrpCall/CMS \rightarrow Enter \rightarrow Exit$

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."

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

Inspect No Copy Option No

Console Procedure More→Language→SMDR→Select language→Enter→Exit

PC Procedure $PgUp \rightarrow F6 \rightarrow F3 \rightarrow Select language \rightarrow F10 \rightarrow F5$

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) 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 1 in ISDN format and V 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

No

Factory Setting Basic format

Valid Entries Basic, ISDN

Inspect No

Copy Option

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 $\textbf{Console Procedure Options} {\longrightarrow} \texttt{SMDR} {\longrightarrow} \texttt{Format} {\longrightarrow} \texttt{Basic SMDR or ISDN}$

 ${\tt SMDR} {\longrightarrow} {\tt Enter} {\longrightarrow} {\tt Exit} {\longrightarrow} {\tt Exit}$

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.



If the majority of lines/trunks are PRI, the recommended call length is 1. See *Feature Reference* for more information.

Summary: SMDR Call Length

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 8a, System Features

Factory SettingBasic format

Valid Entries Basic, ISDN

Inspect No

Copy Option No

Console Procedure Options→SMDR→Format→Basic SMDR or ISDN

 $SMDR \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $[F7] \rightarrow [F8] \rightarrow [F1]$ or $[F2] \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]$

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.

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

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Inspect No Copy Option No

Console Procedure Options \rightarrow SMDR \rightarrow Call Report \rightarrow In/Out or Out

 $\texttt{Only} {\longrightarrow} \texttt{Enter} {\longrightarrow} \texttt{Exit} {\longrightarrow} \texttt{Exit}$

PC Procedure $F7 \rightarrow F8 \rightarrow F3 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

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 All

Idle Condition Not required

Planning Form Form 8a, System Features
Factory Setting Home Extension Number

Valid Entries Home Extension Number, Authorization Code

Inspect No Copy Option No

Console Procedure Options→SMDR→Auth Code→Home Extesnion 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.

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Summary: SMDR Talk Time

Programmable by. System Manager

Mode All

Idle Condition Not required

Planning Form 8a, System Features

Factory Setting Disabled

Valid Entries Enabled, Disabled

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 $(F2) \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

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.

NOTE:

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 \rightarrow Reminder Srv \rightarrow **Drop** \rightarrow Enter \rightarrow Exit

To set Reminder Service Cancel time: Options—Reminder Srv—**Drop**—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:

 $F7 \rightarrow F10 \rightarrow Alt + P \rightarrow Type time \rightarrow F10 \rightarrow F5$

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

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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."

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:

 $\texttt{Options} {\longrightarrow} \textbf{More} {\longrightarrow} \textbf{Unassigned} {\longrightarrow} \textbf{QCC Queue} {\rightarrow} \textbf{Enter} {\longrightarrow} \textbf{Exit}$

To select extension or calling group:

Options \rightarrow More \rightarrow Unassigned \rightarrow Extension of Grp

Calling \rightarrow Enter \rightarrow Dial ext. no. or group no. \rightarrow Enter \rightarrow Exit

PC Procedure To select QCC queue:

 $F7 \rightarrow PgUp \rightarrow F1 \rightarrow F1 \rightarrow F10 \rightarrow F5$

To select extension or calling group:

 $F7 \rightarrow PgUp \rightarrow F1 \rightarrow F2$ or $F3 \rightarrow Type$ ext. no. or group

 $no. \rightarrow F10 \rightarrow F5$

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.

4 Programming Procedures

System Features

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Summary: Host System Dial Codes for Behind Switch Mode

Programmable by System Manager Mode Behind Switch

Idle Condition Not required

Planning 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 Options→More→BehndSwitch→Select

feature→**Drop**→Dial host system dial

 $code \rightarrow Enter \rightarrow Exit \rightarrow Exit$

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

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

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Inspect No Copy Option No

Console Procedure Options \rightarrow More \rightarrow RecallTimer \rightarrow Select

 $time \rightarrow Enter \rightarrow Exit$

PC Procedure $F7 \rightarrow PgUp \rightarrow F3 \rightarrow Select time \rightarrow F10 \rightarrow F5$

Inter-digit Timers

This procedure to program inter-digit 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 inter-digit timers to shorter times will permit the call to be put on hold or transfered. If you are experiencing these types of problems, call the Lucent Technologies BCS 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 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

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Console Procedure Tables→AllowList→Dial list no. and entry

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial no. \rightarrow Enter \rightarrow Exit$

PC Procedure $F8 \rightarrow F1 \rightarrow Type$ list no. and entry no. $\rightarrow F10 \rightarrow Alt +$

 $P \rightarrow Type no. \rightarrow F10 \rightarrow F5$

Assign Allowed Lists to Telephones

Use this procedure to assign individual telephones access to established Allowed Lists. More than one Allowed List can be assigned to a telephone.

Summary: Assign Allowed Lists to Telephones

Programmable by System Manager

Mode ΑII

Idle Condition Not required

Planning Form Form 6g, Call Restriction Assignments and Lists

Factory Setting Not applicable

Valid Entries 0 to 7

Yes Inspect

Copy Option Yes

Console Procedure Tables→AllowTo→Dial list no.→Enter→Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

 $F8 \rightarrow F2 \rightarrow Type$ list no. $\rightarrow F10 \rightarrow Type$ ext. PC Procedure

 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

Disallowed Lists

Use this procedure to establish Disallowed Lists. These lists are telephone numbers that cannot be dialed from specified telephones (including unrestricted telephones).

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.



A SecurityAlert:

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

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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 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→**Drop**→**Dial** no.→Enter→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 Telephones

Use this procedure to assign established Disallowed Lists to individual telephones. Each restricted telephone can be assigned to more than one list.

Summary: Assign Disallowed Lists to Telephones

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 Disallow To Dial list no. Dial ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F8} \rightarrow \boxed{F4} \rightarrow \boxed{Type \text{ list no.}} \rightarrow \boxed{F10} \rightarrow \boxed{Type \text{ ext.}}$

no. \rightarrow F10 \rightarrow F5 \rightarrow F5

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Remote Access Features

This section covers the following Remote Access features:

- Remote Access Trunk Assignment
- Remote Access Automatic Callback
- Remote Access without Barrier Codes
- Remote Access Barrier Codes
- Remote Access with Barrier Codes



A SecurityAlert:

As a customer of a new telephone 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 telephone 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 levels, protect access codes, and distribute access codes only to individuals who have been fully advised of the sensitive nature of the access information.

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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 Call 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-to-guess sequence of digits.

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).

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In Hybrid/PBX mode, if a trunk assigned to ring into the QCC queue is also used for shared remote access, perform the procedure below before you perform the "QCC Operator to Receive Calls" procedure.



A loop start line/trunk must be programmed for Reliable Disconnect if it is to be used for remote access (see "Disconnect Signaling Reliablility").

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 $[F4] \rightarrow [F8] \rightarrow [F1] \rightarrow Type line/trunk no. \rightarrow [F10] \rightarrow Specify how$

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.

System Programming: >

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

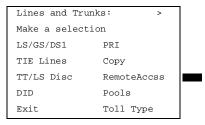
Exit NightSrvce

F4

System Features

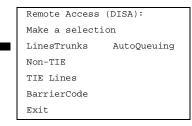
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Select Remote Access.



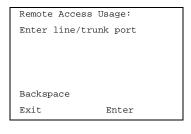
[F8]

▶ 3. Select Lines and Trunks.



F1

▶ 4. Enter the line/trunk for remote access usage (nnnn).



Dial or type: Trunk number [nnn] Logical ID number #[nnnn]

C

5. Save your entry.

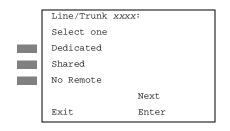
Select Enter.

(F10)

Console Display/Instructions Additional Information

PC

▶ 6. Specify how the line/trunk is used with remote access.



xxxx = line/trunk entered in Step 4

Select Dedicated, Shared, Or No Remote. F1 F2

F3

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➤ 7. Continue to assign the remote access status to another line/trunk or go to Step 8.

Select Next. F9

Return to Step 6. The next line/trunk will be displayed on Line 1.

8. Save your entry.

Select Enter. F10

9. 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

 $\textbf{Console Procedure } \texttt{LinesTrunks} \boldsymbol{\rightarrow} \texttt{RemoteAccss} \boldsymbol{\rightarrow} \texttt{AutoQueuing} \boldsymbol{\rightarrow} \texttt{Enable or}$

 $\texttt{Disable} {\longrightarrow} \texttt{Enter} {\longrightarrow} \texttt{Exit} {\longrightarrow} \texttt{Exit}$

PC Procedure $F4 \rightarrow F8 \rightarrow F6 \rightarrow F1$ or $F2 \rightarrow F10 \rightarrow F5 \rightarrow F5$

F5 F5

Return to the System Programming menu.

Select Exit twice.

Programming Procedures System Features

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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.



NOTE:

If barrier code requirements have been established for remote access users, use "Remote Access with Barrier Codes" 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
- 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.

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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 Call Restrictions:

LinesTrunks→RemoteAccss→Non-TIE **Of** TIE

Lines→Restriction→Select

restriction → Enter → Exit → Exit → Exit → Exit

To change ARS Facility Restriction Level:

 $\texttt{LinesTrunks} {\longrightarrow} \texttt{RemoteAccss} {\longrightarrow} \texttt{Non-TIE} \ \textbf{Of} \ \texttt{TIE} \ \texttt{Lines} {\longrightarrow} \texttt{ARS}$

Restrict→**Drop**→**Dial FRL**

value→Enter→Exit→Exit→Exit→Exit

To assign/remove Allowed Lists:

LinesTrunks→RemoteAccss→Non-TIE Of TIE

Lines→Allow List→Dial list

 $\mathsf{no.} {\to} \mathtt{Enter} {\to} \mathtt{Exit} {\to} \mathtt{Exit} {\to} \mathtt{Exit}$

To assign/remove Disallowed Lists:

LinesTrunks→RemoteAccss→Non-TIE **Of** TIE

 $\texttt{Lines} \rightarrow \texttt{DisallowLst} \rightarrow \texttt{Diallist}$

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure To change Call Restrictions:

 $F4 \rightarrow F8 \rightarrow F2$ or $F3 \rightarrow F2 \rightarrow Select$ restriction $\rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$

To change ARS Facility Restriction Level:

 $F4 \longrightarrow F8 \longrightarrow F2$ or $F3 \longrightarrow F3 \longrightarrow Alt + P \longrightarrow Type FRL$

 $value \rightarrow (F10) \rightarrow (F5) \rightarrow (F5) \rightarrow (F5)$

To assign/remove Allowed Lists:

 $F4 \rightarrow F8 \rightarrow F2$ or $F3 \rightarrow F4 \rightarrow Type$ list

 $no. \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$

To assign/remove Disallowed Lists:

 $\begin{array}{c}
 \hline \text{F4} \longrightarrow \hline \text{F8} \longrightarrow \hline \text{F2} \text{ or } \hline \text{F3} \longrightarrow \hline \text{F6} \longrightarrow \hline \text{Type list}$

 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5 \rightarrow F5$

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System Features

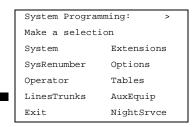
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Procedure: Remote Access Without Barrier Codes

Console/Display Instructions Additional Information

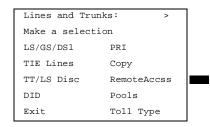
PC

1. Select the Lines and Trunks menu.



F4

2. Select Remote Access.



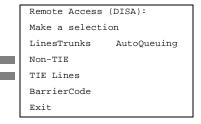
F8

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

4. Select an option.



**** Remote Access:

Make a selection

**** = option name selected in Step 3

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BarrierCode DisallowLst
Restriction
ARS Restrct
Allow List
Exit

To change current call restrictions, select Restriction and go to

F2

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Restriction Procedure.

To change ARS Facility Restriction level, F3 select ARS Restrict and go to

◆ ARS Restriction Procedure.

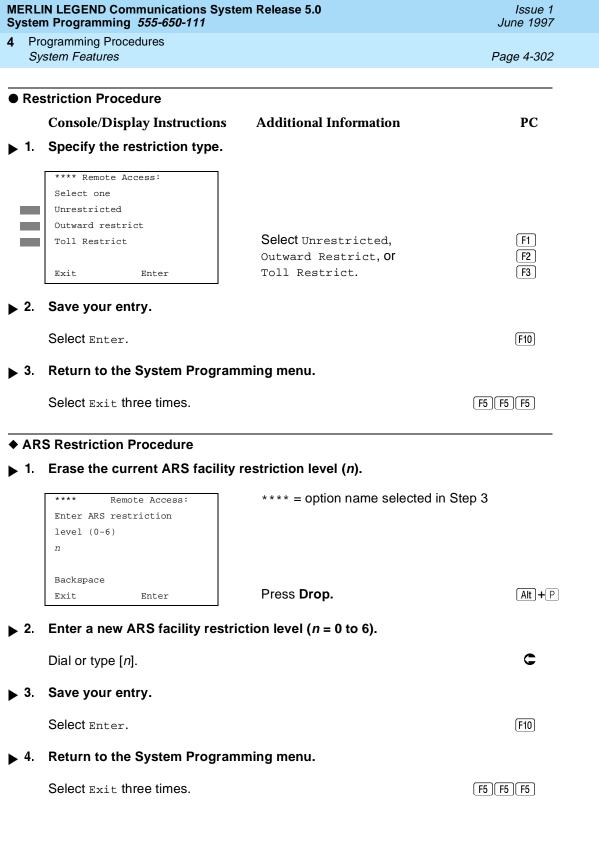
To change Allowed Lists, select Allow List.

F4

To change Disallowed Lists select Disallow Lstandgo to

[F6]

■ Allowed or Disallowed Lists Procedure.



Programming Procedures
System Features

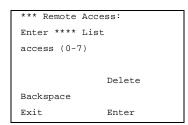
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■ Allowed or Disallowed Lists Procedure

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

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 will contain sixteen 0's 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).

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 will be denied access into the remote access trunks no matter what code is entered.

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SecurityAlert:

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 with Barrier Codes: Class of Restriction" to allow or deny use of system features for each barrier code assigned.

Summary: Remote Access Barrier Codes

Programmable by System Manager

Mode All

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

Console Procedure To establish or remove code requirements:

LinesTrunks→RemoteAccss→Non-Tie **Of** TIE

 ${\tt Lines} {\longrightarrow} {\tt BarrierCode} {\longrightarrow} {\tt Specify whether barrier codes are}$

 $required \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

To change barrier code length:

LinesTrunks→RemoteAccss→BarrierCode→Code

Info→Code Length→**Drop**→**Dial code** length→Enter→Yes→Exit→Exit→Exit

To change barrier code:

LinesTrunks→RemoteAccss→BarrierCode→Code
Info→Code Entry→Dial code ID→Enter→Drop→Dial

 $code \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

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System Features

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PC Procedure

To establish or remove code requirements:

 $F4 \longrightarrow F8 \longrightarrow F2$ or $F3 \longrightarrow F1 \longrightarrow Specify$ whether barrier codes are required $\longrightarrow F10 \longrightarrow F5 \longrightarrow F5 \longrightarrow F5$

To change barrier code length:

$$\begin{array}{c} \hline {\rm F4} \longrightarrow {\rm F8} \longrightarrow {\rm F4} \longrightarrow {\rm F2} \longrightarrow {\rm F1} \longrightarrow {\rm Alt} + {\rm P} \longrightarrow {\rm Type \ code} \\ {\rm length} \longrightarrow {\rm F10} \longrightarrow {\rm F2} \longrightarrow {\rm F5} \longrightarrow {\rm F5} \longrightarrow {\rm F5} \\ \hline \end{array}$$

To change barrier code:

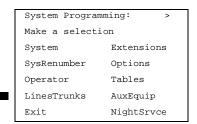
$$F4 \rightarrow F8 \rightarrow F4 \rightarrow F2 \rightarrow F2 \rightarrow Type Code ID \rightarrow F10 \rightarrow Alt + P \rightarrow Dial code length \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$$

Procedure: Remote Access Barrier Codes

Console/Display Instructions Additional Information

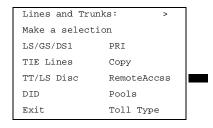
PC

■ 1. Select the Lines and Trunks menu.



F4

2. Select Remote Access.



[F8]

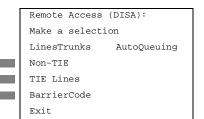
PC

F2

F3

Console Display/Instructions

Select an option.



Additional Information

Select Non-TIE or TIE Lines to specify whether barrier codes apply to non-tie or tie trunks and go to

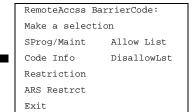
 Establish or Remove Barrier Code Requirements Procedure.

Select BarrierCode to change the barrier F4 code length or edit a barrier code, and continue with Step 4.

Programming Procedures
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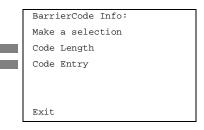
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▶ 4. Select Code Information.



