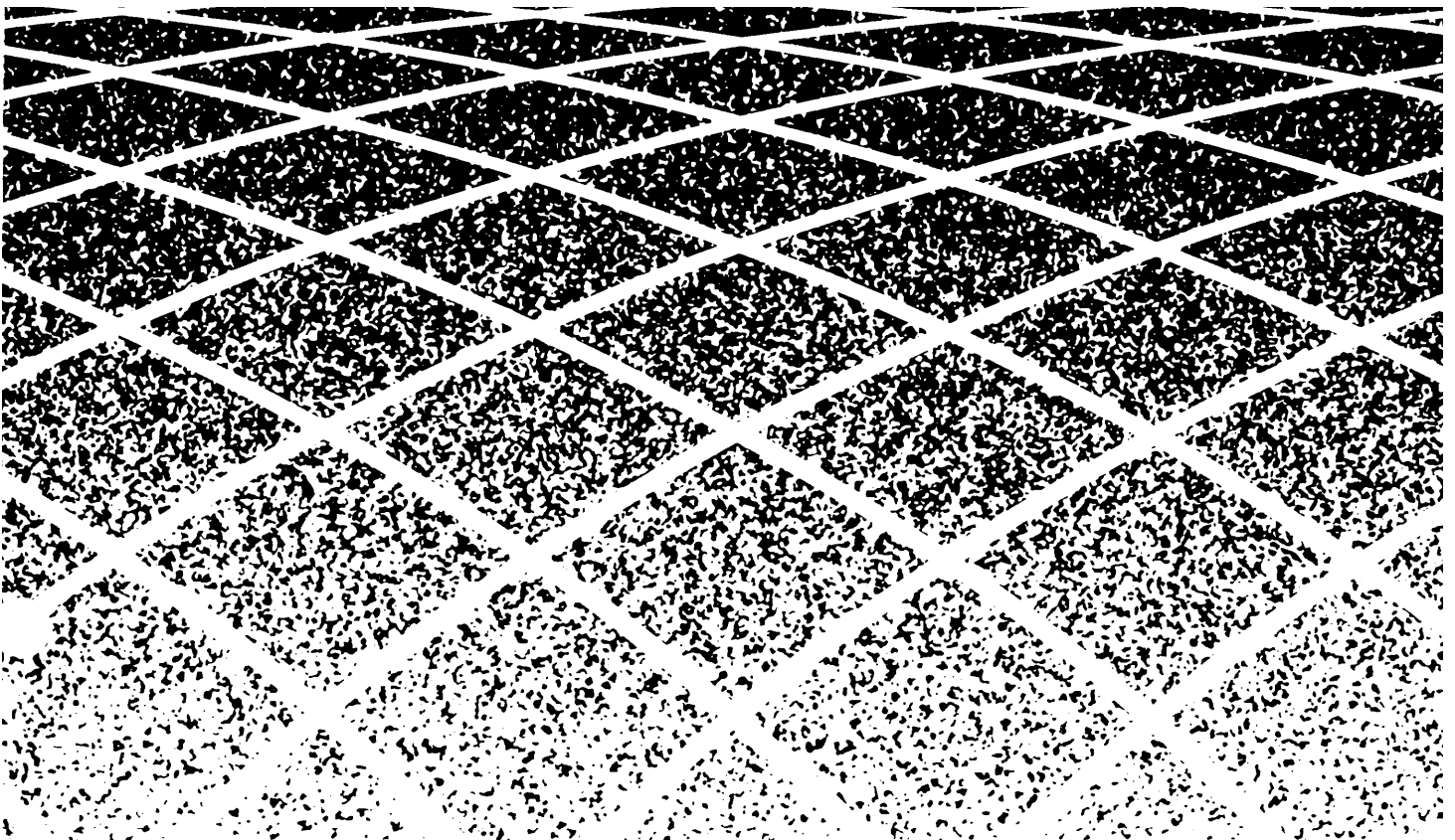




PARTNER<sup>®</sup> **II** Centrex  
Communications System  
Release 1  
Installation and Use



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**AT&T 518-455-330  
Issue 1  
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### **Notice**

Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.

### **Federal Communications Commission (FCC) Interference Notice**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of 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 have to correct the interference at his or her own expense. For additional FCC interference, registration, and repair information, see Appendix E of this book.

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### **Warranty**

AT&T provides a limited warranty to this product. Refer to "AT&T Limited Warranty and Limitation of Liability" in Appendix C.

### **Ordering Information**

The order number for this book is 518-455-330. To order copies of this book, call 1 800 432-6600 in the U.S. and 1 800 255-1242 in Canada. For more information on how to order this and other system reference materials, see "Reference Materials" in "About This Guide." For information on ordering replacement parts, accessories, and other compatible equipment, refer to "Product Ordering Information" in Appendix C.

### **Support Telephone Numbers**

In the U.S., AT&T provides a toll-free customer helpline 24 hours a day. Call the AT&T Helpline at 1 800 628-2888 if you need assistance when installing, programming, or using your premises equipment.

For assistance in Canada, contact your local AT&T authorized dealer.

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## About This Guide

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### Purpose

The system described in this guide consists of *premises equipment* and *Centrex services*. Although the terms “premises equipment,” “Centrex services,” and “system” have broader meanings elsewhere, this guide uses those terms to refer specifically to the following definitions:

- **Premises equipment** refers to the AT&T equipment controller and MLS- and MLC-model telephones that you purchased as part of your Partner® II Centrex Communications System, plus all other telecommunications devices connected to your equipment controller. This equipment is installed at your place of business.
- **Centrex services** include the Centrex lines that are connected to the equipment controller and the features available on those Centrex lines. These services (which may be offered in your area under a different name such as ESSX,® CENTRON,® or Plexar®) must be arranged for separately with your local telephone company.
- **System** refers to the combination of premises equipment and Centrex services described above.