[F2]

5. Select an option.



To change the length of the barrier code, select Code Length and go to

◆ Change Barrier Code Length Procedure.

F1

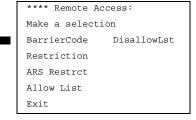
To edit a specific barrier code, select Code Entry and go to

■ ChangeBarrier Code Procedure.

F2

• Establish or Remove Barrier Code Requirements Procedure

1. Select Barrier Code.



**** = option name selected in Step 3

F1

PC

Console Display/Instructions Additional Information

Specify barrier code requirement.

Enter

**** Remote Access:
Select one
Barrier Code Required
Barrier Code Not Required

Exit

**** = option name selected in Step 3

Select Barrier Code Required Or Barrier Code Not Required.

F1 F2

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	ogramming Procedures estem Features	F	age 4-307			
▶ 3.	Save your entry.					
	Select Enter.		F10			
4 .	4. Return to the System Programming menu.					
	Select Exit three times.	[F5]	F5 F5			
Change Barrier Code Length Procedure						
When the systemwide barrier code length is changed, all barrier codes are erased and must be reassigned. Users will be 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).						
	Barrier Code Length: Changed: mm/dd/yy hh:mmAM Enter code length (4-11) nn	The screen displays the date and time of the most recent change to the barrier code length.				
	Backspace Exit Enter	Press Drop .	Alt + P			
2.	Enter the new length of the cod	de (<i>nn</i> = 4 to 11).				
	Dial or type [nn].		C			
▶ 3.	Save your entry.					

Select Enter.

F10

Press **Drop**.

Exit.

Enter

[**Alt**] + [P]

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PC

Console Display/Instructions Additional Information

Enter a code of up to 11 digits [N = any combination of 0 to 9 and an asterisk (*)].

Dial or type [N].

► 5. Continue to assign the code to another barrier code ID number or go to Step 6.

Select Next.

Return to Step 3. The next barrier code number will be displayed on Line 1.

▶ 6. Save your entry.

Select Enter. F10

▶ 7. Return to the System Programming menu.

Select Exit three times. F5 F5 F5

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.

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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>.

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 Call restrictions:

Barrier Code: outward restricted All other barrier codes: unrestricted

ARS restriction level: 3

Valid Entries Unrestricted, Toll Restricted, Outward Restricted; 0 to 6

Inspect No Copy Option No

Console Procedure

LinesTrunks→RemoteAccss→BarrierCode→Restrictio

n→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

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $F4 \rightarrow F8 \rightarrow F4 \rightarrow F3 \rightarrow Type$ barrier code

no. \rightarrow 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 \rightarrow F5

Programming Procedures
System Features

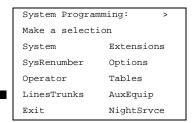
Page 4-311

Procedure: Remote Access with Barrier Codes

Console/Display Instructions Additional Information

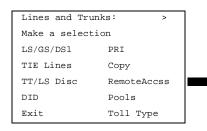
PC

1. Select the Lines and Trunks menu.



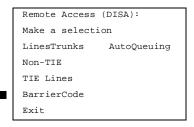
F4

▶ 2. Select Remote Access.



F8

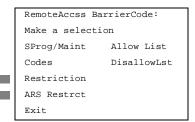
3. Select Barrier Code Access.



F4

[F6]

4. Select an option.



• • •

To change current call restrictions,
select Restriction and go to
Change Current Call
Restrictions Procedure.

To change ARS Facility Restriction level, F4 select ARS Restrict and go to

◆ Change ARS Restriction Procedure.

To change Allowed/Disallowed lists, select F7

Allow List or Disallow Lst and go to

Change Allowed/Disallowed Lists

Procedure.

F5 F5 F5

Return to the System Programming menu.

Select Exit three times.

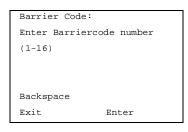
4 Programming Procedures

System Features

Page 4-313

٠	Change	ARS	Restriction	Procedure
---	--------	-----	-------------	-----------

■ 1. Enter a barrier code number (nn = 1 to 16).



Dial or type [nn].

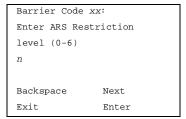
C

▶ 2. Save your entry.

Select Enter.

F10

3. Erase the current ARS FRL (n).



xx = barrier code entered in Step 1

Press Drop.

Alt + P

◆ 4. Enter a new ARS FRL (n = 0 to 6).

Dial or type [n].

C

▶ 5. Continue to assign the level to another barrier code number or go to Step 6.

Select Next.

F9

Return to Step 3. The next barrier code number will be displayed on Line 1.

6. Save your entry.

Select Enter.

(F10)

▶ 7. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

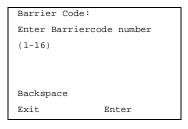
4 Programming Procedures

System Features

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■ Change Allowed/Disallowed Lists Procedure

▶ 1. Enter a barrier code number (nn = 1 to 16).



Dial or type [nn].

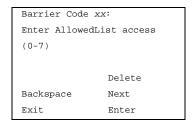
C

2. Save your entry.

Select Enter.

F10

■ 3. Enter the number of the Allowed List or Disallowed List you want to assign or remove (n = 0 to 7).



xx = barrier code entered in Step 1

Dial or type [n].

▶ 4. Assign or remove the Allowed List or Disallowed List from the barrier code number.

Select Enter or Delete.

F10

F8

You may continue to assign or remove additional lists from the barrier code number by repeating Steps 3 and 4.

▶ 5. Continue to assign or remove lists from the next barrier code number or go to Step 6.

Select Next.

F9

Return to Step 3. The next barrier code number will be displayed on Line 1.

6. Save your entry.

Select Enter.

MERLIN LEGEND Communications System Release 5.0	
System Programming 555-650-111	

Issue 1

June 1997

[F5][F5][F5]

Programming Procedures Automatic Route Selection Page 4-315

Additional Information PC **Console Display/Instructions**

Return to the System Programming menu. **▶** 7.

Automatic Route Selection

Select Exit three times.

4

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.

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

4 Programming Procedures Automatic Route Selection

Page 4-316

Factory Setting Not within area code

Valid Entries Not within area code, Within area code

Inspect No Copy Option No

Console Procedure Tables→ARS→ARS 1+7Dial→Within Area Code Or Not

within Area Code \rightarrow Ente $r\rightarrow$ Exit \rightarrow Exit

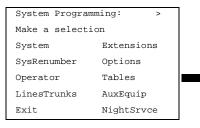
PC Procedure $[F8] \rightarrow [F6] \rightarrow [F1]$ or $[F2] \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]$

Procedure: 1 + 7-Digit Dialing Requirements

Console/Display Instructions Additional Information

PC

1. Select the Tables menu.



[F8]

▶ 2. Select Automatic Route Selection.

Tables:

Make a selection

AllowList ARS

AllowTo

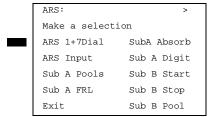
Disallow

DisallowTo

Exit

F6

▶ 3. Select ARS 1+7 Digit Dial.



[F1]

MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111

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4 Programming Procedures

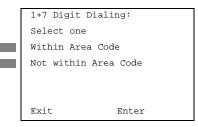
Automatic Route Selection

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Console Display/Instructions Additional Information

PC

▶ 4. Specify whether 1+7-digit dialing is required within the home area code.



Select Within Area Code or

Not within Area Code.

F1

F2

5. Save your entry.

Select Enter.

F10

Return to the System Programming menu.

Select Exit twice.

F5 F5

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.

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

4 Programming Procedures Automatic Route Selection

Page 4-318

Planning Form Form 3f, Automatic Route Selection Tables

Factory Setting Not applicable

Valid Entries Not applicable

Inspect Yes
Copy Option No

Console Procedure Tables→ARS→ARS Input→Dial table

no.→Enter→Specify table type→Enter→Dial entry no.→Enter→**Drop**→Dial no.→Enter→Exit→Exit

PC Procedure $\overline{(F8)} \rightarrow \overline{(F6)} \rightarrow \overline{(F2)} \rightarrow Type$ table no. $\rightarrow \overline{(F10)} \rightarrow Select$ table

type \rightarrow F10 \rightarrow Type entry no. \rightarrow F10 \rightarrow Alt + P \rightarrow Type

 $no. \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: ARS Tables

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 Automatic Route Selection.

Tables:

Make a selection

AllowList ARS

AllowTo

Disallow

DisallowTo

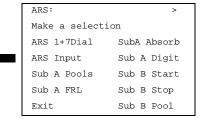
Exit

F6

Console Display/Instructions Additional Information

PC

▶ 3. Select ARS Table Input.



F10

Save your entry.

Select Enter.

IERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997			
	gramming Procedures comatic Route Selection		Page 4-320
1 0.	Erase the current entry (nnn).		
	ARS Table xx, Entry xxx: Enter area code or exchange nnn	xx = table number entered in Step 4xxx = entry number entered in Step 8	
	Backspace Next Exit Enter	Press Drop .	Alt + P
11 .	Enter an area code or exchange	of up to 3 digits (0 to 9) to include in	the table.
	Dial or type [nnn].		C
▶ 12. Continue to enter area code or exchange for another table entry number or go to Step 13.			
	Select Next.		F9
		Return to Step 10. The next table will displayed on Line 1.	be
13 .	Save your entry.		
	Select Enter.		(F10)
▶ 14. Return to the System Programming menu.			
	Select Exit twice.		F5 F5
Start and Stop Times for Subpatterns			
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.

Summary: Start and Stop Times for Subpatterns

Programmable by	System Manager
Mode	Hybrid/PBX

Idle Condition Not required

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Programming Procedures

Automatic Route Selection

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→Dial start time→Enter→Sub B $Stop \rightarrow Dial table no. \rightarrow Enter \rightarrow Drop \rightarrow Dial stop$

 $time \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $F8 \rightarrow F6 \rightarrow F8 \rightarrow Type table no. \rightarrow F10 \rightarrow Alt +$

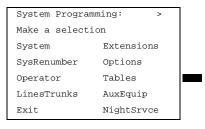
 $P \rightarrow Type start time \rightarrow F10 \rightarrow F8 \rightarrow Type table no. \rightarrow F10 \rightarrow F1$

Alt + $P \rightarrow Type stop time \rightarrow F10 \rightarrow F5 \rightarrow F5$

Procedure: Start and Stop Times for Subpatterns

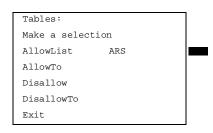
Console/Display Instructions Additional Information PC

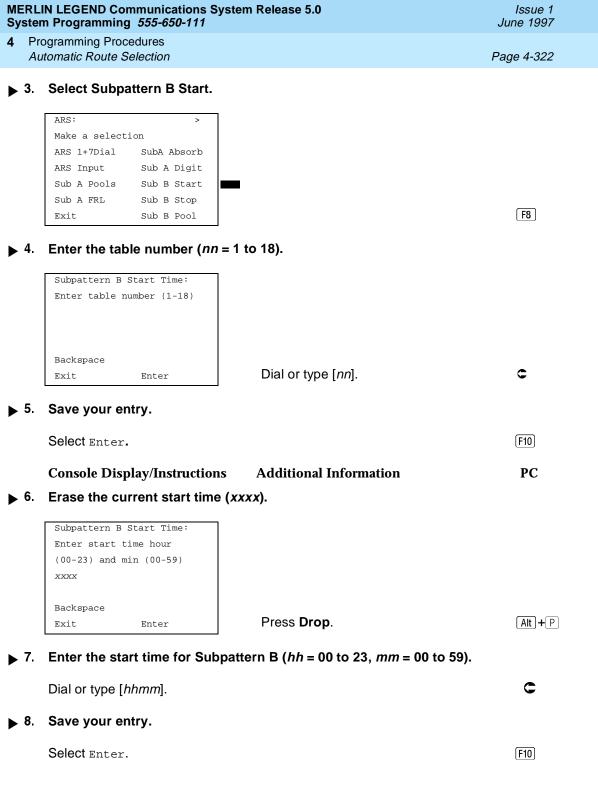
Select the Tables menu.



F8

Select Automatic Route Selection.





Press **Drop**.

▶ 13. Enter the stop time for Subpattern B (hh = 00 to 23, mm = 00 to 59).

Alt + P

C

F10

F5 F5

▶ 12. Erase the current stop time (xxxx).

Enter

▶ 15. Return to the System Programming menu.

Subpattern B Stop Time: Enter stop time hour (00-23) and min (00-59)

Dial or type [hhmm].

XXXX

Exit

Backspace

▶ 14. Save your entry.

Select Enter.

Select Exit twice.

4 Programming Procedures

Automatic Route Selection

Page 4-324

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.

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

Nο

Inspect No

Console Procedure Tables→ARS→Sub A Pools or Sub B Pool→Dial table no.

and pool route no.→Enter→Dial pool dial-out

 $code \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\overline{F8} \rightarrow \overline{F6} \rightarrow \overline{F3}$ or $\overline{F10} \rightarrow \overline{Type}$ table no. and pool route

no. \rightarrow F10 \rightarrow Type pool dial-out code \rightarrow F10 \rightarrow F5 \rightarrow F5

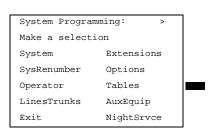
Procedure: Pool Routing

Console/Display Instructions Additional Information

PC

▶ 1. Select the Tables menu.

Copy Option



Dial or type [nnn].

Backspace

Exit

Next

Enter

Programming Procedures Automatic Route Selection

Page 4-326

▶ 4. 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 will be displayed on Line 1.

▶ 5. Save your entry.

Select Enter.

F10

6. Return to the System Programming menu.

Select Exit twice.

F5 F5

Subpattern B Procedure

▶ 1. Enter the table (nn = 1 to 18) and the pool route (m = 1 to 6) numbers.

ARS Route Pattern:
Enter table (1-18) route
(1-6)

Backspace
Exit Enter

Dial or type [nnm].

C

2. Save your entry.

Select Enter.

[F10]

■ 3. 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].

▶ 4. 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 will be displayed on Line 1.

MERLIN LEGEND Communications System Release 5.0 System Programming *555-650-111*

Issue 1 June 1997

4 Programming Procedures Automatic Route Selection

tomatic Route Selection Page 4-327

5. Save your entry.

Select Enter. F10

▶ 6. 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 telephones 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.



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.

Summary: Facility Restriction Level

	Programma	ble 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→ARS→Sub A FRL or More and Sub B FRL→Dial

table no, and pool route no. \rightarrow Enter \rightarrow Dial restriction

 $|evel \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $[F8] \rightarrow [F4]$ or [PgUp] and $[F1] \rightarrow [F4]$ or [F3]

route no. \rightarrow F10 \rightarrow Type restriction level \rightarrow F10 \rightarrow F5 \rightarrow F5

4 Programming Procedures Automatic Route Selection

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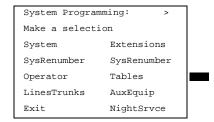
Procedure: Facility Restriction Level

Console Display/Instructions

Additional Information

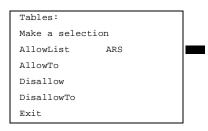
PC

1. Select the Tables menu.



F8

2. Select Automatic Route Selection.



F6

■ 3. Select Facility Restriction Level for Subpattern A or B.



ARS: >

Make a selection

ARS 1+7Dial Sub A Absorb

ARS Input Sub A Digit

Sub A Pools Sub B Start

Sub A FRL Sub B Stop

Exit Sub B Pool

Subpattern A Procedure

Select Sub A FRL and go to

Subpattern A Procedure.

Press More, select Sub B FRL, and go to PgUp

◆ Subpattern B Procedure.

PgUp F1

F4

▶ 1. Enter the table (nn = 1 to 18) and the pool route (m = 1 to 6) numbers.

Sub A Restriction Level:
Enter table (1-18), route
(1-6)

Backspace
Exit Enter

Dial or type [nnm].

C

ERI /ste	LIN LEGEND Communications Systeem Programming 555-650-111	m Release 5.0	Issue 1 June 1997	
	rogramming Procedures utomatic Route Selection		Page 4-329	
	Console Display/Instructions	Additional Information	PC	
2.	Save your entry.			
	Select Enter.		F10	
3.	Enter the restriction level ($n = 0$ to 6).			
	ARS Table xx Route x: Enter restriction level (0-6)	xx = table number entered in Step 1 x = route number entered in Step 1		
	Backspace Next Exit Enter	Dial or type [n].	c	
4.	Continue to enter FRL for anot	her pool route or go to Step 5.		
	Select Next.		F9	
		Return to Step 3. The next pool route will be displayed on Line 1.		
5.	Save your entry.			
	Select Enter.		F10	
6.	6. Return to the System Programming menu.			
	Select Exit twice.		F5 F5	
Sı	ıbpattern B Procedure			
	Console/Display Instructions	Additional Information	PC	
1.	Enter the table ($nn = 1$ to 18) and the pool route ($m = 1$ to 6) numbers.			
	Subpattern B Restriction: Enter table (1-18), route (1-6)			
	Backspace Exit Enter	Dial or type [nnm].	C	
2.	Save your entry.			
	Select Enter.		F10	

MERLIN LEGEND Communications System Release 5.0 Issue 1 System Programming 555-650-111 June 1997 **Programming Procedures** Automatic Route Selection Page 4-330 PC Console Display/Instructions **Additional Information** Enter the restriction level (n = 0 to 6). xx = table number entered in Step 1 ARS Table xx Route x: x = route number entered in Step 1 Enter restriction level Backspace Next Dial or type [n]. Exit. Enter Continue to enter FRL for another pool route or go to Step 5. Select Next. F9 Return to Step 3. The next route will be displayed on Line 1. Save your entry. F10 Select Enter.