The main purpose of this guide is to provide instructions for installing, programming, and using your premises equipment. Because the selection of services available from the local phone companies continually expands and changes—to keep pace with the needs of businesses and with technological advances in the world of communications—this guide does not provide detailed information about Centrex services. For specific information about your Centrex services, see the Centrex documentation provided by your local telephone company.

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## Terminology

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The following terms are used throughout this guide, and are important for understanding how your system works. In addition, each chapter in this guide begins with a “Terminology” section that defines key terms used in the chapter. All terms are also defined in the Glossary.

<b>Centrex</b>	Telephone services that your local telephone company provides from a Central Office (CO) located outside your business premises, including Centrex lines connected to the equipment controller and the features available on those Centrex lines. (Your telephone company may call Centrex by another name.)
<b>Centrex system</b>	The total block of Centrex lines you subscribe to—all or some of which may be connected to the equipment controller for your system—together with the Centrex services associated with those lines. <i>See also</i> Premises equipment and System.
<b>Equipment controller</b>	The AT&T product that you purchased as part of your system. This product consists of a group of modules that connect Centrex lines coming into your building to the extensions in your system. The equipment controller also provides equipment features.
<b>Equipment feature</b>	A feature provided by your equipment controller (as opposed to a service provided by Centrex).
<b>MLS- and MLC-model telephones</b>	The AT&T telephones that you purchased as part of your system. These telephones are specifically designed for use with the equipment controller. Models include the MLS-34D™ telephone, MLS-12D™ telephone, MLS-12™ telephone, MLS-6™ telephone, and MLC-6™ telephone.
<b>Premises equipment</b>	The AT&T equipment controller and the MLS- and MLC-model telephones that you purchased as part of your system, plus all other telecommunication devices that are connected to your equipment controller. For purposes of this guide, premises equipment does <i>not</i> include any equipment that connects directly to Centrex lines without going through the equipment controller. <i>See also</i> System and Centrex system.
<b>Standard phone</b>	An industry-standard touch-tone or rotary phone such as you might have in your home. Some standard phones include special feature buttons for frequently-used calling functions.
<b>System</b>	Your premises equipment, in combination with the Centrex lines that are connected to your equipment controller and the Centrex services that are available on those lines. <i>See also</i> Centrex system and Premises equipment.

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## How to Use This Guide

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This guide provides instructions and advice on the following topics:

- **Installation.** If you are installing the system for the first time, read Chapters 1 and 2 and Appendix D, which provide an overview of the system, instructions for equipment installation, and equipment specifications.

If your company already has modular jacks for all outside lines and extensions, you may be able to use the existing wiring to install the equipment controller and connect telephones yourself (see Chapter 2). If you prefer to have an AT&T service technician install and customize your premises equipment, call 1 800 247-7000 (in the U.S. only) or your AT&T authorized dealer.

Your system can include a wide variety of auxiliary equipment, including fax machines, modems, answering machines, credit card scanners, and call reporting (SMDR) devices. See Chapter 7 for advice on setting up these industry-standard devices to work effectively with your system.

- **Setup Decisions.** If you are a new user, read Chapters 1, 3, 4, and 6, to familiarize yourself with the features provided by your equipment controller, to learn how to program the equipment controller and individual phones, and to learn how to handle calls.

Chapter 3 explains how your equipment controller complements Centrex services, providing a variety of features that support Centrex capabilities and making it easy for you to access Centrex features. Chapter 4 helps you make decisions about customizing the premises equipment, to use additional features and capabilities provided by your equipment. Chapter 6 provides call-handling instructions for standard phones and for MLS- or MLC-model phones.

- **Programming.** Chapter 5 gives step-by-step instructions for all of the programming procedures for your premises equipment. You can use the information in this chapter as a reference, to help you carry out your decisions about customizing your premises equipment.
- **Making Changes.** If you need to reprogram the premises equipment or individual extensions, see Chapter 5, "Programming Reference," or the Programming Quick Reference pages at the back of this book.

If you are adding equipment to your system, see Chapter 2, "Installing the Equipment," Chapter 5, "Programming Reference," and Chapter 7, "Using Auxiliary Equipment."

- **Training Co-Workers.** Chapter 6 explains how to handle calls and use equipment features effectively. To help users get the most out of their phones, give each telephone user a *Quick Reference* card and filled-in copies of the "Speed Dial Numbers" form in the *System Planner* or Appendix A of this book.



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Before training co-workers, read Appendix B to decide whether to make intercom calling features available to telephone users. (These equipment features require that users know the jack numbers where lines and extensions are connected to the equipment controller.) In addition, panels 6 and 7 of the *Quick Reference* card present intercom calling features.

- **Solving Problems.** Appendix C provides information on solving problems and ordering additional accessories and equipment. If your premises equipment malfunctions, you may be able to solve the problem by following the steps provided in “Troubleshooting,” starting on page C-3.
- **Daily Operation.** Depending on how your system is set up, you may need to oversee some of the system’s daily operations. For example, if you use the Night Service feature available with your equipment controller, you will need to turn on Night Service at the end of each day before leaving the office. (See “Using Night Service” on page 6-18.)

Once you are experienced with the system, use the Table of Contents or Index to locate the information you need.

## **Product Safety Labels**

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This book contains several product safety statements, identified by a ▲.