Return to the System Programming menu.

Digit Absorption

Select Exit twice.

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.

F5 F5

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.



Pool routes must be programmed before you assign digit absorption.

Summary: Digit Absorption

Programmable by System Manager

Mode Hybrid/PBX

Idle Condition Not required

Planning Form Form 3f, Automatic Route Selection Tables

4 Programming Procedures

Automatic Route Selection

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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.→Enter→**Drop**→Dial no. of digits to

 $absorb \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F8 \rightarrow F6} \rightarrow F6$ or \boxed{PgUp} and $\boxed{F2} \rightarrow Type$ table no. and pool

route no. \rightarrow [F10] \rightarrow [Alt] + [P] \rightarrow Type no. of digits to

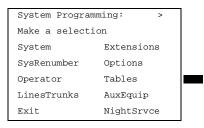
absorb \rightarrow [F10] \rightarrow [F5] \rightarrow [F5]

Procedure: Digit Absorption

Console/Display Instructions Additional Information

PC

1 Select the Tables menu.



F8

▶ 2. Select Automatic Route Selection.

Tables:

Make a selection

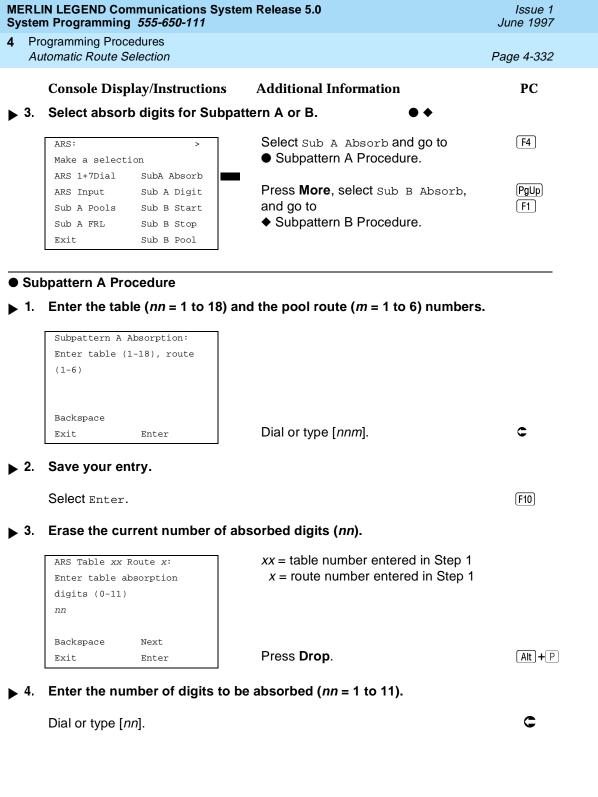
AllowList ARS

AllowTo

Disallow

DisallowTo

Exit



		N LEGEND Communicati n Programming <i>555-650</i> -		n Release 5.0	Issue 1 June 1997
		ogramming Procedures tomatic Route Selection			Page 4-334
		Console Display/Instru	uctions	Additional Information	PC
> 4	4.	Enter the number of d	ligits to be	absorbed ($nn = 1$ to 11).	
		Dial or type [nn].			C
▶ ;	5. Continue to enter absorbed digits for another route number for Subpattern B or go to Step 6.				
		Select Next.			F9
				Return to Step 3. The next route numwill be displayed on Line 1.	ıber
▶ 6	6.	Save your entry.			
		Select Enter.			F10
▶ 7	7.	Return to the System	Programm	ning menu.	
		Select Exit twice.			F5 F5
Oti	he	r 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.					
	NOTE: Pool routes must be programmed before you assign other digits.				
	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 M	lanager	
		Mode	Hybrid/PE	3X	
		Idle Condition	Not requir	red	
		Planning Form	Form 3f, A	Automatic Route Selection Tables	
		Factory Setting	0		

4 Programming Procedures Automatic Route Selection

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Valid Entries Up to 20 digits (any combination of 0 to 9)

Inspect No Copy Option No

Console Procedure Tables→ARS→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 [FgUp] and $[F3] \rightarrow [F9]$ table no. and pool

route no. \rightarrow F10 \rightarrow Alt + P Type digits to be

added \rightarrow F10 \rightarrow F5 \rightarrow F5

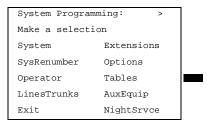
Procedure: Other Digits

Console/Display Instructions

Additional Information

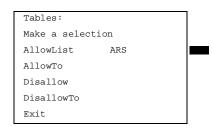
PC

▶ 1 Select the Tables menu.



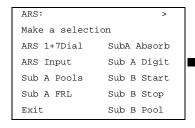
F8

Select Automatic Route Selection.



F6

■ 3. Select other digits for Subpattern A or B.



Select Sub A Digit.

Press More and select Sub B Digit.

[F7]

PgUp F3

F5 F5

Select Exit twice.

4 Programming Procedures

Automatic Route Selection

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N11 Special Numbers Tables

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.

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

SpecialNumbers Tables

Factory Setting Not applicable 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→**Drop**→**Dial FRL value**→Enter→Exit→Exit

To program other digits:

Tables→ARS→More→SpeclNumber→ARS

 $\texttt{Digit} {\rightarrow} \textbf{Drop} {\rightarrow} \textbf{Dial digits} {\rightarrow} \texttt{Enter} {\rightarrow} \texttt{Exit} {\rightarrow} \texttt{Exit}$

PC Procedure To change Facility Restriction Level:

 $value \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

To program other digits:

 $digits \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

F4

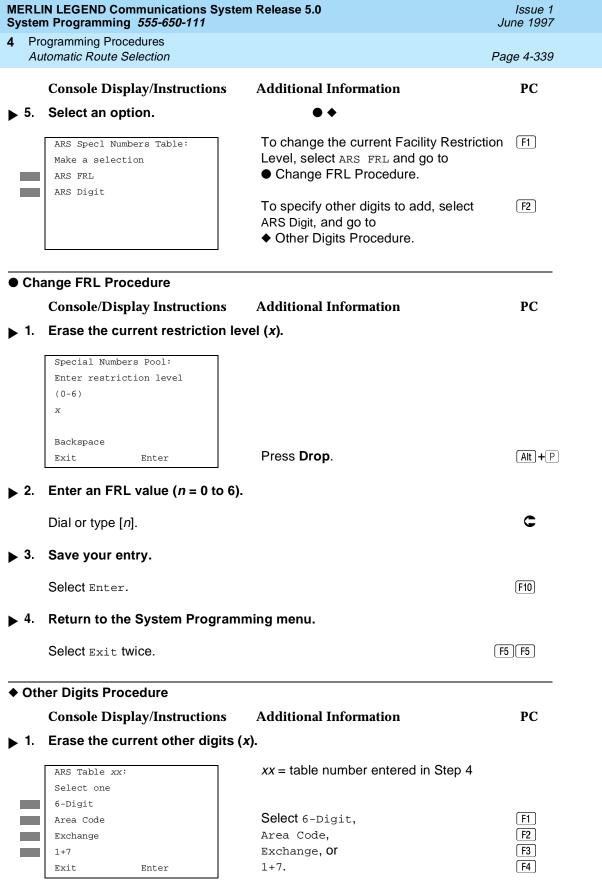
SubB Absorb Sub A Data

Sub B Data

Sub B Digit

SpeclNumber

Exit



4 Programming Procedures

Automatic Route Selection

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 \triangleright 2. Enter up to 20 other digits (n =any combination of 0 to 9).

Dial or type [n].

C

3. Save your entry.

Select Enter.

F10

▶ 4. 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.

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

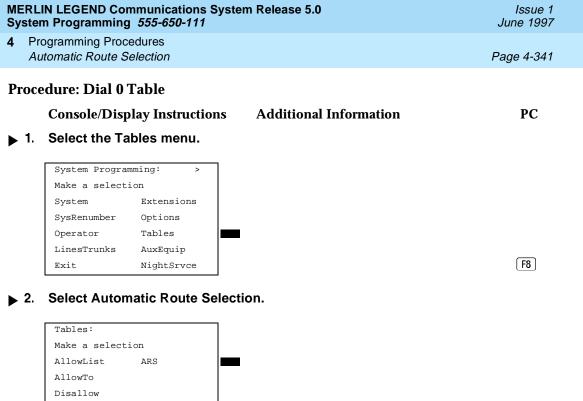
Copy Option No

Console Procedure Tables \rightarrow ARS \rightarrow More \rightarrow Dial $0 \rightarrow$ ARS Pool of ARS FRL of ARS

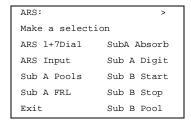
 $\texttt{Digits} \rightarrow \textbf{Dial value} \rightarrow \texttt{Enter} \rightarrow \texttt{Exit} \rightarrow \texttt{Exit} \rightarrow \texttt{Exit}$

PC Procedure $F8 \rightarrow F6 \rightarrow PgUp \rightarrow F6 \rightarrow F1$ or F2 or $F3 \rightarrow Type$

 $value \rightarrow F10 \rightarrow F5 \rightarrow F5 \rightarrow F5$



3. Go to the second screen of the ARS menu.



DisallowTo

Exit

Press More.

PgUp

F5 F5 F5

Return to the System Programming menu.

Select Exit three times.

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4		ogramming Procedures tomatic Route Selection		Page 4-343	
	710	iomalie Route Ocicolom		1 age 4 545	
♦	AR	S FRL Procedure			
		Console/Display Instruction	s Additional Information	PC	
>	1.	Erase the current restriction	n level (x).		
		Dial 0 Restriction:			
		Enter restriction level (0-6)			
		х			
		Backspace			
		Exit Enter	Press Drop .	Alt + P	
>	2.	Enter a restriction level (n =	= 0 to 6).		
		Dial or type [n].		C	
>	3.	Save your entry.			
		Select Enter.		(F10)	
>	4.	Return to the System Progr	amming menu.		
		Select Exit three times.		F5)F5)F5	
■ ARS Digits Procedure					
>	1.	Erase the current other digi	its (x).		
		Dial 0 Other Digits			
		Enter other digits			
		Backspace			
		Exit Enter	Press Drop .	Alt + P	
>	2.	2. Enter up to 20 other digits (<i>n</i> = any combination of 0 to 9).			
		Dial or type [n].		C	
>	3.	Save your entry.			
		Select Enter.		(F10)	

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Automatic Route Selection

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Console Display/Instructions Additional Information

PC

4. Return to the System Programming menu.

Select Exit three times.

F5 F5 F5

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 <u>"PRI Facilities"</u>, especially its subtopic, "Outgoing Tables".

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

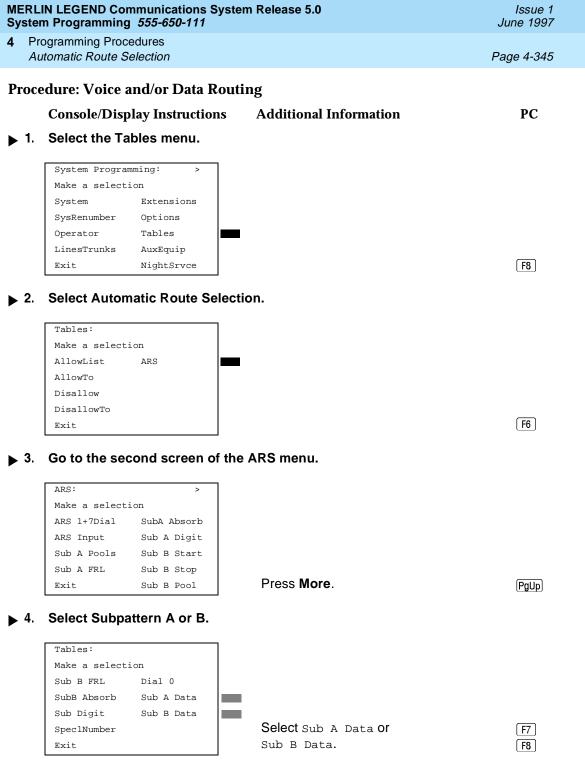
Console Procedure Tables→ARS→More→Sub A Data or Sub B Data→Dial

table no. and route no.→Enter→Select

 $capability \rightarrow Enter \rightarrow Exit \rightarrow Exit$

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]



Return to Step 7. The next route number will be displayed on Line 1.

Save your entry.

Select Enter. [F10]

▶ 10. Return to the System Programming menu.

Select Exit twice. F5 F5

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

4 Programming Procedures
Night Service

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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.

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 No Copy Option No

Console Procedure To assign a calling group to a Night Service group:

$$\label{eq:continuous} \begin{split} &\text{NightSrvce} {\longrightarrow} \text{GroupAssign} {\longrightarrow} \text{Calling Group} {\longrightarrow} \text{Dial ext.} \\ &\text{no. of Night Service attendant} {\longrightarrow} \text{Enter} {\longrightarrow} \text{Dial calling group} \end{split}$$

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

To assign an extension to a Night Service group:

NightSrvce→GroupAssign→Extensions→Dial ext. no. of

Night Service attendant \rightarrow Enter \rightarrow Dial ext. no. of

 $telephone \rightarrow Enter \rightarrow Exit \rightarrow Exit$

To assign an outside line to a Night Service group:

NightSrvce→GroupAssign→Extensions→Dial ext. no. of Night Service attendant→Enter→Dial outside line

number (801-880) \rightarrow Enter \rightarrow Exit \rightarrow Exit

4 Programming Procedures
Night Service

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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: $F10 \rightarrow F1 \rightarrow F1 \rightarrow T$ ype ext. no. of Night Service attendant $\rightarrow F10 \rightarrow T$ ype ext. no. of telephone $\rightarrow F10 \rightarrow F5 \rightarrow F5$

To assign an outside line to a Night Service group: $\boxed{F10} \rightarrow \boxed{F1} \rightarrow \boxed{F1} \rightarrow \boxed{Type}$ ext. no. of Night Service attendant $\rightarrow \boxed{F10} \rightarrow \boxed{Type}$ outside line number

 $(801-880) \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

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 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.

NOTE:

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.

Summary: Night Service with Outward Restriction

Programmable by System Manager

Mode All

Idle Condition Not required

Planning Form Form 9b, Night Service: Outward Restrictions

Programming Procedures Night Service

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Factory Setting No password

Valid Entries 4 digits (any combination of 0 to 9)

Yes (Exclusion List) Inspect

Copy Option No

Console Procedure NightSrvce→OutRestrict→Drop→Dial

password→Enter→Emergency→Dial item

no.→Enter→**Drop**→**Dial** telephone $no. \rightarrow Enter \rightarrow ExcludeList \rightarrow Dial ext. no.$

 \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure $F10 \rightarrow F2 \rightarrow Alt + P \rightarrow Type password \rightarrow F10 \rightarrow F3 \rightarrow Type$

item no. \rightarrow F10 \rightarrow Alt + P \rightarrow Type telephone

 $no. \rightarrow (F10) \rightarrow (F4) \rightarrow Type ext. no. \rightarrow (F10) \rightarrow (F5) \rightarrow (F5)$

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 \rightarrow Day of Week \rightarrow Dial 9 \rightarrow Enter \rightarrow Exit

4 Programming Procedures Night Service

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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

Console Procedure To add or change start/stop time:

NightSrvce—Start—Drop—Dial start day and time—Enter—Stop—Drop—Dial stop day and

time→Enter→Stop→**Drop**→Dial stop day and time→Enter→Exit

To activate/deactivate:

 $\texttt{NightSrvce} {\longrightarrow} \texttt{Time Control} {\longrightarrow} \texttt{Off Or On} {\longrightarrow} \texttt{Enter} {\longrightarrow} \texttt{Exit}$

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 $F2 \rightarrow F10 \rightarrow F5$

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.

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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→CoverContrl→Enable or

Disable→Enter→Exit

PC Procedure $F10 \rightarrow F9 \rightarrow F1 \text{ or } F2 \rightarrow F10 \rightarrow F5$

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 set 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.

A label can have a maximum of seven characters.