**CAUTION:**

*Indicates the presence of a hazard that will or can cause minor personal injury or property damage if the hazard is not avoided.*



**WARNING:**

*Indicates the presence of a hazard that can cause severe or fatal personal injury if the hazard is not avoided.*

Carefully read the **WARNING** statement on page 2-9. Opening the equipment modules or backplane will expose you to hazardous voltages, which can cause severe personal injury or death. Also, read “Important Safety Instructions” on page 2-ii before performing any installation procedures.

## **Reference Materials**

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The following reference materials are available to help you install, program, and use the premises equipment. To order them, call the AT&T Customer Information Center (1 800 432-6600 in the U.S. or 1 800 255-1242 in Canada). The order numbers are in parentheses:

- *Installation and Use* (518-455-330) provides instructions for installing, programming, and using the premises equipment.
- *Quick Reference for Use with MLS-Series Telephones* (518-455-331, package of 6) contains basic instructions for using MLS-model telephones.

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- *MLC-6 Cordless Telephone: Installation and Troubleshooting* (999-506-143) explains how to install the MLC-6 cordless telephone and how to solve any problems that might occur when using it with your system.
  - *MLC-6 Cordless Telephone Quick Reference: Display and Controls* (999-506-146) explains how to use the MLC-6 cordless telephone with your system.

In addition, a *System Planner* (GBS-124) provides forms that you should use before you install your system—to determine your system configuration—and on an ongoing basis—to make sure that you have a current record of all the programming for your premises equipment. You can order the Planner from AT&T Forms Services at 1 800 367-6487.

### **How to Comment on This Guide**

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A feedback form is located at the end of this guide, after the appendixes. Use that form to send AT&T your comments on the product or this guide, or send your comments and recommendations for changes to:

A. Sherwood  
AT&T  
99 Jefferson Road (Room 2A-25)  
Parsippany, NJ 07054  
(FAX 201 887-6898)

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## Terminology

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The following terms are used in this chapter. In addition, you may wish to review the “Terminology” section of “About This Guide,” which defines basic terms used throughout this guide, or the Glossary, which defines all terms.

<b>Auto Dial button</b>	A programmable telephone button that lets you dial a series of digits simply by pressing that button. An Auto Dial button can be used to store a Centrex feature code or a telephone number so that it can be dialed with one touch.
<b>Auxiliary equipment</b>	Telecommunications equipment (other than MLS- and MLC-model telephones) that can be connected to the equipment controller. Auxiliary equipment includes industry-standard devices that can connect directly to the public telephone network (such as standard phones or fax machines) as well as devices that require the interface provided by the equipment controller (such as a loudspeaker paging system).
<b>Centrex</b>	Telephone services that your local telephone company provides from a Central Office (CO) located outside your business premises, including Centrex lines connected to the equipment controller and the features available on those lines. (Your telephone company may call Centrex by another name.)
<b>Centrex extension number</b>	A short code (or “Centrex extension ID”) that can be used to dial another extension within the Centrex system. Typically, this is the last digits of the Centrex telephone number.
<b>Centrex system</b>	The total block of Centrex lines you subscribe to—all or some of which may be connected to the equipment controller for your system—together with the Centrex services associated with those lines.

<b>Equipment Controller</b>	The AT&T product that you purchased as part of your system. This product consists of a group of modules that connect Centrex lines coming into your building to the extensions in your system. The equipment controller also provides equipment features.
<b>Equipment feature</b>	A feature provided by your equipment controller (as opposed to a service provided by Centrex).
<b>Equipment feature button</b>	A programmable telephone button on an MLS- or MLC-model telephone that enables you to access an equipment feature with one touch, simply by pressing the button. <i>See also</i> Auto Dial button and Programmable button.
<b>Extension</b>	A destination in the system that can be dialed.
<b>Extension jack</b>	The location on 206 modules that allows you to connect phones (or other telecommunications devices) to the equipment controller.
<b>Feature phone</b>	An industry-standard phone that includes programmable buttons or other built-in features.
<b>Intercom call</b>	A call that is made using the [ <i>Intercom</i> ] button on an MLS- or MLC-model telephone, to call another system extension without tying up primary Centrex lines.
<b>Premises equipment</b>	The AT&T equipment controller and MLS- and MLC-model telephones that you purchased as part of your system, plus all other telecommunications devices that are connected to your equipment controller. For purposes of this guide, premises equipment does <i>not</i> include any equipment that connects directly to Centrex lines without going through the equipment controller. <i>See also</i> System and Centrex system.
<b>Primary line</b>	The main Centrex line assigned to an extension, generally used to place and receive all calls for that extension. When a caller dials a phone number, the call rings immediately at the extension where the line is assigned as a primary line (unless line ringing is changed to let another extension screen calls on the line). <i>See also</i> Secondary line.
<b>Programmable button</b>	A telephone button that can be set up to access a feature. On MLS- and MLC-model phones, programmable buttons can be used as Auto Dial buttons (for one-touch dialing of Centrex feature codes or telephone numbers) or equipment feature buttons.
<b>Secondary line</b>	A line assigned to an extension for call coverage purposes, generally with delayed or no ringing. When a call comes in on the line, it rings first at the extension where it is assigned as the primary line; only if there is no answer does it ring at the extension where it is a secondary line. <i>See also</i> Primary line.
<b>Standard phone</b>	An industry-standard touch-tone or rotary phone such as you might have in your home. Some standard phones include special feature buttons for frequently-used calling functions.

**System** Your premises equipment, in combination with the Centrex lines that are connected to your equipment controller and the Centrex services that are available on those lines. See also Centrex system and Premises equipment.

## Using Premises Equipment to Complement Centrex Services

The *system* discussed in this guide consists of two elements: *Centrex services* (including Centrex lines and associated features) and *premises equipment* (including the equipment controller, MLS- and MLC-model telephones, and other telecommunications devices connected to the controller).