4 Programming Procedures Labeling

Page 4-352

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

 $Console\ Procedure\ More {\longrightarrow} \texttt{Labeling} {\longrightarrow} \texttt{Directory} {\longrightarrow} \texttt{Extension} {\longrightarrow} \texttt{Dial}\ ext.$

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Enter$

 $label \rightarrow Enter \rightarrow Exit \rightarrow Exit \rightarrow Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F1 \rightarrow F2 \rightarrow Type \ ext. \ no. \rightarrow F10 \rightarrow Alt +$

 $P \rightarrow Type label \rightarrow F6 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Lines or Trunks

Use this procedure to establish alphanumeric system labels for display set 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→Labeling→LinesTrunks→Dial line/trunk

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Dial label \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $PgUp \rightarrow F1 \rightarrow F2 \rightarrow Type line/trunk no. \rightarrow F10 \rightarrow Alt +$

 $P \rightarrow Type label \rightarrow F6 \rightarrow F5 \rightarrow F5$

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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.

Summary: Posted Message

Programmable by System Manager, Integrated Administration

ΑII Mode

Idle Condition Not required

Form 8a, Label Form: Posted Message Planning Form

Factory Setting First 10 messages

Valid Entries 1 to 20

Inspect No

Copy Option Nο

Console Procedure More→Labeling→PostMessage→Dial message $no. \rightarrow Enter \rightarrow Drop \rightarrow Enter$

 $message \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $(PgUp) \rightarrow (F1) \rightarrow (F3) \rightarrow Type message no. \rightarrow (F10) \rightarrow (Alt) +$ $P \rightarrow Type message \rightarrow F6 \rightarrow F5 \rightarrow F5$

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

System Manager, Integrated Administration Programmable by.

Not applicable

Mode ΑII

Idle Condition Not required

Planning Form Form 6e, Group Calling

Valid Entries

Not applicable

Inspect No

Factory Setting

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Print Reports

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Copy Option No

Console Procedure More \rightarrow Labeling \rightarrow Grp Calling \rightarrow 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. $\rightarrow F10 \rightarrow Alt +$

 $\mathbb{P} \rightarrow \mathsf{Type} \; \mathsf{label} \rightarrow \mathsf{F5} \rightarrow \mathsf{F5} \rightarrow \mathsf{F5}$

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

 $no. \rightarrow Enter \rightarrow Drop \rightarrow Enter label Enter \rightarrow Backspace \rightarrow Dial$

telephone no.→Enter→Yes or No→Enter→Exit→Exit→Exit

PC Procedure $PgUp \rightarrow F1 \rightarrow F1 \rightarrow F1 \rightarrow Type dial code no. \rightarrow F10 \rightarrow Alt +$

 $\mathbb{P} \rightarrow \mathsf{Type} \ \mathsf{label} \rightarrow \mathsf{F6} \rightarrow \mathsf{F2} \rightarrow \mathsf{Type} \ \mathsf{telephone}$ no. $\rightarrow \mathsf{F6} \rightarrow \mathsf{F1} \ \mathsf{or} \ \mathsf{F2} \rightarrow \mathsf{F6} \rightarrow \mathsf{F5} \rightarrow \mathsf{F5} \rightarrow \mathsf{F5}$

Print Reports

Use the procedures in this section to change the language for system reports and to print the system reports.

Programming Procedures Print Reports Page 4-355

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

Planning Form Form 1, System Planning

Factory Setting English

Valid Entries English, French, Spanish Nο

Copy Option Nο

Console Procedure More→Language→Printer→English or French or

Spanish→Enter→Exit

PC Procedure $(PgUp) \rightarrow (F6) \rightarrow (F4) \rightarrow (F1) \text{ or } (F2) \text{ or } (F3) \rightarrow (F10) \rightarrow (F5)$

Printing System Reports

Inspect

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
- System Dial Plan
 - Pools
 - Telephone Paging Zones
 - Direct Group Calling
 - Lines/Trunks
 - Stations (Extensions)

Programming Procedures
Print Reports

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- Label Information
 - Telephone Personal Directory
 - Message Numbers and Posted Messages
- Trunk Information¹
 - TIE
 - DID
 - Loop/Ground
 - General
- 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
- Disallowed Lists
- Disallowed Lists Assigned to Extensions
- Automatic Route Selection
- Tables
- Extension Directory
- System Directory
- Group Page
- Extension information
- Group Coverage
- Group Calling
- 1. Trunk option must be specified

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Programming Procedures
Print Reports

- Night Service
- Call Pickup Groups
- Error Logs
- Authorization Codes
- BRI Information Report
- Switch 56 Data Information Report

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

4 Programming Procedures
Print Reports

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Console Procedure To print trunk information:

More→Print→Trunk Info→Select trunk type→Exit

To print extension information:

More→Print→More→Ext Info→Dial extension

 $number \rightarrow Enter \rightarrow Exit$

To print all other reports:

 $More \rightarrow Print \rightarrow Select report \rightarrow Exit$

PC Procedure To print trunk information:

 $PgUp) \rightarrow F3 \rightarrow F6 \rightarrow Select trunk type \rightarrow F5$

To print extension information:

 $[PgUp] \rightarrow [F3] \rightarrow [PgUp] \rightarrow [F10] \rightarrow Type extension$

number \rightarrow F10 \rightarrow F5

To print all other reports:

 $PgUp \rightarrow F3 \rightarrow Select report \rightarrow F5$

To save report on disk:

 $\begin{array}{c} \textbf{PgUp} {\longrightarrow} \textbf{F3} {\longrightarrow} \textbf{Select report} {\longrightarrow} \textbf{F10} {\longrightarrow} \textbf{Select goto floppy from} \\ \end{array}$

screen below simulated console→F10

To view report:

Ctrl + F8

Programming 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 <u>Chapter 5</u>, <u>"Centralized Telephone Programming"</u>, for information about Ringing options.

Table 4-5. Data Features: Programming Procedures

Procedure	Section/Chapter
Assign Trunks or Pools to Data Stations	Chapter 3, "Telephones"
Copy Trunk Assignments	Chapter 3, "Telephones"
Assign Intercom or System Access Buttons	Chapter 3, "Telephones"
Pool Dial-Out Code (Hybrid/PBX only)	Chapter 3, "Optional Telephone Features"
Call Restrictions	Chapter 3, "Optional Telephone Features"
Copy Call Restrictions	Chapter 3, "Optional Telephone Features"
Forced Account Code Entry	Chapter 3, "Optional Telephone Features"
Ringing Options	Chapter 5, "Centralized Telephone Programming"
Assign Data Hunt Group Members	Chapter 3, "Group Calling Member Assignments" in "Optional Group Features"
Assign Data Hunt Group Trunks or Pools	Chapter 3, "Group Calling Line/Trunk or Pool Assignments" in "Optional Group Features"
Group Type	Chapter 3, "Group Type" in "Optional Group Calling Features" (choice restricted to Automatic Log In)

Analog Multiline Telephones at Data Stations

Use this procedure to dedicate a pair of extension jacks to provide the voice and data to an analog data station.

4 Programming Procedures

Data Features

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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 stations.

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 Stations

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 Station

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 $PgUp \rightarrow F2 \rightarrow F1 \rightarrow Type ext. no. \rightarrow F10 \rightarrow F5$

Programming Procedures

Data Features

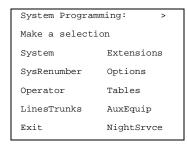
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Procedure: Analog Multiline Telephones at Data Stations

Console Display Instructions Additional Information

PC

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



Press More.

PgUp

▶ 2. Select Data.

System Programming:

Make a selection

Labeling Language

Data

Print

Cntr-Prg

Exit

F2

▶ 3 Select Voice/Data.

Data:

Make a selection

Voice/Data

F1

C

▶ 4. Enter the voice (odd-numbered) extension number of the pair (nnnn).

Data Voice/Data

Enter voice/data pair

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"

4 Programming Procedures

Data Features

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Assign or remove the voice/data pair.

Select Enter or
Delete.

F10

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 up to 128 Kbps 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 Station

Factory Setting None

Valid Entries Adjunct extension number up to four digits

Inspect Yes
Copy Option No

Console Procedure Data \rightarrow 2B Data \rightarrow Dial adjunct ext.

 $no. \rightarrow Enter \rightarrow Exit \rightarrow Exit$

PC Procedure $\boxed{F2} \rightarrow \boxed{F2} \rightarrow \boxed{Type adjunct ext. no.} \rightarrow \boxed{F10} \rightarrow \boxed{F5} \rightarrow \boxed{F5}$

Programming Procedures

Data Features

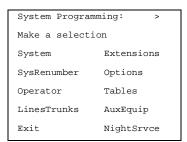
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Procedure: 2B Data

Console Display Instructions Additional Information

PC

■ 1. Go to the second screen of the system programming menu.



Press More.

PgUp

2. Select Data.

```
System Programming: >

Make a selection

Labeling Language

Data

Print

Cntr-Prg

Exit
```

F2

3. Select 2xB Data.

```
Data:
Please make a selection
Voice/Data
2xB Data

Exit
```

▶ 4. Enter the adjunct extension number of an MLX port [xxxx].

```
2xB Data/Video: >
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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4	Programming Procedures

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Additional Information PC **Console Display/Instructions**

Assign or remove the 2B data pair.

Select Enter or Delete.

Integrated Administration

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



This feature applies only to Release 2.0 or later of the communications system.

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.

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

Programming Procedures
Integrated Administration
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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



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.

 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.

Programming Procedures Integrated Administration

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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.

Table 4-7. Database Reconciliation Rules

Extension	annears	: ın	
	appound		

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	Extension is deleted from database and
	(regular extension)	removed as an AUDIX Voice Power or AUDIX Voice Power/FAX Attendant subscriber.
no	yes	Extension is retained as
	(special extension)	special-purpose extension in database.
yes	yes	Extension is converted from
	(special extension)	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.

Programming 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 <u>Chapter 3, "Common Administrative Procedures"</u>, for detailed information on 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" and "Restore" 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.

4 Programming Procedures Memory Card

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Figure 4-4 shows a sample Translation card.

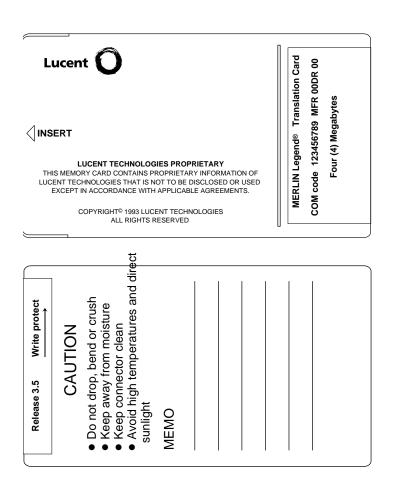


Figure 4-4. PCMCIA Memory Card

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.

4 Programming Procedures

Memory Card

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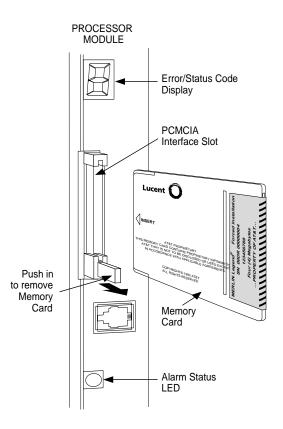


Figure 4-5. Inserting the Memory Card

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:

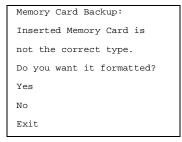
Formatting overwrites previous data on the memory card. Make certain that there is no important information on the card before you begin formatting.

4 Programming Procedures

Memory Card

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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.

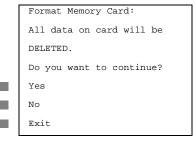


Only 4 MB Series I or Series II PCMCIA memory cards may be formatted, except those already formatted as translation cards.

If a memory card cannot be formatted, a message appears on screen. These messages are noted in the procedures as appropriate.

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.

Format Warning



This screen appears if you respond to the system prompt to format the memory card.

4 Programming Procedures

Memory Card

Page 4-371

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 <u>Chapter 1</u>, "<u>Programming Basics</u>" for detail about these keys.

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 <u>Chapter 3, "Common Administrative Procedures"</u>, 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

4 Programming Procedures

Memory Card

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Console Procedure Insert memory

 $card \rightarrow System \rightarrow Back/Restore \rightarrow Backup \rightarrow Select backup$

file→Dial the new backup

filename→Enter→Yes→Exit→Exit

PC Procedure Insert memory card→F1→F9→F1→Select backup

file→Type the new backup

 $filename \rightarrow F6 \rightarrow F1 \rightarrow F5 \rightarrow F5 \rightarrow F5$

Automatic Backup

Use this procedure to schedule automatic daily or weekly backups of your customized system data.

See <u>Chapter 3, "Common Administrative Procedures"</u>, 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

 \rightarrow Exit \rightarrow Exit

To program weekly backup:

Insert memory card→System→Back/Restore→
Auto Backup→Weekly→**Drop**→Dial day and time

 \rightarrow Enter \rightarrow Exit \rightarrow Exit

PC Procedure To program daily backup:

Insert memory card \rightarrow F1 \rightarrow F9 \rightarrow F2 \rightarrow Alt +

 $P \rightarrow Type time \rightarrow F10 \rightarrow F5 \rightarrow F5$

4 Programming Procedures Memory Card

Page 4-373

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 \rightarrow F5

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 (Inspect 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"</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

4 Programming Procedures

Memory Card

Page 4-374

Inspect Yes
Copy Option No

Console Procedure Insert memory

card→System→Back/Restore→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

▶ 1. Insert the memory card into the PCMCIA interface slot on the processor module.

▶ 2. Select the System menu.

Make a selection

System Extensions

SysRenumber Options

Operator Tables

LinesTrunks AuxEquip

Exit NightSrvce

F1

3. Select Back/Restore.

System:

Make a selection

Restart MaintenBusy

SProg Port Date

Mode Time

Board Renum Back/Restor

e

Exit

F9

Console Display/Instructions

Additional Information

PC

▶ 4. Select Restore.

Memory Card:

Make a selection

Backup Restore

Auto Backup

Memory Card Restore:

File is being validated.

4 Programming Procedures Memory Card

Page 4-376

F3

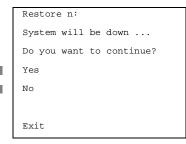
F2

Console Display/Instructions

Additional Information

PC

▶ 8. Respond to the prompt.



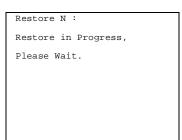
n = filename selected in Step 5

Select No to terminate the restore.

Go back to Step 5.

Select Yes to continue the restore.

▶ 9. Observe the restore progress screen.



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.

4 Programming Procedures

Memory Card

Page 4-377

Card Missing or Card Not Inserted Correctly

Memory Card Restore:

Verify that Memory Card

has been inserted

correctly.

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.

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") and repeat the restore procedure.

4 Programming Procedures

Memory Card

Page 4-378

Release Mismatch

Restore n:
File is Not Compatible
for Release X.Y
Restore Canceled.
Conversion Required.

n = filename selected X.Y = release number

This screen only appears if you are upgrading from Release 3.0 or higher and the releases are not compatible.

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.

Programming Procedures
Memory Card
Page 4-379

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" for information about the card labels.

Board Mismatch

```
Restore n:
Restore Failure
RESTORE IS CANCELED.
Board mismatch between
control unit and file.
Exit
```

n = filename selected

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.

4 Programming Procedures

Memory Card

Page 4-380

Strap in Place for Key Mode but Mode is Set to Hybrid

Restore n:
Restore Failure
RESTORE IS CANCELED.
Restore File Mode is
Hybrid/PBX. Control Unit
strap in place for KEY.
Exit

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.

5 Centralized Telephone Programming Introduction

Page 5-1

Centralized Telephone Programming



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.

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)

Centralized Telephone Programming
Access to Centralized Telephone Programming

Page 5-2

To perform centralized telephone programming, you can use the system programming console (see <u>Chapter 1</u>, "<u>Programming Basics</u>") or a PC with SPM software (see <u>Chapter 2</u>, "<u>Programming with SPM</u>").

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" 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 <u>"Idle States"</u> in <u>Chapter 1</u>.

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

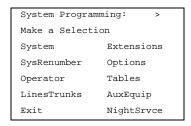
Additional Information

PC



CAUTION:

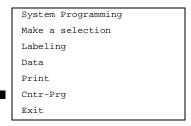
Go to the second screen of the System Programming menu.



Press More.

PgUp

■ 1. Select Centralized Programming.

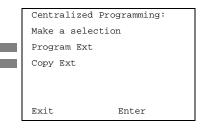


F4

5 Centralized Telephone Programming Program Extension

Page 5-3

2. Select a programming option.



Select Program Ext or Copy Ext.

F1

3. Go to the appropriate section.

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 "Using the List Feature Menu" for details about this option.

Program Extension

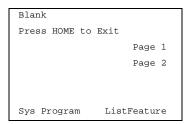
Review the items below before you begin to program extensions.

- UseTable 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).
 - Press the button again.

Centralized Telephone Programming Program Extension

Page 5-4

■ 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.

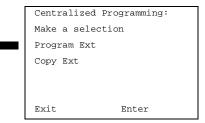
At the Centralized Programming menu, follow the procedure below to program features onto a single telephone.

Console Display/Instructions

Additional Information

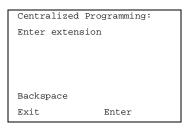
PC

Select Program Extension.



F1

▶ 2. Specify the extension you want to program.



SP: "Entering an Extension"

C

3. Save your entry.

Select Enter.

F10

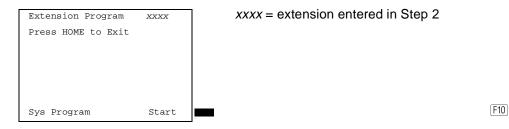
Centralized Telephone Programming Program Extension

Page 5-5

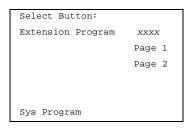
C

F7

4. Select Start.



▶ 5. Select the line button to which you want to assign the feature.

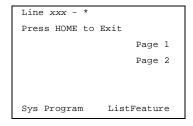


xxxx = extension entered in Step 2

Press the line button or function key that corresponds to your selection.

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
Select ListFeature and see <u>"Using the List Feature Menu"</u>.

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.

5 Centralized Telephone Programming
Program Extension Page 5-6

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	Code	Feature	Code
Account Code Entry	*82	Extension Status	
Alarm	*759	Direct-Line Console§	
Authorization Code	*80	Status Off	*760
Auto Answer All	*754	Status 1	*761
Auto Answer	*753	Status 2	*762
Auto Dial		Telephones	
Inside (ext., group, zone)	*22 + ext. no. + Enter	Status 1	*45
Outside	*21 + <i>tel. no</i> . + Enter	Status 2	*44
Automatic Line		Feature Button	*20
Selection		Forward	*33
Enter	*14	Group Calling	
Exit	**14	In-queue alarm button	*22 + group no. + Enter
Barge-In†§	*58	Calling group supervisor	
Callback		Available (ES2)	*762
Automatic		Unavailable	*760
On	*12	Calling Group Members	
Off	**12	Sign-in (available)	*44
Selective	*55	After work call state	*45
Call Waiting		Group Page	*22 + group no. + Enter
On	*11	Headset*	
Off	**11	Auto Answer	*780
Camp-On	¹ 57	Hang Up ²	*781
Conference	*722	Mute	*783
Coverage		Status	*782
Receiver Buttons		Last Number Dial	*84
Primary	*40 + <i>ext. no</i> . ³ Enter	Messaging	
Secondary	*41 + ext. no. + Enter	Leave Message	*25

Table 5-1. Telephone Programming Codes

Feature	Code	Feature	Code
Group	*42 + group no. + Enter	Message LED Off	*54
Sender Buttons		Posted Message	*751
Cover in/outside calls	*48	Send/Remove Message§	*38
Cover outside calls only	**48	Receiving Messages	
Coverage Off	*49	Delete Message +	*26
VMS Off	*46	Next Message+	*28
Data Status	*83 + ext. no. + Enter	Return Call+	*27
Direct Voice Mail	*56	Scroll Message+	*29
Do Not Disturb	*47	Night Service ⁴	*39
Notify			All Lines
Send	*757 + ext. no. +		Immediate Ring
Receive	*758 + ext. no. +		Delay Ring
Park	*86		No Ring
Park Zone Auto Dial§	*22 + Park Zone		Abbreviated Ring
Personal Speed Dial	# + (01–24) + *21 + tel. no.		On
Personalized Ring	*32 + ring. no. (1–8)		Off
Pickup			Send Ring (Shared SA)
General use	*9		On
Specific ext.	*9 + ext. no. + Enter		Off
Specific line	*9 + <i>line no</i> . + Enter		Saved Number Dial
Group	*88		Send/Remove
Position Busy§	*750		Message§
Privacy	*31		Signaling
Recall	*775		System Access
Reminder Service			Intercom/Buttons
Set	*81		Assign Buttons †
Cancel	**81		Ring
Missed	*752		Originate Only

5 Centralized Telephone Programming Program Extension

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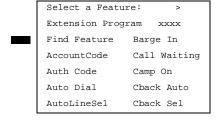
Table 5-1. Telephone Programming Codes

Feature	Code	Feature	Code
Ringing Idle Line			Shared System
			Access
Preference			
On	*343		Change Type of
			Button
Off	*344		Ring
Ringing Options			Voice
Ring Timing			System Speed
Individual Lines			
Immediate Ring	*37		Dial
Delay Ring	*36		Transfer
No Ring	*35		Voice Announce
			On
			Off

- 1. MLX telephones only.
- 2. Centralized telephone programming only.
- 3. Analog display telephone only. MLX display telephones use display instead of programmed buttons.
- 4. System operator only.

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 0), the first screen of features appears as shown below.



xxxx = previously entered extension

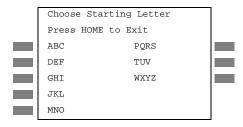
F1

There are four feature option screens. Press **More** to move through the screens. Press the button or function key that corresponds to your selection.

Centralized Telephone Programming Copy Extension

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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.

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	Х		
Authorization Code ¹	X		
Auto Answer All		Х	
Auto Answer Intercom		Х	

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Copy Extension

 Table 5-2.
 Features That Can Be Copied: All Telephones

Auto Dial Inside	Х		
Auto Dial Outside*	X		
Barge-In	X		
Callback-Selective	X		
Camp-On	X		
Conference ²	X		
Coverage Off	Х		
Coverage VMS Off	X		
Data Status	Х		
Direct Voice Mail	Х		
Do Not Disturb	Х		
Drop**	Х		
Extension Status 2 (ES2) (Non-operator)	Х		
Extension Status 1 (ES1) (Non-operator)	Х		
Feature Button		Х	
Forward	Х		
Group Calling	X		
Group Page	X		
Headset Auto Answer			Х
Headset Hang Up			Х
Headset Status			Х
Headset/Handset Mute			Х
Last Number Dial*	X		
Delete Message		Х	
Leave Message	Х		
Message Light Off	Х		
Next Message		Х	
Posted Message	X		
Return Call		Х	
Scroll		Х	
Park	X		
Pickup: Group	Х		
Pickup: General	X		
Pickup: Extension	X		

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Table 5-2. Features That Can Be Copied: All Telephones

Pickup: Line	X	
Privacy	Х	
Recall	Х	
Reminder Service: Set	Х	
Reminder Service: Cancel	Х	
Saved Number Dial*	Х	
Signaling	Х	
SA/ICOM Ring ³	X	
SA/ICOM Voice†	X	
SA/ICOM Originate Only†	Х	
System Speed Dial	X	
Transfer**	X	

^{1.} Number is not copied.

<u>Table 5-3</u> shows the operator features than can be copied for operator consoles. QCC features cannot be copied.

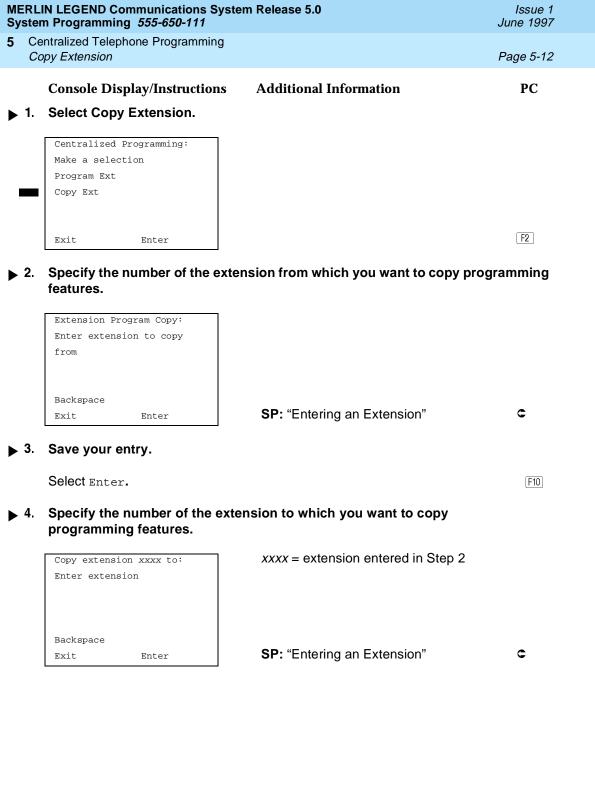
Table 5-3. Features That Can Be Copied: Direct-Line Consoles Only

Feature	Analog Direct-Line Console (DLC)	MLX Direct-Line Console (DLC)
Alarm	X	Х
Extension Status Off	X	Х
Extension Status 1	X	X
Extension Status 2	X	X
Missed Reminder	X	X
Night Service	X	X
Operator Park	X	X
Send/Remove Message	X	Х

Use the procedure below to copy programming from one extension to another.

^{2.} Behind Switch mode only.

^{3.} Ringing options (No Ring, Delay Ring, and Immediate Ring) are copied with the button.



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▶ 5. Continue to copy line assignments from the copy extension shown to another extension or go to Step 7.

Select Enter or Select Next.



F9

Use Enter to continue to copy line assignments from the extension currently displayed on Line 1 to additional extensions.

Use Next if the extension numbers to be copied to are sequential. Select Enter (F10) after completing programming.

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.

Centralized Telephone Programming Feature Quick Reference

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Feature Quick Reference

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 User and System Manager

Programming Code *82

Display Label AccountCode

Alarm

Assign a button to alert the operator to system problems.

Summary: Alarm

Telephones DLC operator only

Mode All

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 User and System Manager

Programming Code *80

Display Label Auth Code

Auto Answer All

Assign a button to direct calls to an answering device when the user is not available.

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Summary: Auto Answer All

Feature Quick Reference

Telephones Analog multiline only

Mode ΑII

Centralized Telephone Programming

Programmable by User 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 ΑII

Programmable by User and System Manager

Programming Code *753

AutoAnsIcom Display Label

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 ΑII

Programmable by User and System Manager

Programming Code Inside: *22 + ext. no. + Enter

Outside: *21 + telephone no. + Enter

Display Label Auto Dial Inside/Outside

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Automatic Line Selection

Select the order in which the system makes outside lines available to the user.



NOTE:

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 User 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

Mode ΑII

System Manager only Programmable by

Programming Code *58

Display Label Barge In

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 Signal Reliability," in Chapter 4, "Programming Procedures".

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Centralized Telephone Programming Feature Quick Reference

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Summary: Automatic Callback

Telephones All Mode All

Programmable by User and System Manager

Programming Code On: *12

Off: **12

Display Label Cback Auto On/Off

Summary: Selective Callback

Telephones All Mode All

Programmable by User and System Manager

Programming Code *55

Display Label Cback Sel

Call Waiting

With Call Waiting turned on, a user on a call will know that another call is waiting. User hears one beep for a waiting inside call, two for an outside call.

Summary: Call Waiting

Telephones All Mode All

Programmable by User and System Manager

Programming Code On: *11

Off: **11

Display Label CallWaiting On/Off

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 All

Programmable by User and System Manager

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Programming Code *57

Centralized Telephone Programming

Feature Quick Reference

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 User and System Manager

Programming Code *772

Display Label Conference

Coverage

Assign a button to establish Coverage; senders' calls are covered by receivers.

Summary: Receiver Buttons-Primary, Secondary, Group

This procedure assigns primary, secondary, or group coverage receivers.

Telephones All (except QCC)

Mode ΑII

Programmable by User 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 ΑII

Programmable by User and System Manager

Programming Code In/Outside Calls: *48

Outside Calls Only: **48

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Display Label CoverInside, On/Off

Summary: Sender Buttons, Coverage Off

Feature Quick Reference

This procedure turns off all Coverage.

Telephones Analog multiline and MLX telephones

(except QCC)

Mode ΑII

Programmable by User and System Manager

Programming Code *49

Display Label Coverage Off

Summary: Coverage VMS Off

This procedure prevents outside calls from being sent to voice mail.

Telephones Analog multiline and MLX telephones

(except QCC)

Mode ΑII

Programmable by User 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

All (except QCC) Telephones

Mode ΑII

Programmable by User 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.

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Summary: Direct Voice Mail

Telephones All Mode All

Programmable by User and System Manager

Programming Code *56

Display Label Direct VoiceMail

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 User 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 User and System Manager

Programming Code *773

Display Label Drop

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).

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Summary: DLC Extension Status

Feature Quick Reference

Telephones DLCs only

Mode ΑII

Programmable by System Manager

Programming Code Off: *760

ES1: *761 ES2: *762

Display Label OperatorES, ESOff/ES1/ES2

Summary: Telephone Extension Status 1 and 2

Telephones Single-line, analog multiline, MLX telephones

Mode ΑII

Programmable by User 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 ΑII

Programmable by User and System Manager

Programming Code *20

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 ΑII

Programmable by User and System Manager

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Programming Code *33

Feature Quick Reference

Display Label Forward

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.

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Summary: Calls-In-Queue Alarm Button

Telephones Analog multiline and MLX telephones

Mode ΑII

Programmable by User 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 ΑII

Programmable by User and System Manager

Programming Code ES2, Available: *762

ES Off, Unavailable: *760

Display Label OperatorES, ES2/ES Off

Summary: Calling Group Members

Telephones Single-line, analog multiline, MLX telephones

Mode ΑII

Programmable by User and System Manager

Programming Code Sign-in, Available: *44

After-Call Work State, MS only: *45

Display Label ES Status, ES2/ES1

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.

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Summary: Group Page Auto Dial button

Feature Quick Reference

Telephones Analog multiline and MLX telephones

Mode ΑII

Programmable by User 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 ΑII

Programmable by User 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 ΑII

Programmable by System Manager only

Programming Code *781

Display Label Hdset Hang Up

Summary: Headset Mute

Assign a button to turn microphone operation on or off for both headset and handset.

Telephones MLX telephones only

Mode ΑII

Programmable by User and System Manager

Programming Code *783

Display Label Hdset Mute

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Summary: Headset Status

Feature Quick Reference

Assign a button to activate headset operation.

Telephones MLX telephones only

Mode A

Programmable by User 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 User and System Manager

Programming Code *84

Display Label LastNumDial

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 User 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 User and System Manager

Programming Code *54

Display Label none

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Summary: Posted Message

Telephones Analog multiline and MLX telephones

Mode All

Programmable by User and System Manager

Programming Code *751

Display Label Posted Msg

Summary: Send/Remove Message

Telephones DLC operator only

Mode All

Programmable by User and System Manager

Programming Code *38

Display Label Send/RmvMsg

Summary: Receiving Messages-Delete

Telephones Analog multiline display only

Mode All

Programmable by User and System Manager

Programming Code *26

Display Label Messages Delete Msg

Summary: Receiving Messages-Next

Telephones Analog multiline display only

Mode All

Programmable by User 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 User and System Manager

Programming Code *27

Display Label Return Call

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Summary: Receiving Messages-Scroll

Feature Quick Reference

Telephones Analog multiline display only

Mode All

Programmable by User and System Manager

Programming Code *29

Display Label Scroll Msg

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 *39

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 User 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.

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Summary: Park

Telephones All (except single-line telephones in Behind Switch mode)

Mode ΑII

Centralized Telephone Programming

Feature Quick Reference

Programmable by User and System Manager

Programming Code *86 Display Label Park

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 ΑII

Programmable by User 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 ΑII

Programmable by User and System Manager

Programming Code # + (01 to 24) + *21 + tel. no. + # + Enter

Display Label SysSpeedD1

Pickup

Assign buttons to allow users to answer calls that are ringing, parked, or on hold anywhere in the system.

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Centralized Telephone Programming
Feature Quick Reference

Summary: Pickup-General Use, Specific Extension, Specific Line

Telephones All

Mode All

Programmable by User and System Manager

Programming Code General: *9

Specific line or ext.: *9 + line no./ext. no. + Enter

Group: *88

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 User 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 User and System Manager

Programming Code *775

Display Label Recall

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.

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Summary: Set, Cancel, or Missed Reminder Service

Telephones ΑII

Centralized Telephone Programming

Feature Quick Reference

Mode ΑII

Programmable by User 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

ΑII Mode

Programmable by User and System Manager

Programming Code On: *343

Off: *344

Display Label Line Prefer, On/Off

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 User and System Manager

Programming Code *32 + ring pattern (1 to 8)

Display Label Personal Ring Pattern #n

Summary: Ring Timing Options

Use this procedure to establish whether and how the individual lines or all lines ring at a telephone.

Telephones Analog multiline and MLX telephones

Mode ΑII

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Programmable by User 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

Feature Quick Reference

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.

Telephones Analog multiline and MLX telephones

Mode All

Programmable by User 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 All

Mode Hybrid/PBX

Programmable by User and System Manager

Programming Code On: *15

Off: **15

Display Label Shared SA Ring On/Off

Saved Number Dial

Assign a button to selectively save the last number dialed and call that number again without manually redialing.

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Feature Quick Reference

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Summary: Saved Number Dial

Telephones Analog multiline and MLX telephones

Mode All

Programmable by User 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 User 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 User and System Manager

Programming Code *23 + ext. no. + Enter

Display Label Signal

System Access/Intercom Buttons

Assign Intercom or System Access buttons on telephones.

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Feature Quick Reference

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Summary: Assign System Access/Intercom Buttons

Telephones All

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: *16

Assign Originate Only button: *18

Display Label SysAccess/SysAcc-00

Summary: Assign Shared System Access Buttons

Telephones All

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 All

Mode Intercom buttons:

Key, Behind Switch

System Access buttons:

Hybrid/PBX

Programmable by User and System Manager

Programming Code Ring: **19

Voice: *19

Display Label Voice Annce, Place Ring/Voice

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System Speed Dial

Feature Quick Reference

Assign a button to dial any 3-digit speed dial code.

Summary: System Speed Dial

Telephones All Mode All

Programmable by User and System Manager

Programming Code *24 + 3-digit code (600-729) + Enter

Display Label SysSpeedDl

Transfer

Assign a button to access the host system Transfer feature.

Summary: Transfer

Telephones Analog multiline and MLX telephones

Mode Behind Switch

Programmable by User 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 User and System Manager

Programming Code On: *10

Off: **10

Display Label Voice Annce Receive On/Off

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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.

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A Customer Support Information
Canadian Department of Communications (DOC) Interference 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 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.
 - If there are no directly terminated trunks, or if the only directly terminated facilities are personal lines, report the number AS5USA-65646-PF-E.

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Installation and Operational Procedures

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- □ 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).

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

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Installation and Operational Procedures

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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

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

Communications System 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.

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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.

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

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Renseignements sur la notification du ministère des Communications du Canada

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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.

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.

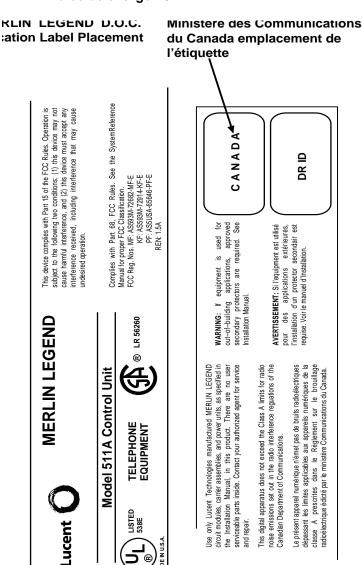
AVERTISSEMENT: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

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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



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 is 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 an unpublished 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 drop-off 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.

MERLIN LEGEND Communications System Release 5.0 System Programming 555-650-111

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Toll Fraud Prevention

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June 1997

Issue 1

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 a 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 a 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.
- Any time a call appears to be suspicious, call the Lucent Technologies BCS Fraud Intervention Center at 1 800 628-2888 (fraud intervention for System 25, PARTNER® and MERLIN systems).

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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 9 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.



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 Communications System voice mail port extension numbers. 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 9.



SECURITY ALERT:

The MERLIN LEGEND Communications 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 ong-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

In Release 3.1 and later systems, default local and default toll tables are factory-assigned an FRL of 2. This simplifies the task of

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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 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.
- 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.

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 be used securely only when the central office provides "reliable disconnect" (sometimes referred to as forward disconnect or disconnect supervision), which guarantees that the central office does 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 does 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 are 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.

NOTE:

In most cases these are loop-start lines/trunks without reliable disconnect. The local telephone company must be involved in order 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 be necessary in

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the MERLIN LEGEND Communications System. The MERLIN MAIL MERLIN 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 Communications System permits a maximum of 16 barrier codes.
- 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 Communications System 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.

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Other Security Hints