The Centrex services you receive from your local telephone company provide a unified telephone network for your business, even across different geographical locations, and give you services customized for your needs.

### NOTE:

Your telephone company may offer Centrex services under a different name (for example, ESSX,® CENTRON,® or Plexar®). Also, you may be able to select different services for different lines. (For more information, see the Centrex documentation provided by your local telephone company.)

Your AT&T premises equipment is designed to *complement* the advantages offered by Centrex. All or some of your Centrex lines may be connected to the equipment controller. You can connect a maximum of 24 Centrex lines and 24 extensions to your equipment controller. Figure 1-1 shows an example in which some Centrex lines are connected to the equipment controller and some are not

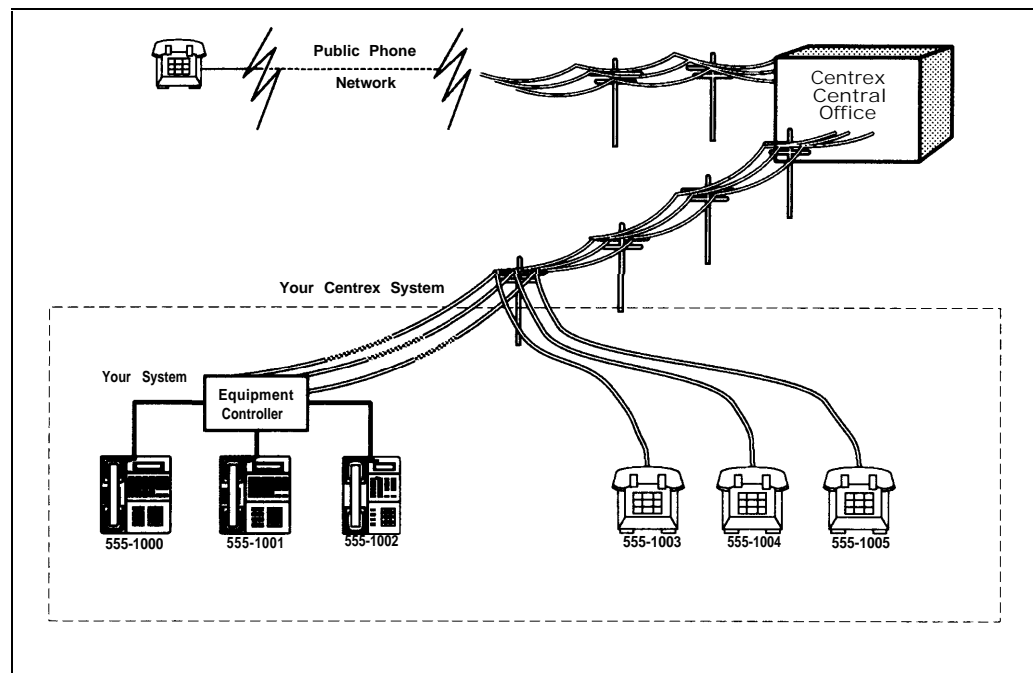
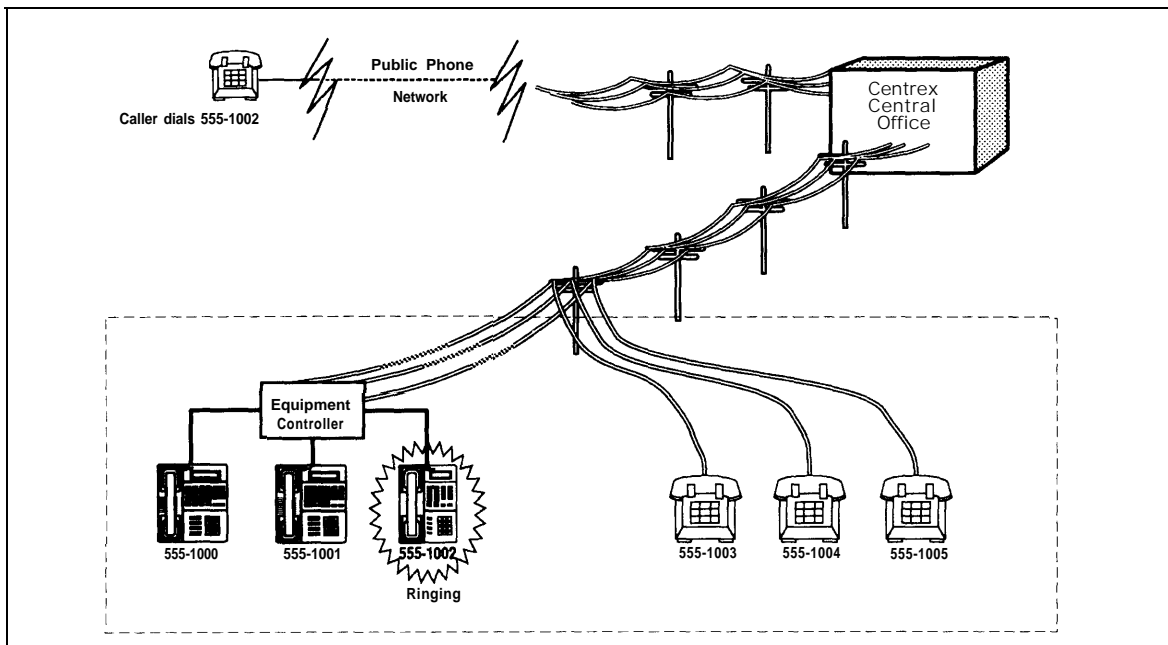


Figure 1-1. Your Centrex System

Any Centrex lines that are not connected to the equipment controller, while they are part of the larger Centrex system, are not considered to be part of the system described in this guide. For example, a hospital might subscribe to a large block of Centrex lines, but connect only the lines for administrative personnel to the equipment controller. In this situation, the telephones for administrative personnel would be managed by the equipment controller as a distinct system within the larger Centrex system.