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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.
- 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.

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Other Security Hints

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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

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.

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Other Security Hints

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- 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 Communications System 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 Communications 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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Other Security Hints Page A-18

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 butto

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 2-port system, port 4 on a 4-port system, ports 5 and 6 on a 6-port system; for MERLIN LEGEND MAIL Voice Messaging Systems, port 7 of the system's module). 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 a 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 communications 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's negligence, Lucent Technologies's 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, or 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.

To reduce the risk of unauthorized access through Remote Administration and Maintenance, please observe the following procedures:

A Customer Support Information
Remote Administration and Maintenance

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- 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.
 - Give the password only 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. Give it only 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 transferring only authorized individuals to that extension.

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Issue 1

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 data-entry 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.

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B Menu Hierarchy

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Page C-1

C LED Displays LED Status

LED Displays



LED Status

<u>Table C-1</u> 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.

C LED Displays LED Status

Page C-2

Table C-1. Line or Trunk Feature Status

System Programming				LED	Status*			
Menu			Green LED			Red LED		
Option	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.

C LED Displays LED Status

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Table C-2. Telephone Feature Status for DSS Console Only

System Programming Menu			Red LEI	D Status	
Menu Option	Option	ON	OFF FLASHIN		WINK
Extensions	Account (FACE)	Forced Account Code Entry assigned	Forced Account Code Entry not assigned†		
Extensions	BIS/HFAI	Telephone has BIS/HFAI capability (factory setting for 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 a remote telephone number	Telephone cannot transfer calls to a remote telephone number†		

This is the factory setting.

Continued on next page

C LED Displays LED Status

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Table C-2, Continued

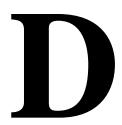
System Programming Menu			Red LE	D Status	
Option	Option	ON	OFF	FLASHING	WINK
Night Service	Group Assign	Telephone is in group	Telephone is not in group†		
Night Service	Exclude List	Telephone is excluded	Telephone is not excluded†		
Aux Equip	Msg Waiting	Station is a fax message-waiting station	Station is not a fax message-waiting station		
Aux Equip	Fax Extension	Extension is a fax machine	Extension is not a fax machine		
Tables	AllowTo	Allowed List assigned to telephone	Allowed List is not assigned to telephone†		
Tables	DisallowTo	Disallowed list assigned to telephone	Disallowed list is not assigned to telephone†		
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 Threshold 3	Other	Position receives In-Queue Alert for Threshold 1	Position receives In-Queue Alert for Threshold 2
Operator	Call Types- Dial 0, LDN Unassigned DID, Grp	Position receives call type	Other	Position can receive call type	

† 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" D-1

"Feature Table" D-3

"Telephone Programming" D-12

General Feature Use Information

The following provides general instructions for feature use on MLX, analog multiline, and single-line telephones. Features can be used in the following ways:

- By pressing a dedicated Feature button
- By pressing a programmed button
- By dialing a feature code
- By selecting the feature from the display (MLX display telephones only)

Dedicated Feature Buttons

All multiline telephones have a group of dedicated feature buttons that are programmed and labeled at the factory. The functions of these buttons, which include Conference, Transfer, and Speaker, cannot be changed. Press the button for the feature you want to use.

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 more information on programming features onto line buttons.

D General Feature Use and Telephone Programming General Feature Use Information

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Some features, such as Auto Dial, must be programmed onto line buttons in order to use them. 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
- 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
- Signaling

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; 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.

NOTE:

Queued Call Console (QCC) system operators cannot use feature codes.

The following features can be used only by dialing feature codes:

Call Pickup

D General Feature Use and Telephone Programming Feature Table

Page D-3

- Forward/Follow Me—Cancel One
- Forward/Follow Me—Cancel All
- Message Cancel
- Personal Speed Dial
- System Speed Dial



Pressing the Conference, 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.

Feature Table

<u>Table D-1</u> lists the telephone and operator features that can be assigned to telephones or consoles through Centralized Telephone Programming or by users from their telephones.

D General Feature Use and Telephone Programming Feature Table

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Table D-1. Telephone and Operator Features

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX-1 0D/5D	MLX-2 8D	MLX- 20L			Analog Multi.
Account Code Entry	*82	82 + code	Acct	AccountCode	KPB	KPB	KPB	ΚP	KPB	KPB
Alarm [*]	*759		Alarm	Alarm		KPB	KPB			KPB
Alarm Clock			AlClk	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	КРВ	KPB	KPB	KPB		KPB
Outside	*21 + tel. no.		Out	Outside						
Automatic Line Selection Begin Sequence End Sequence	*14 **14				КРВ	KPB	KPB	KPB	KPB	KPB
Barge-In ^{*†}	*58		Barge	Barge In	KPB	KPB	KPB	KPB		KPB
Callback Automatic On Off Selective Cancel selective	*12 **12 *55	55 *55	CbckA On Off CbckS	Cback Auto On Off Cback Sel	KPB	KPB	KPB	KPB	KPB	KPB
Camp-On	*57	57	Camp	Camp On	КРВ	KPB	KPB	KPB		KPB
 * System operator feature only † Centralized telephone programming only 										
Call Waiting On Off Call Waiting Pickup	*11 **11	87	CWait On Off	CallWaiting On Off	КРВ	КРВ	КРВ	KPB	КРВ	KPB
Conference	*772	772	Conf	Conference	В	В	В	В		В
Contrast			Ctrst		KPB	KPB	KPB	_		KPB

D General Feature Use and Telephone Programming Feature Table

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX-1 0D/5D	MLX-2 8D	MLX- 20L		Single . - Line	
Coverage Cover inside and outside calls	*48		Cover CvIns, On	Coverage CoverInside , On CoverInside	KPB	KPB	KPB	KPB	KPB KPB	KPB
Cover outside calls only Receiver buttons	*42 + ext. no. *40 + ext. no.		Off Group Prmry	, Off Group Primary Secondary	KPB	K P B K P B K P B	KPB	KPB		K P B K P B K P B
Group Primary Secondary Sender buttons Coverage Off Coverage VMS Off	*41 + ext. no. *49 *46		Secnd Cvoff	CoverageOff		KPB KPB				KPB KPB
Data Status	*83 + ext. no.				KPB	KPB	KPB	KPB		KPB
Direct Voice Mail	* 56	56	DrcVM	Direct VM	ΚP	ΚP	ΚP	ΚP	ΚP	ΚP
Directories Extension Directory Personal Directory System Directory	(display only) (display only) (sys. prog.)		Directory Ext Dir Personal Dir System Dir		KPB KPB	KPB			
Do Not Disturb	*47		DND	DoNotDistrb	КРВ	KPB	KPB	KPB		KPB
Drop	*773	773	Drop	Drop	В	В	В	В		В
Extension Status Direct-Line Console* Status Off	*760 *761	760 + DSS button 761 + DSS button	ESOff	OperatorES, ESOff OperatorES,		КРВ	KPB			КРВ
Status 1 Status 2 Telephones (rooms or	*762	762 + DSS button	OPES, ES1 OPES, ES2	ES1 OperatorES, ES2	KPB	KPB	КРВ	КРВ	KPB	KPB
agents) Status Off Status 1 Status 2	*45 *44	45 44	ES, ES1 ES, ES2	ES Status, ES1 ES Status, ES2						
Feature Button	*20			Feature Btn						KPB

D General Feature Use and Telephone Programming Feature Table

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX-1 0D/5D		MLX- 20L			Analog Multi.
Forward and Follow Me					KPB	KPB	KPB	KPB	KPB	KPB
Activate	*33	33 + ext .		Forward						
Forward (inside)	*33	no. 33 + tel no	Forwd	Forward						
Remote		33 T (GI 110	FlwMe	Follow Me						
Call		34 + ext .								
Forward		no.								
(outside)										
Follow Me Cancel		33 + your ext. no.		CanclFollow						
cancel		*34 + ext.		(QCC only) CanclFollow						
sending		no.		(QCC only)						
from your				(GCC omy)						
telephone		*34*								
cancel										
sending from one										
extension										
cancel										
sending										
	em operato	r feature on	nly							
Group Calling In-Queue Alarm button			GrpCl	Group Call	KPB	КРВ	KPB	KPB		KPB
Calling group										
supervisor	no.	32 + Hold	1			KPB	KPB			KPB
Enter supervisor		32 + 1101u								
mode [*]		32 + Drop)							
supervisor		762 + DSS	OPES,	OperatorES,						
mode [*]		bt.	ES2	ES2						
Available	*762	D00								
(ES Status	+760	760 + DSS bt.		OperatorES,	K D D	K D D	K D D	K D D	K D D	K D D
2) Unavailable	*760	Di.	ESOff	ES Off	KPD	KPB	KPB	KPD	KPB	KPD
(ES Status										
Off)				Status, ES2						
Calling group	*44	44	ES	ES Status,						
members		*44	ES,Off	ES Off						
Sign in	+ 4 5	4.5	BO BO1	ES Status,						
(Available)	*45	45	ES,ES1	ES1						
Group Page Auto Dial Button	paging paging group ext. no.		GrpPg	Group Page	КРВ	KPB	KPB	KPB		

D General Feature Use and Telephone Programming Feature Table

Last Number Dial *84

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KPB

		Feature	2-Line	7-Line						Analog
Feature	Prog Code	Code	Display	Display	0D/5D	8D	20L	10/5	- Line	Multi.
Headset Options	3		Hdset	Hdset	KPB	KPB	KPB	KPB		
Auto Answer	*780		Auto	Auto Answer						
Hang Up [†]	*781			Hang Up						
Mute	*783		Mute	Mute						
(Headset/Ha										
ndset)	*782		Stat	Status						
Status										
Hold		771			В	В	В	В		В
Hold release		* *			В	В	В	В	В	В
* Svst	em operato	r feature or	nlv							
	tralized tele		•	only						
- 0611	tranzeu tele	priorie prog	lamining	Offig						
Intercom buttons	3				KΒ	KΒ	KΒ	KΒ		KΒ
Assign _*										
buttons	*16			SysAccess					KΒ	
ICOM (Defectly	+10			G 7 00					IZ D	
(Default	*18			SysAcc-00					ΚB	
Ring) ICOM										
Originate	**19		Voice	Voice Annce,						
Only	17			Place, Ring						
Change	*19		Ring	Voice Annce,						
button type			Voice,							
Ring			Place,							
Ü			Voice							
Voice										
Language					KPB	KPB	KPB	KPB		
Choice		790								
English		791								
French		792								
Spanish										

Last#* LastNumDial KPB KPB KPB KP

D General Feature Use and Telephone Programming Feature Table

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX-1 0D/5D		MLX- 20L		Single - Line	Analog Multi.
Messaging Leave	*25		Msgs	Messages	KPB	KPB	KPB	KPB	KPB	KPB
Message After calling Without	454	25 53 + ext no.	LvMsg	Msg Leave						
calling Cancel msg. left	*54 *751 *38	*53 + ext no. 54	Post SdMsg	Posted Msg Send/RmvMsg		K P B K P B				KPB KPB
Message LED off Posted	*26 *28	38 + ext no.	Msgs Dlete Next	Messages Delete Msg Next Msg		KPB KPB KPB				KPB KPB KPB
Message Send/Remove	*27	26	Call	Return Call		KPB				KPB KPB
Msg [†] Receiving messages Delete Message [‡]		28 27 29								
Next Message [‡] Return Call [‡] Scroll [‡]										
† Syste ‡ Disp		r feature or nes only. P	nly	only	codes a	re used	with ar	nalog m	nultiline	
Night Service*	hones only	39	Night	Night Srvc		KPB	KPB			KPB
Notify Send	*757 + ext. no.		Ntfy Send	Notify Send	KPB	KPB	KPB	KPB		KPB
Receive	*758 + ext. no.		Recv	Receive						
Paging Group Paging Loudspeaker Paging	l		GrpPg LdsPg	Group Page Loudspkr Pg	KPB	KPB	KPB	KPB		КРВ
Park	*86		Park	Park	KPB	KPB	KPB	KPB	ΚP	KPB
Park Zone Auto Dial [*]	*22 + park zone		PrkZn	Park Zone		KPB	KPB			KPB
Personal Speed Dial	# + (01-24) + *21 + tel no. + ##		PSpdDl	PersSpeedDl	КРВ			КРВ	ΚP	КРВ
Personalized Ringing	*32 + ring (1–8)		Pat #1	PersonalRng , *Pattern #1 Pattern #8	KPB	KPB	KPB	KPB		KPB

D General Feature Use and Telephone Programming Feature Table

Feature	Prog Code	Feature Code		7-Line Display	MLX-1 0D/5D	MLX-2 8D	MLX- 20L		Single - Line	Analog Multi.
Pickup General use Specific extension Specific line Group	*9 *9 + ext. no. *9 + line no. *88	9 + ext. no. 9 + line no. 88	Pkup Genrl Ext Line PkupG	Pickup General Extension Line PickupGroup	КРВ	KPB	КРВ	КРВ	ΚP	KPB
Privacy On Off	*31	31 *31	Prvcy	Privacy	КРВ	KPB	KPB	KPB	ΚP	KPB
Recall	*775	775	Recll	Recall	KPB	KPB	KPB	KPB		KPB
* Syst	em operato	r feature or	nly							
Reminder Service Set* Operator Set*†	*81	81 + time + A or P 81 + ext. no.+ time + A or P		Reminder Set	КРВ	KPB	KPB	KPB	KPB	KPB
	**81	*81 *81 + ext .	Cancl	Cancel						
Cancel Operator Cancel [†] Missed [†]	*752	no.	Missd	Missed						
Ringing/Idle Line					KPB	KPB	KPB	KPB		KPB
On	*343 *344		LnPrf, On	Line Preference, On						
Oil	J 1 1		LnPrf, Off							

D General Feature Use and Telephone Programming Feature Table

Feature	Prog Code	Feature Code	2-Line Display	7-Line Display	MLX-1 0D/5D	MLX-2 8D	MLX- 20L			Analog Multi.
Ringing Options Individual lines Immediate	*37 *36		RngOp 1Line Immed Delay	RingOptions One Line Immed Ring Delay Ring	КРВ	KPB	KPB	KPB		KPB
ring Delay ring No ring All lines	*35 *347 *346		No AllLn Immed Delay	No Ring All Lines Immed Ring Delay Ring	KPB	KPB	KPB	KPB		KPB
Immediate ring Delay ring No ring	*345 *341 *342		No Abbrv On Off	No Ring Abbreviated On Off		KPB				КРВ
Abbreviated ring On Off Send Ring (Shared SA) On	*15 **15		ShRng On Off	SharedSARng On Off	Р	Р	Р	Р	Р	Р
(000	0 - 2359).			259) + 2 (A) or	7 (₽); Fro	ench ar	ıd Spar	nish: tim	ne is 24	-hour
	em operato	r feature or								
Saved Number Dial	*85		Save#	SaveNumDial	КРВ	КРВ	крв	КРВ		КРВ
Send/Remove Message [*]	*38	38 + ext. no.	SdMsg	Send/RmvMsg		KPB	KPB			KPB
Signal (manual)	*23 + ext. no.		Signl	Signal	KPB	KPB	KPB	KPB		KPB
System Access buttons					Р	Р	Р	Р		Р
Assign buttons† SA (Default Ring) SA Originate Only Shared SA	primary			SysAccess SysAcc-00 ShareSysAcc					P P P	
Change type (SA or Shared SA) Ring Voice	**19 *19									
System Speed Dial	*24 + cod 6 (600–729)	9 600-729	SpdDl	SysSpeedDl	KPB	KPB	KPB	KPB	ΚP	KPB
Timer			Timer	Timer	KPB	KPB	KPB	KPB		KPB
Transfer	*774	774	Trans	Transfer	В	В	В	В		В

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D General Feature Use and Telephone Programming *Feature Table*

Feature	Feature Prog Code Code	2-Line Display	7-Line Display	MLX-1 0D/5D	MLX-2 8D	MLX- 20L		Single Analog - Line Multi.
Voice Anno to Busy	ounce	Voice Place Recv	Voice Annce Place Receive	KPB	KPB	KPB	KPB	КРВ
On Off	*10 **10	On Off	On Off					
* †	System operator feature only Centralized telephone programming only							

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. Since 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 phones by selecting features from the display. An analog multiline telephone 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.
- On MLX-10 telephones, press the Feature button and dial 00.
- On MLX display telephones, use the same procedures as the MLX-10 or enter programming mode by selecting Ext Program from the menu screen on the display.

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-4 list the basic steps for programming each telephone type.

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 will not be programmed onto a button.	Remove the clear label cover from the telephone by inserting the end of a paper clip in the notch at the top of the cover.
	not be programmed onto a button.	 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
3	Select the feature.	telephone to P. Press the button you labeled. If you have a display, 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.
4	End programming.	The feature is programmed.Slide the T/P switch to the center position.

D General Feature Use and Telephone Programming *Telephone Programming*

Page D-14

Table D-3. Programming MLX 10 Telephones

Step		Action
1	Label the button. 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 Feature button and then dial 00.
3	Select the feature.	 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 Feature button and dial *00.

D General Feature Use and Telephone Programming *Telephone Programming*

Page D-15

Table D-4. Programming MLX Display 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.
2		Replace the cover.Press Menu.
		■ Select Ext Program from the display.
3	Identify the button to be programmed.	 Select Start from the display. 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 feature currently programmed on the button:	Select Delete from the display. The button is now blank.
		Press the button you labeled again to continue programming.
		If the currently programmed feature was not deleted from the button, the new feature programmed onto it will replace it.

Continued on next page

D General Feature Use and Telephone Programming *Telephone Programming*

Page D-16

Table D-4, Continued

Step			Action			
4	To continue programming: Select the feature. If the feature name is on the display:	•	Select List Feature from the display. The screen lists feature names in alphabetical order. 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	•	Select Find Feature from the display.			
	page by page, or To jump to the screen that displays the feature name.	Select the range of letters from the display that corresponds to the first lette of the feature name (for example, if the feature begins with A, select ABC).				
			If the feature is not displayed on the page that you jumped to, press More.			
5	Respond to any additional prompts on the display.		When you find the feature you want, press the button next to or below it. Select appropriate prompt (for example, select on or off 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: To return to the Menu screen:		Press Home or lift and replace the handset. Press Menu.			

MLX display telephones can also be programmed using the method described for MLX-10 telephones. For example, the programming mode can be entered by pressing the Feature button and dialing 00, then referring to the display to continue the programming process. Or, enter programming through the display and then dial a programming code to select the feature rather than selecting it from the display.

E Button Diagrams

Page E-1

Button Diagrams



This appendix contains the button diagrams for Hybrid/PBX, Key, and Behind Switch systems.

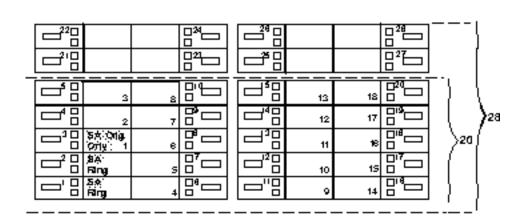


Figure E-1. MLX-20L and MLX-28D Telephone Button Diagram (Hybrid/PBX Mode)

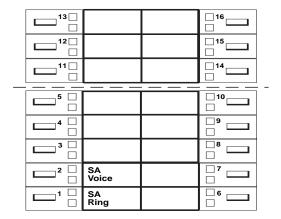


Figure E-2. MLX-16DP Telephone Button Diagram (Hybrid/PBX Mode)

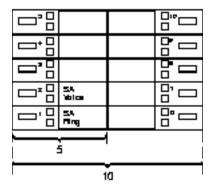


Figure E-3. MLX 5- and 10-Button Telephone Button Diagram (Hybrid/PBX Mode)

E Button Diagrams

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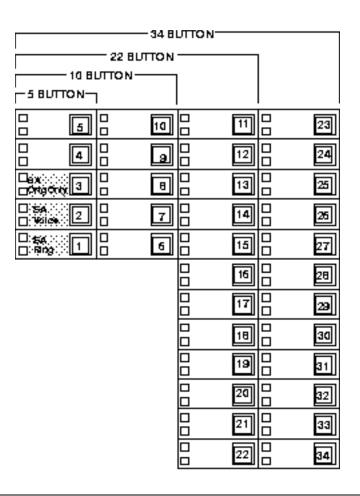


Figure E-4. Analog Multiline Telephone Button Diagram (Hybrid/PBX Mode)

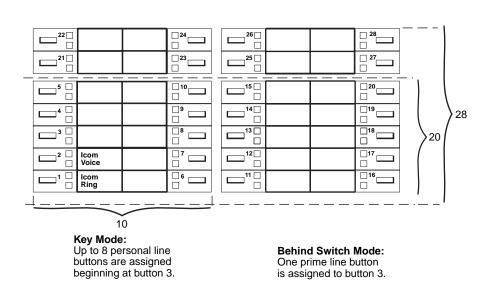
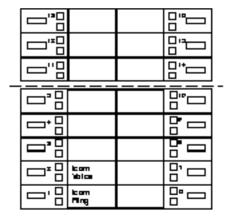


Figure E-5. MLX-20L and MLX-28D Telephone Button Diagram (Key and Behind Switch Modes)

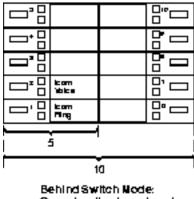


Key Node:

Up to 8 personal line buttons are assigned beginning at button 3. Behind Switch Mode: One prime line button is assigned to button 3.

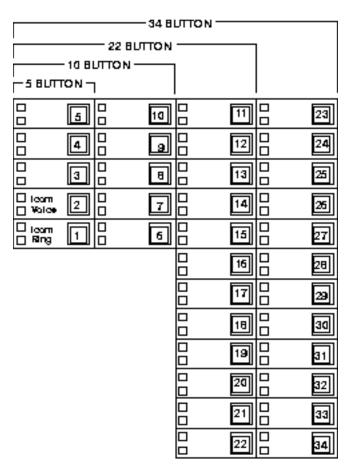
Figure E-6. MLX-16DP Telephone Button Diagram (Key and Behind Switch Modes)

E Button Diagrams



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 Node: 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.



The system's Station Message Detail Recording (SMDR) feature reports incoming and outgoing call details.

Page F-2

Table F-1. Sample Report Pages

For	See
"System Information Report"	F-6
"Dial Plan Report"	F-9
"Label Information Report"	F-12
"Tie Trunk Information Report"	F-13
"DID Trunk Information Report"	F-13
"GS/LS Trunk Information Report"	F-14
"General Trunk Information Report"	F-15
"DS1 Information Report"	F-15
"PRI Information Report"	F-16

Continued on next page

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Table F-1. Continued

For	See
"Remote Access (DISA) Information Report"	F-18
"Operator Information Report"	F-19
"Allowed Lists Report"	F-21
"Access to Allowed Lists Report"	F-21
"Disallowed Lists Report"	F-22
"Access to Allowed Lists Report"	F-22
"Automatic Route Selection Report"	F-23
"Extension Directory Report"	F-24
"System Directory Report"	F-25
"Group Paging Report"	F-25
"Extension Information Report"	F-26
"Group Coverage Information Report"	F-28
"Direct Group Calling Information Report"	F-29
"Night Service Information Report"	F-30
"Group Call Pickup Report"	F-31
"Error Log Report"	F-32
"Authorization Code Information Report"	F-32
"BRI Information Report"	F-33
"Switch 56 Data Information Report"	F-33

<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 $\underline{\text{Table F-2}}$, select the Print option on the System Programming menu.

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Table F-2. System Reports

Menu Option	Report Name	Description
All		Prints each of the reports available on the Print menu, from SysSet-up to Error Log.
		Note: When All is selected, the 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 included in MLX-20L user's 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 and signaling attributes associated with ground- and loop-start lines/trunks.
General	General Trunk Information	All identified extensions and feature-related attributes of each extension.
T1 Info	DS1 information	Options (line, signal, and so on) assigned to T1 trunks or lines.
PRI Info	PRI Information	PRI trunks/lines assigned to B-channel groups.
Rmote Access	Remote Access (DISA) Information	Remote access dial code, class of restriction, barrier code information.
Oper Info	Operator Information	For each system operator position: the 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 are numbered 0–7 and entries are numbered 0–9.

Continued on next page

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Table F-2. Continued

Menu Option	Report Name	Description
AllowListTo	Access to Allowed Lists	Lists are numbered 0–7. If the Allowed 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 Allowed List is assigned to tie-trunk users and 18 means the Allowed 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.
ARS	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); 2BDT (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.

Continued on next page

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Sample Reports System Information Report

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Table F-2. **Continued**

Menu Option	Report Name	Description
Ext Info	Extension Information	For each specified station (extension), type of equipment connected, features assigned to extension, ESS supervisor status, and features assigned to each button on the station. On this report, MLX-16DP telephones are reported as MLX-28D telephones. 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.
GrpCalling	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 Servic	e 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 are 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	BRI Information Report	Service Profile ID and Directory Number for each BRI line, flexible timers, and fixed timers and counters.
Switch 56	Switch 56 Data Information Report	Dial Plan Routing information and programmable options.

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

Language: SystemLang SMDR Printer

English English English 19 CTI Links

: 14 18 22 42 Direct Line Operators

Queued Call Operators: 10

SysProg Port: Password : craftr4 10

Transfer: Type Audible OneTouch(Complete) ReturnTimer

: Ring MusicOnHold Transfer(Auto) 5 rings **MERLIN LEGEND Communications System Release 5.0** System Programming 555-650-111

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Sample Reports

System Information Report Page F-7

VMS Transfer Return Interval : 4 Paging System Lines :
Music On Hold Line : 804
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 Tn/Out Basic : 40 sec In/Out Basic

: 40 sec Info : Inside

Reminder Service Cancel : :

Behind Switch Code : Drop Transfer Conference

Inter-digit Timer (seconds) : 24 24 24 10 10 10 10 5 5

Recall Timer : 450 msec

Second Dial-tone Timer : 200 msec

Rotary Line Cut Through : Delay

Unassigned Extension : 10

Automatic Backup : Weekly - 04:30 Sunday

TI/PRI/BRI Clock Synchronization:

Primary Secondary Tertiary 02/01 Loop 04/01 Local 04/02 Local

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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: 008
Slot # 9: 016 (Ringing Frequency - 25 Hz.)
Slot #10: 408 GS/LS
Slot #11: 008
Slot #11: 008
Slot #12: 800
Slot #13: 800 DID
Slot #14: 400 EM
Slot #15: 012
Slot #16: 008 MLX
Slot #17: 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
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
                                         LINE # 2: 802 OUTSIDE
                         OUTSIDE
LINE # 3: 803

LINE # 5: 805

LINE # 7: 807

LINE # 9: 809
                                         LINE # 4: 804 OUTSIDE
LINE # 6: 806 OUTSIDE
LINE # 8: 808 OUTSIDE
LINE # 10: 810 OUTSIDE
                          OUTSIDE
                         OUTSIDE
                    OUTSIDE
OUTSIDE
LINE # 75: 875 OUTSIDE
                                          LINE # 76: 876 OUTSIDE
```

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F Sample Reports

Dial Plan Report

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${\bf Dial\ Plan\ Report-} {\it Continued}$

DIAL PL	AN FOR	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	

COMPLETE DIAL PLAN FOR STATIONS AND ADJUNCTS

Sample Reports Dial Plan Report

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Dial Plan Report—Continued

ID #: 57 4050 ID #: 59 4058 7358 ID #: 61 7160 7360 ID #: 63 7162 7362 ID #: 65 7164 7364 ID #: 67 7166 7366 7368

7168

ID #:191 5151 7490

5158

ID #: 57 4056

ID #:193 5153

ID #:195 5155

ID #:197 5156

ID #: 69

ID #:199

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

7356

7368

7492

7494

7496

7498

ID #: 58

ID #: 60

ID #: 66

ID #: 68

ID #: 70

ID #:192

ID #:200

ID #: 62 7161

ID #: 64 7163

ID #:194 5154

ID #:196 5156

ID #:198 5158

4057

4059

7165

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Sample Reports

Label Information Report

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Label Information Report

Print Menu Option: Labels

Sections: Telephone Personal Directory; Posted Messages and

Numbers

LABEL INFORMATION

Executive Telephone # 10: Personal Directory

Name Number Display

Executive Telephone # 14: Personal Directory

Name Number Display

Executive Telephone # 15: Personal Directory

Name	Number	Display
MSG #	POSTED MESSAGE	
1	DO NOT DIGHTED	
-	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

849

TRUNK

TRUNK 849 Slot/Port: 14/ 1 TIE-PBX

Direction: 2 Way E&M Signal: TypelS Dialtone : Remote

InType : Wink InMode : Rotary AnsSupvr : 300 ms

OutType : Wink OutMode : Rotary Disconnect: 300 ms TRUNK 850 Slot/Port: I4/2 TIE-PBX

Direction: 2 Way E&M Signal: Type1S Dialtone : Remote

InType : Wink InMode : Rotary AnsSupvr : 300 ms

OutType : Wink OutMode : Rotary Disconnect: 300 ms

Slot/Port : 14/ 1

TIE-PBX

TRUNK 851 Slot/Port: 14/3 TIE-PBX

Direction: 2 Way E&M Signal: Type1S Dialtone : Remote

InType : Wink InMode : Rotary AnsSupvr : 300 ms

OutType : Wink OutMode : Rotary Disconnect: 300 ms

TRUNK 852 Slot/Part: 14/4 TIE-PBX

Direction: 2 Way E&M Signal: Type1S Dialtone : Remote

InType : Wink InMode : Rotary AnsSupvr : 300 ms

OutType : Wink OutMode : Rotary Disconnect: 300 ms

DID Trunk Information Report

Print Menu Option: Trunk Info and DID

DID TRUNK INFORMATION

Trk	SS/PP	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	BkupExt.