One of the most important Centrex features is the assignment of *one Centrex line for each extension in your system*. This allows a caller to reach an extension directly, simply by dialing the extension's phone number, as shown in Figure 1-2. The call rings at the extension immediately, so you do not need to have a receptionist who answers calls for all system extensions and then transfers each call to the appropriate user.



**Figure 1-2. Dialing a System Extension**

The equipment controller complements Centrex by automatically assigning a primary line to each extension (see "Primary and Secondary Lines" on the next page), and by passing Centrex ringing patterns through to phones. (The major benefits provided by your equipment controller and the AT&T phones that you connect to it are discussed in "Features and Capabilities" on page 1-6; in addition, Chapter 3 provides a more detailed discussion of the way your premises equipment and Centrex services work together.)

The equipment controller also provides optional features, some of which may be similar to Centrex services you have. (Optional equipment features are listed at the end of Chapter 4 in this guide.) If you have similar features available from Centrex and from the equipment controller, you should use the Centrex features.

**NOTE:**

The *System Planner*, available separately, provides forms you can use to plan your system configuration and to identify your Centrex services. If you do not already have a copy of the *System Planner*, see "Reference Materials" in "About This Guide."

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## **Primary and Secondary Lines**

By default, each extension in your system gets one *primary line* that will be used to receive and place all calls for that extension. When the user at an extension picks up the handset to make an outgoing call, the primary line for the extension is automatically selected. Likewise, all incoming calls on the primary line ring immediately at the user's phone. The primary line always appears on the bottom leftmost line button on an MLS- or MLC-model phone. Except for Hotline phones and doorphones (see page 4-23), each extension in your system has a primary Centrex line.

You can also assign *secondary lines* to extensions. Secondary lines are lines other than the primary line, typically assigned to a phone for call coverage purposes. Secondary lines generally use *delayed ringing*; when a call comes in on a line, it rings first at the extension where the line is assigned as a primary line; only after about 20 seconds does it begin ringing at an extension where it is assigned as a secondary line. Likewise, when a user picks up the handset to make an outgoing call, the extension's primary line is selected automatically. A secondary line is selected automatically *only to answer an incoming call* (if the call is already ringing at your phone when you pick up the handset).

All lines are automatically assigned to the first phone connected to the equipment controller; but only the line assigned to the bottom leftmost line button on the phone is primary. All of the other lines assigned to the extension are secondary lines. (This default line arrangement provides Central Call Coverage; for more information about this and other call coverage options, see page 4-3.)

**NOTE:**

Secondary lines assigned to an extension are used as primary lines at other extensions. To avoid tying up another user's primary line, callers who have secondary lines should always use their own primary lines to make outgoing calls.



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## Features and Capabilities

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Your equipment controller supports the following features to complement your Centrex services:

- Multiple line assignments, permitting more flexible call coverage. For example, the equipment controller automatically assigns *all* lines to the first phone connected to the equipment controller, to serve as a possible receptionist's position. In addition, you have the option of assigning secondary lines at other phones, to provide Local Call Coverage, so that a person can answer calls on a line when the line's primary user is absent or busy. The equipment controller also passes Centrex ringing patterns through to each phone (for example, to distinguish between outside and inside calls). When a line is assigned to an MLS- or MLC-model phone, the lights on the line button let you see the activity on the line.
- Programmable buttons on MLS- and MLC-model phones, providing one-touch access to both Centrex and equipment features). You can access a feature simply by pressing the button.
- Easy-to-use programming procedures, making it easy for you to manage your system. You can change line assignments, call coverage arrangements, or programmable buttons, quickly and easily. (The display on an MLS-34D or MLS-12D phone provides feedback during programming.)
- Modular connections to the equipment controller, making it easy for you to reconfigure your system or to add extensions as your system grows.
- Direct connections for industry-standard devices—including standard phones, fax machines, answering machines, modems, and credit card scanners.
- Optional equipment features, including paging over a loudspeaker paging system or over MLS-model phone speakers, music on hold\*, call detail recording (also known as Station Message Detail Recording, or SMDR), night service operation, speed dialing, line access restrictions, and many others.
- Power failure operation with standard phones, allowing you to make and answer calls during a power failure while retaining programmed equipment settings for up to four days. (An optional Uninterruptible Power Supply, or UPS, is also available to allow full equipment operation during a power failure.)

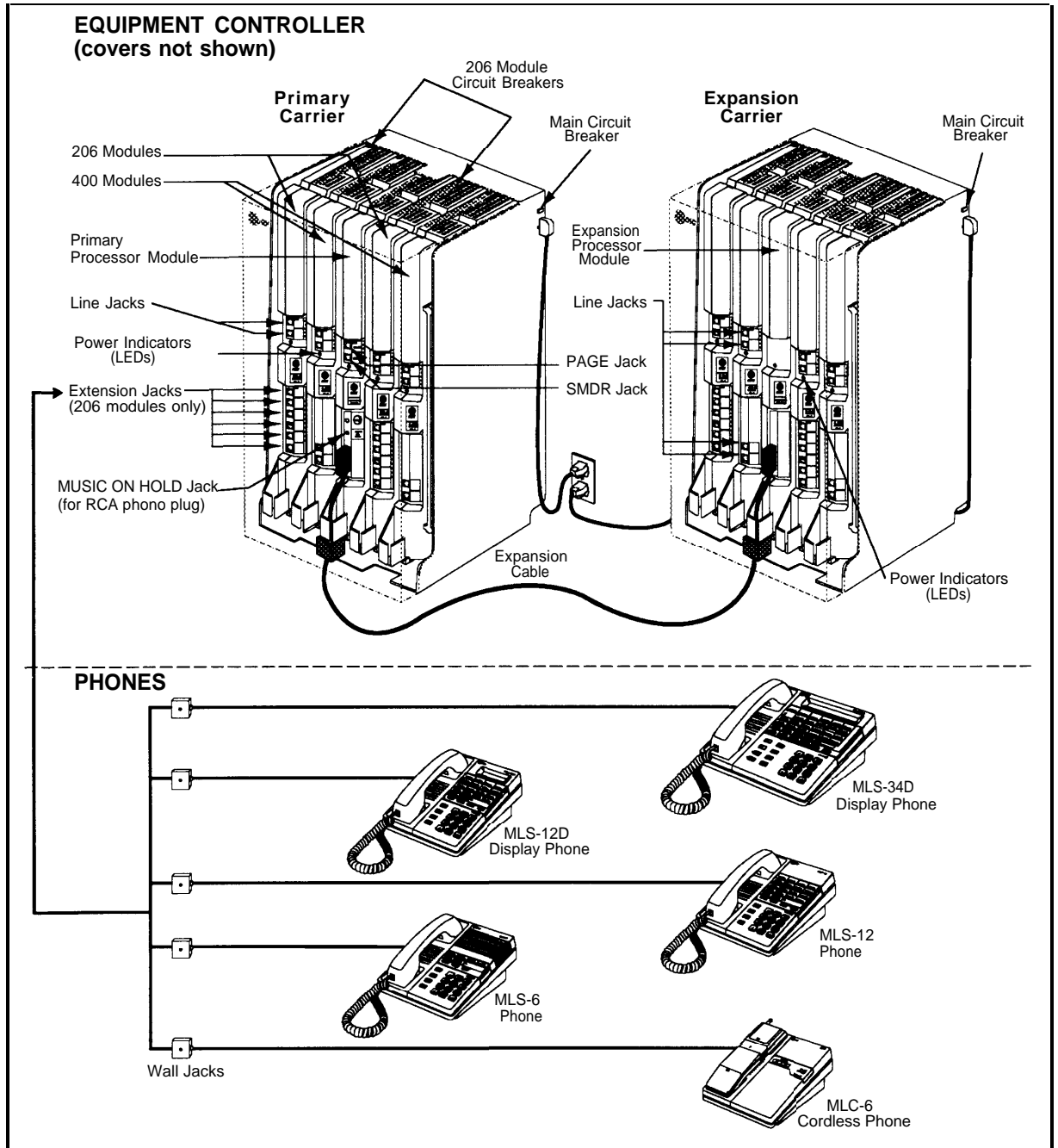
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\*

If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a license from a third party such as ASCAP or BMI. Or, you can purchase a Magic on Hold® device from AT&T that does not require you to obtain such a license.

## Premises Equipment

Figure 1-3 shows an equipment controller and MLS- and MLC-model telephones connected to it. A brief description of each component follows the figure.



**Figure 1-3. Equipment Controller and MLS/MLC-Model Telephones**

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## Equipment Controller

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The equipment controller is the heart of your premises equipment. It is made up of one or two *carriers* — the plastic housing consisting of the backplane and cover. The backplane distributes power to the premises equipment, and has *slots* where modules are placed; the cover slides onto the front of the backplane after all the modules have been installed.

The system must have a *primary carrier* for support of up to 12 lines and extensions, and can be expanded to include an *expansion carrier* for support of up to 12 more lines and extensions. A fully loaded system has both carriers.

### Modules

The following modules are installed in your equipment controller:

- **Primary processor module.** The primary processor module manages the components of your premises equipment. It has jacks for a music-on-hold audio source, a loudspeaker paging system, and a call reporting device (SMDR), such as a printer. The primary processor module is always installed in the *center* slot of the *primary carrier*.
- **Expansion processor module.** (optional) The expansion processor module extends the primary processor module's management capabilities to the lines and extensions connected to modules in the expansion carrier. An expansion cable connects the primary processor module to the expansion processor module. This module is always installed in the *center* slot of the *expansion carrier*.
- **206 Modules.** Each 206 module connects a maximum of two Centrex lines and six extensions to the equipment controller. You can connect telephones and other telecommunications devices (such as fax machines, answering machines, or modems) to the extension jacks on the 206 module (either directly or through your building's extension jacks). Each 206 module has a green power indicator that shows it is receiving power from the equipment controller. *At least one 206 module is required in the leftmost slot of the primary carrier.*
- **400 Module.** The 400 module is similar to the 206 module, but without extension jacks. It has jacks for four Centrex lines. The 400 module is always installed *to the right of a 206 module.*

### Capacity

The number of 206 and 400 modules you install in the equipment controller determines the number of available lines and extensions. The controller implements the Centrex requirement of *one* line for *each* extension. Therefore, when you install a 400 module (four lines) next to a 206 module (two lines, six extensions) in a carrier, the combined pair provides an equal number (six) of lines and extensions. For the maximum number of lines and extensions in a two-carrier configuration, pair four 206 modules with four 400 modules—for a total of 24 lines and 24 extensions.