F Sample Reports *GS/LS Trunk Information Report*

Page F-14

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	Prty	QCC	Oper
801	2/ 1	No Remote	70	Yes	Long		4			
802	2/ 2	No Remote	70	Yes	Long		4			
803	2/ 3	No Remote	70	Yes	Long		4			
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			

DS1 Information Report

Print Menu Option: T1 Info

DS1 SLOT ATTRIBUTES

Slot	Type	Format	Supp	Signal	LineComp	ClkSync	Src	Active
3	T1	D4	ZCS	Rob Bit	1	Prim	Loop	Yes
3	T1	D4	ZCS	Rob Bit	1	None	Local	Yes

Sample Reports PRI Information Report

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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

PRI INFORMATION

Switch: DMS-250

System: By line

TestTelNum: NtwkServ: BchnlGrp #: Slot: Incoming Routing:

MCI PRISM By Line Appearance Channel ID: 1

Line PhoneNumber NumberToSend

Network Selection Table

2 Entry Number: 1 Pattern to Match: 101*** 10*** 101****

Special Service Table

2 4 5 Entry Number: 0 1 3 Pattern to Match: 011 010 01 0.0 1 none none OP OP OP/P none none none Operator: Type of Number: I 1 I I N N I I Digits to Delete: 3 3 2 1 1 0

Call-By-Call Service Table

Entry Number: 1 2 3 4 777 Pattern 0:

Pattern 1: 212555

Pattern 2: 212 BOTH BOTH BOTH BOTH BOTH

Call Type: NtwkServ: MCI PRISM No Service MCI PRISM 0 DeleteDigits: 1

Entry Number:

Pattern 0: 777

1: 212555 Pattern

Pattern 2: 212 BOTH BOTH Call Type: BOTH BOTH BOTH

No Service MCI PRISM NtwkServ: DeleteDigits: 0 0

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PRI Information Report—Continued

Dial Plan Routing Table

Entry Number: NtwkServ: Expected Digits: Pattern to Match: Digits to Delete: Digits to Add:	0 0	MCI PRISM 0 222 1 22	2 Any service 11	3 MCI PRISM 0
Entry Number: NtwkServ:	4 MCI PRISM	5	6	7
Expected Digits: Pattern to Match:	2	1	0	0
Digits to Delete: Digits to Add:	0 2	1	2	0
Entry Number: NtwkServ:	8	9	10	11
Expected Digits: Pattern to Match:	0	0	0	0
Digits to Delete: Digits to Add:	0	0	0	0
Entry Number: NtwkServ:	12	13	14	15
Expected Digits: Pattern to Match:	0	0	0	0
Digits to Delete: Digits to Add:	0	0	0	0

Remote Access (DISA) Information Report

Page F-18

Remote Access (DISA) Information Report

Allowed Lists : Disallowed Lists :

Print Menu Option: Rmote Access

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: Oper 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

BUTTON	FIRST
NUMBER	DIAL CODE
	=======
1	0
2	50
3	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 4:
Entry 5:
Entry 6:
Entry 7:
              ----
Entry 8:
Entry 9:
List: 7
Entry 0:
Entry 1:
Entry 2:
Entry 3:
Entry 4:
Entry 5:
Entry 6:
Entry 7:
Entry 8:
              ----
Entry 9:
              ----
```

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 1:
Entry 2:
           _____
Entry 3:
Entry 4:
Entry 5:
Entry 6:
Entry 7:
           -----
           _____
Entry 8:
           _____
Entry 9:
```

Access to Disallowed Lists Report

Print Menu Option: DisallowTo

ACCESS TO DISALLOWED LISTS

FOR REMOTE ACCESS 17 & 18 MEAN TIE & NON-TIE RESTRICTIONS

List	1	STNS	33
		RACC	9
List	3	STNS	33
		RACC	

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
TABLE 18: Default	Local 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
TABLE 19: Dial 0	Output Table				
	-				
Pool Absorb	Other Digits	FRL	Call type	Start	Pattern
1)70 00		3	BOTH	:	A
TABLE 20: N11 Out	cput Table				
01)411 02)611 03					
. ,	•				
Pool Absorb	Other Digits	FRL	Call type	Start	Pattern
1)70 00		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	SRB	Addr			ABCISSRB
			CIFCI	TSD				CIFCITSD
			ESWDO	RRT				ESWDGRRT
1/ 1	10	OPERATR	NNNN	U 3 N	1/21	710		NNNN U3N
1/ 2	11		NNNN	O 3 Y	1/22	711		NNNN U3N
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		NNNN U3N
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		NNNN U3N
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	NYNN U3N
4/3	36	AUDIXVP	NYNN	U 3 N	4/4	37		NYNN U3N
4/5	38		NYNN	U 3 N	4/6	39		NYNN U3N
4/7	40		NYNN	U 3 N	4/8	41		NYNN U3N
6/ 1	42	EXT 42	NNNN	U 3 N	6/21	742		NNNN U3N
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

CodeNameNumberDisplay600ABC Company555-9999YES601Jacques Smith5551212YES605Travel Agency912015556677YES

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

HotLine Extension : No

Print Menu Option: Ext Info plus extension number

```
EXTENSION INFORMATION
Extn SS/PP Type
10 1/1 MLX-20L + 1 DSS
                   : 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 : ESS-0 -NO RESTRICTION
ESS Restrictions : ON
Auto Callback : OFF
Call Waiting : ON
Abbreviated Ring : ON
Line Preference : ON
Shared SA Ring : ON
Persive 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
```

Extension Information Report— Continued

EXTENSION	INFORMATION

Extn	SS/P			
10	1/	1 MLX-20L + 1 DSS		
Button	34	Blank	Status	
Button	33	Blank	Status	
Button	32	Blank	Status	
Button	31	Blank	Status	
Button	30	Blank	Status	
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	
	-	- ··		

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Sample Reports

Group Coverage Information Report

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Group Coverage Information Report

Print Menu Option: GrpCoverage

```
GROUP COVERAGE INFORMATION
Group # 2 Senders : 6802 6804
Group # 5 Senders : 10 11
                                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
```

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 #
             27
      1
                        ANN1
              28
                        ANN2
Secondary Announcement Ext # : 29
Time Between Delay Announcements : 0
Repeat Secondary Announcement: NO
Message Waiting Station : NONE
Calls-in-queue Threshold 1: 1
Calls-in-queue Threshold 2: 1
Calls-in-queue Threshold 3: 1
External Alert ext #
                      : NONE
Overflow Threshold (#) : 1
Overflow Threshold (Time): 0
Overflow to DGC group # : NONE
Group Coverage :
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:
```

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Night Service Information Report

Print Menu Option: Night Service

```
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:
   Wednesday
Thursday
    Friday : Saturday :
 Emergency Allowed List:
  1)
  2)
  3)
  5)
  6)
  7)
  8)
  9)
 NS Excluded STNS:
    61 62 63 64 65
```

Sample Reports

Group Call Pickup Report

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Group Call Pickup Report

Print Menu Option: Call Pickup

GROUP CALL PICKUP

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 Group # 10 STNS : 37 Sample Reports

Error Log Report

Page F-32

Error Log Report

Print Menu Option: Error Log

ERROR LOG

Last 30 System Errors:

Managana		G	T1	T +	0-4-
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
	,			· · · · · · · · · · · · · · · · · · ·	

Authorization Code Information Report

Print Menu Option: Auth Code

SMDR Option for the Account Code Field is Home Extension

Extension	Authorization Code
10	3124
15	1357921
20	6578
23	443796

Sample Reports

BRI Information Report

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BRI Information Report

Print Menu Option: BR

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
              908555100001
908555100101
        801
                                             9085551000
        802
                                              9085551001
        803
               908555100201
                                             9085551002
              908555100301
908555100401
908555100501
908555100601
                                            9085551003
                                            9085551004
        805
        806
                                             9085551005
        807
                                             9085551006
```

Switch 56 Data Information Report

808

Print Menu Option: Switch 56

Dial Plan Routing for Network Service

908555100701

Expected Digits: 3
Digits to Delete: 0
Digits to Add: 0

Trk	ss/pp	Dirction	InType	OutType	AnsSup	Discnt	Inmode	Outmode	Service
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

9085551007

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Switch 56 Data Information Report
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G General System Programming Sequence System Programming Sequence

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General System Programming Sequence



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.

Basic System Operating Conditions

Select the system programming position

System→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→Time

Set the system date

System→Date

Schedule automatic backups

System→Backup/Restore→Auto Backup

G General System Programming Sequence System Programming Sequence

Page G-2

System Renumbering

Select the system numbering plan

SysRenumber→Default Numbering

Single renumbering

SysRenumber→Single

Block renumbering

 $SysRenumber \rightarrow Block$

DSS console page buttons

SysRenumber→Single→More→DSS Buttons

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 \rightarrow 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 System Programming Sequence

Page G-3

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 programmers 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-Prg

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 System Programming Sequence

Page G-4

Auxiliary Equipment

Program Music On Hold

 $\texttt{AuxEquip} \color{red} \color{red} \color{blue} \color{$

Program loudspeaker paging

AuxEquip→Ldspkr Pg

Program a fax port

 $AuxEquip \rightarrow Fax$

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

H 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, Flas	Pause. Inserts a 1.5-second pause in the dialing sequence. Multiple consecutive pauses are allowed.		
#	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.		
2	On single-line telephones with positive or timed disconnect (such as the 2500YMGL) the Recall or Flash button, instead of the switchhook, must be used.		

H Programming Special Characters Analog Multiline Telephones

Page H-2

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.

Special Characters for Analog Multiline Telephones Table H-2.

Press	See ¹	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	,2 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.	
1.	Display telepho	ones only	
2.	Not available on MLC-5, MDC 9000, and MDW 9000 cordless and		

cordless/wireless 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

Page H-4

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

#

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.

Δ

account code Code used to associate incoming and outgoing calls with corresponding accounts, employees, projects, and clients.

A and advantage and the dectination of data are of the

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.

analog Mode of transmission in which information is represented in

transmission 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.

ASCAP (American Society of Composers, Artists, and Producers)

Page GL--2

AUDIX Voice

A voice-processing application, part of IS II/III, that provides Power

Automated Attendant, Call Answer, Information Service, Message Drop, Voice Mail, and, optionally, Fax Attendant

System for use with the system.

Automated Attendant

IS II/III, MERLIN 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 Line

Selection Automatic Number

See ANI.

See ALS.

Identification

Automatic Route Selection

See ARS.

auxiliary power

unit

Device that provides additional power to the system.

B

backup Procedure for saving a copy of system programming onto a

floppy disk or memory card. See also restore.

barrier code Password used to limit access to the Remote Access

feature of the system.

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.

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

mode

One of three modes of system operation, in which the

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.

BIS (Built-In Speakerphone) Part of the model name of some

analog multiline telephones.

Glossary

Page GL--3

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."

BMI (Broadcast Music Incorporated)

A module, for example, 100D or 408 MLX GS/LS, that board

allows you to connect lines/trunks and extensions to the

communications system.

board assignment System Programming and Maintenance (SPM) procedure

for assigning line/trunk and extension modules to slots on

the control unit

System programming procedure for renumbering boards board renumbering 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.

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.

Sequence of bits (usually eight) processed together. Also byte

called "octet."

Call Accounting

System

See CAT. Call Accounting

Terminal

Calling group

Team of individuals who answer the same types of calls.

Call Management

System

See CMS.

See CAS.

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.

Page GL--4

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.

clock synchronization

Operation of digital facilities from a common clock.

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.

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

control unit

Processor module, power supply module, other modules,

carriers, and housing of the system.

LEGEND Communications 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.

Coverage

Set of system features that can determine how extensions' calls are covered when the person at the extension is busy

or not available.

Glossary

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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.

D

Data-channel See *D-channel*.

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 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.

D-channel (Data-channel) 16- or 64-kbps channel that carries

signaling information or data on a PRI.

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.

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*.

dial access See feature code.

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Dialed Number
Identification
Service

See DNIS.

dial-out code

Digit (usually a 9) or digits dialed by telephone users to get

an outside line.

dial plan

Numbering scheme for system extensions, lines, and

trunks.

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 Signal 0 **Digital Signal 1**

See DS0.

digital subscriber

See DS1.

line

digital transmission See DSL.

Mode of transmission in which the information to be transmitted is first converted to digital form and then transmitted as a serial stream of pulses. See also analog transmission.

direct facility termination

(DFT) See personal line.

Direct Inward Dial

Direct-Line Console

See DID. See DLC.

Direct Station Selector

See DSS.

display buttons

Buttons 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)

Glossary

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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.

 \mathbf{E}

EIA (Electronic Industries Association)

Electronic

Switching System

See ESS.

endpoint Final destination in the path of an electrical or

telecommunications signal.

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.

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 performed at an extension to customize telephones for personal needs; users can program features programming on buttons, set the telephone ringing pattern, and so on. See also centralized telephone programming and system

programming.

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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

Fax handling and processing application available with

AUDIX Voice Power.

System

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.

forced idle Condition of the system during certain programming or

maintenance procedures; system prevents initiation of new

calls.

foreign exchange

See FX.

frequency generator

See ring generator.

FRL (Fa

(Facility Restriction Level) ARS calling restriction type that

restricts outgoing calls to certain specified routes.

FX (Foreign exchange) Central office (*CO*) other than the one

that is providing local access to the public telephone

network.

 \boldsymbol{G}

General Purpose

Adapter

See *GPA*.

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.

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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 A system application that allows face-to-face,

videoconferencing simultaneous video and voice communications between

groups and requires high-speed data transmission facilities.

See also desktop videoconferencing system.

П

Hands Free See HFAI.

Answer on Intercom

system

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.

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.

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.

Ι

ICOM buttons (intercom buttons) Telephone buttons that provide access

to inside system lines for calling other extensions or

receiving calls from them.

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.

Glossary

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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.

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 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.

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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L

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/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 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).

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.

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)

Glossary

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The AT&T tariffed digital *WATS* offering for outward calling. Megacom

Megacom 800 The AT&T tariffed digital 800 offering for inward calling.

Storage medium, similar in function to a floppy disk, that memory card 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

MLX-10, MLX-10D or MLX-10DP telephone

MLX-16DP telephone

MLX-20L

telephone MLX-28D

telephone modem

module

5-line button digital telephone offered with (MLX-5D) or without (MLX-5) a 2-line by 24-character display.

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*

Connect.

16-line button digital telephone offered with a 2-line by 24-character display, allowing connection of *Passageway*

Direct Connect.

20-line button digital telephone with a 7-line by

24-character display.

28-line button digital telephone with a 2-line by 24-character display.

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.

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.

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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.

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.

 \mathbf{O}

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.

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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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 Connect

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.

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

iacks.

phantom extension An extension that is not actually plugged into the system but is used, for example, as a calling group member

covered by a voice messaging system.

pool In Hybrid/PBX mode, a group of outside lines/trunks that

> 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.

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.

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 auxiliary power unit 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 B-channels for voice and/or data and one 16-kbps *D-channel*, which carries multiplexed signaling

information for the other 23 channels.

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primary system	
operator position	1

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 *Behind Switch mode*. Each telephone user has his or her own prime line and is automatically connected to that line when he or she lifts the handset.

processor module

Module in the second slot of the control unit (Slot 0, to the right of the *power supply module*). 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.

public network

Network that is commonly accessible for local or long-distance calling. Also called "public switched telephone network" or "public switched network."

O

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.

Remote Access

System feature that allows an outside caller to gain access to the system, almost as if at a system extension.

restore

Procedure whereby saved and archived system programming is reinstated on the system, from a floppy

disk or *memory card*. See also *backup*.

ring generator

Circuit pack added to the power supply that generates a high-voltage, 20–30 Hz signal to ring a telephone.

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).

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R	0	М

(read-only memory) Computer memory that can be read

but cannot be changed.

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.

Refers to a computer-telephony software application that screen pop

> 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 CTI link.

SDN (Software Defined Network) AT&T private networking

service created by specialized software within the public

network.

SID [station (extension) identification]

signaling Sending of control and status information between devices

to set up, maintain, or cease a connection such as a

telephone call.

single-line Industry-standard touch-tone or rotary-dial telephone that telephone

handles one call at a time and is connected to the system via an extension jack on a 012, 016, or 008 OPT module.

slot Position in a *carrier* for a module; numbered from 0.

SMDR (Station Message Detail Recording) Feature that captures

detailed usage information on incoming and outgoing voice

and data calls.

SMDR printer Printer used to produce SMDR reports. Connected to the

system via an RS-232 jack on the processor module.

Software Defined

Network

See SDN.

special character Pause, Stop, or End-of-Dialing signal in a programmed

dialing sequence such as an Auto Dial or Personal Speed

Dial number.

SPM (System Programming and Maintenance) DOS- or UNIX

System-based application for programming and

maintaining the system.

station See extension.

station jack See extension jack.

Station Message **Detail Recording** See SMDR.

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Supplemental Alert Adapter

See SAA.

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."

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.

T1 Type of digital transmission facility that in North America

transmits at the DS1 rate of 1.544 Mbps.

T1 Switched 56 service

T1 digital data transmission over the public network at 56

kbps.

telephone power supply unit

terminal adapter

Equipment that provides power to an individual telephone.

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

trunk

See tip/ring.

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.

See pool. trunk pool

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TTR

(touch-tone receiver) Device used to decode DTMF touch-tones dialed from single-line telephones or Remote Access telephones.

uninterruptible power supply

See UPS.

UPS

(uninterruptible power supply) Device that connects to the system to provide 117 VAC to the equipment when the

commercial power source fails.

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.

voice mail Application that allows users to send messages to other

extensions in the system, forward messages received with

comments, and reply to messages.

voice messaging

interface

See VMI.



WATS

(Wide Area Telecommunications Service) Service that allows calls to certain areas for a flat-rate charge based on expected usage.

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