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## MLS- and MLC-Model Telephones

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AT&T MLS- and MLC-model telephones are designed to make maximum use of the features provided by your system. The following models are available for use with your system:

- **AT&T MLS-34D Telephone.** This phone is the best choice for extensions used by the system manager (for equipment programming), receptionist, or operator. It has 32 buttons that can be used for outside lines or programmed for one-touch access to features. It also has a built-in speaker and microphone (for dialing and having a conversation without lifting the handset) and a large character display that shows the following:
  - Current date, day, and time
  - Number you dialed and elapsed time (when you make a call)
  - Prompts and messages.
- **AT&T MLS-12D Telephone.** This phone has 10 buttons that can be used for outside lines or programmed for one-touch access to features (and 6 more buttons without lights that can only be used for programmable features). It has a built-in speaker and microphone, and a display similar to the one on the MLS-34D telephone.

### **NOTE:**

An MLS-34D or MLS-12D telephone is *required* for equipment programming. Use the MLS-12D phone only if there are no MLS-34D phones installed at the site.

- **AT&T MLS-12 Telephone.** This telephone has all the features of the MLS-12D telephone, but without a display.
- **AT&T MLS-6 Telephone.** This phone has 4 buttons that can be used for outside lines or programmed for one-touch access to features. It also has a built-in speaker, but no microphone. This means that a user can dial a number without lifting the handset, but must lift the handset to speak when the party answers.
- **AT&T MLC-6 Cordless Telephone.** This cordless telephone works like the MLS-6 corded telephone. It has 4 buttons that can be used for outside lines or programmed for one-touch access to features. It also includes a display that shows line status, an On/Off button that must be pressed before using the phone (to save battery power), and additional feature buttons to support cordless operation (for more information, see *MLC-6 Cordless Telephone Quick Reference: Display and Controls*).

## Auxiliary Equipment

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The premises equipment works with many telecommunications devices, not only MLS- and MLC-model telephones. You can connect industry-standard devices to your equipment controller, and certain models of other devices, all without expensive adapters.

---

## Industry-Standard Devices

Many *industry-standard, single-line* telecommunications devices will work with the equipment controller:

- Standard touch-tone, rotary, and cordless telephones (such as those you might have in your home), including feature phones with built-in feature buttons and lights
- Fax machines
- Answering machines
- Modems
- Credit card scanners.

## Limitations

You can connect standard devices to your equipment controller, regardless of the manufacturer. The following limitations apply:

- The device must be industry-standard and non-proprietary. That is, it cannot be made specifically for use on a particular telephone system. (For example, you cannot connect an AT&T MERLIN® phone, because it is specifically designed for use on a MERLIN system.)

### **NOTE:**

You can connect a multiple-line device to the equipment controller, but for best results it should be installed and used as if it were a single-line device.

- The device's Ringer Equivalence Number (REN\*) cannot be greater than 2.0. (The REN is shown on a label on the device, usually on the bottom.)

## Connecting and Using Standard Devices

You can connect a standard device so that it is on an extension by itself, or so that it shares an extension with another piece of equipment (either another standard device or an MLS- or MLC-model phone). An extension with two devices connected to it is called a *combination extension*. For example, you can connect an MLS-model phone and a standard phone to the same extension, so that the standard phone can be used to place and receive calls in the event of a power failure. To connect two devices on one extension, you need an inexpensive AT&T 267F2 bridging adapter (two are provided with each 206 module).

Chapter 2 explains how to connect standard devices to the equipment controller and how to combine them on a single extension. (See page 2-5 for installation instructions for combination extensions.) For additional information on programming and using fax machines, answering machines, modems, or credit card scanners, see Chapter 7.

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\*

REN is a measure of the power it takes to ring a phone. A typical home phone line handles 4.0–5.0 RENs; each extension jack in your equipment controller can handle 2.0 RENs.

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## Other Devices

You can connect other devices to your equipment controller, but *only specific models are compatible with the equipment controller*. (See Appendix C for product ordering information.)

- **Call accounting devices and printers** allow the system manager to print call reports. The call accounting device or printer connects directly to the primary processor module in the primary carrier. See “Call Reporting Devices (SMDR)” on page 7-7 for more information.
- **Doorphones** allow visitors to alert up to five extensions at once by pressing a button on the doorphone; the person who answers a doorphone call can then use the phone to speak to the visitor at the doorphone. The equipment controller supports up to two proprietary doorphones, which can be installed indoors or outdoors. A doorphone is especially useful for providing access to offices or departments after hours. For example, you can install a doorphone outside your building entrance to allow visitors to alert telephones inside the building when the receptionist is not there and the front door is locked.
- **Loudspeaker paging systems** allow you to broadcast a message over a large area, by connecting the paging system directly to the PAGE jack on the primary processor module. The equipment controller supports all AT&T paging systems. For information on how to use a loudspeaker paging system with the equipment controller, see page 6-17.
- **Music-on-hold systems** allow you to play recorded music to callers while they are on hold, by connecting the music-on-hold system to the primary processor module. The equipment controller supports the AT&T Magic on Hold system and most models from other manufacturers.
- **Extra alerts** are strobes, lights, chimes, horns, or bells that light or ring when calls come in. For example, you can use an audible alert (chime, horn, or bell) to replace a phone ring in a noisy area, such as a factory. Similarly, you can use a visual alert (strobe or light) to replace a phone ring in a quiet area, such as a library.
- **Electromagnetic Interference (EMI) filters** allow you to block “noise” generated by a nearby radio station, as well as most electrical devices. The equipment controller supports the AT&T Z300A EMI Filter.
- **Uninterruptible Power Supply (UPS)** allows full equipment operation during a power failure. The equipment controller supports the AT&T 360VA UPS.
- **In-Range Out-of-Building (IROB) protectors** are required to prevent electrical surges from damaging your equipment when phones are installed in another building, but on the same continuous property. The equipment controller supports the AT&T IROB protector, which provides coverage over a distance of 3,000 feet for standard phones and 1,000 feet for MLS- and MLC-model phones. (For installation instructions, refer to the booklet packaged with the IROB protector.)

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- **Speakerphones** provide hands-free two-way operation of a phone without lifting the handset. Combining a speakerphone with an MLS-model phone or a standard phone on an extension in a conference room or office is an inexpensive way for several people at a meeting to conference with other parties. The equipment controller supports the AT&T S203 speakerphone. (MLS-model phones have built-in speakers, but they are designed for individual—not group—use.)
  - **Repertory dialers** allow you to store frequently-used numbers for one-touch dialing (Auto Dialing). If a user needs many Auto Dial numbers, a repertory dialer can be combined on an extension with an MLS- or MLC-model phone or standard phone.
  - **Headsets** allow users to hold private, hands-free conversations. A headset is a combination earphone and microphone worn on the head, useful for receptionists, salespeople, or others who need to have their hands free while talking on the phone. AT&T offers several compatible headsets.
  - **Handsets for the hard-of-hearing** are designed for users who need even more amplification than is provided by the volume controls on MLS- and MLC-model phones. Although the volume controls on MLS- and MLC-model phones significantly reduce the need for an amplified handset, hard-of-hearing users may find that the AT&T K6S handset meets their needs.

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# Installing the Equipment

# 2

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## **Important Safety Instructions**

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Always follow these basic safety precautions when using the premises equipment:

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. **DO NOT** block or cover the ventilation slots and openings. They prevent the product from overheating. **DO NOT** place the product in a separate enclosure, unless proper ventilation is provided.
4. Never spill liquid on the product or drop objects into the ventilation slots and openings. Doing so may result in serious damage to the components.
5. Repair or service must be performed by a qualified repair person.
6. The product is provided with a three-wire grounding type plug. This is a safety feature. **DO NOT** defeat the safety purpose of the grounding type plug. **DO NOT** staple or otherwise attach the AC power supply cord to building surfaces.
7. **DO NOT** use the product near water or in a wet or damp place (such as a wet basement).

## **Additional Safety Instructions for Installation Personnel**

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1. **DO NOT** install telephone wiring during a lightning storm.
2. **DO NOT** install telephone jacks in a wet location unless the jack is specifically designed for wet locations.
3. Never touch uninsulated telephone wires or terminals, unless the telephone line has been disconnected at the network interface.
4. Use caution when installing or modifying telephone lines.
5. The equipment carriers must be securely wall mounted.

**▲ CAUTION:**  
*If any wiring from the extension jacks leaves the building premises, you must install AT&T IROB protectors (see "Requirements for Out-of-Building Extensions," page D-2).*

**▲ CAUTION:**  
*Use only AT&T-manufactured modules in the equipment controller.*

**▲ CAUTION:**  
*Environmental and electrical conditions must meet the specifications in Appendix D.*

**SAVE THESE INSTRUCTIONS**

This chapter explains how to install the premises equipment. It begins with general guidelines to consider before installation, followed by an example configuration. It ends with step-by-step instructions for connecting and testing the components.

**IMPORTANT:**

Before installation you should review Forms A and B of the *System Planner* to identify the type of equipment that should be connected to the extension jacks for your system.

### **Terminology**

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The following terms are used in this chapter. In addition, you may wish to review the "Terminology" section of "About This Guide," which defines basic terms used throughout this guide, or the Glossary, which defines all terms.

<b>Backplane</b>	The bottom and rear portion of the plastic housing that makes up a carrier. The backplane distributes power to the premises equipment, and has slots where the modules are installed.
<b>Carrier</b>	Molded plastic housing, made up of a backplane and cover, which holds the equipment controller modules. Your configuration contains at least the primary carrier and can be expanded to include an expansion carrier.
<b>Combination extension</b>	An extension that has two devices connected to it using a special connector called a bridging adapter. Combination extensions can connect two industry-standard devices or an industry-standard device and an MLS- or MLC-model phone, but not two MLS- or MLC-model phones.

<b>Equipment Controller</b>	The AT&T product that you purchased as part of your system. This product consists of a group of modules that connect Centrex lines coming into your building to the extensions in your system. The equipment controller also provides equipment features.
<b>Expansion carrier</b>	The optional component of the AT&T equipment controller that can be connected to the primary carrier to expand your system's line and extension capacity. <i>See also</i> Primary carrier.
<b>Expansion processor module</b>	The main module of the expansion carrier, which must be installed in the center slot of the expansion carrier. This AT&T module extends the primary carrier's management capabilities to the 206 and 400 modules installed in the expansion carrier. <i>See also</i> Primary processor module.
<b>Extension jack</b>	The location on 206 modules that allows you to connect phones (or other telecommunications devices) to the equipment controller.
<b>Extension jack number</b>	The number assigned to each extension jack on a 206 module. Extension jack numbers run consecutively from 10 through 33 (for a two-carrier configuration).
<b>400 Module</b>	The AT&T equipment component that contains jacks for connecting up to four Centrex lines to the equipment controller.
<b>Line jack</b>	The location on 206 and 400 modules that allows you to connect Centrex lines to the equipment controller.
<b>Line jack number</b>	The number assigned to each line jack on a 206 or 400 module. Line jack numbers run consecutively from 01 through 24 (for a two-carrier configuration).
<b>Network interface jack</b>	A jack, generally located in your equipment room, that provides access to a Centrex line coming into your building from your local telephone company. A telephone cord from the network interface jack to a line jack on a 206 or 400 module connects the Centrex line to your system.
<b>Premises equipment</b>	The AT&T equipment controller and MLS- and MLC-model telephones that you purchased as part of your system, plus all other telecommunications devices that are connected to your equipment controller. For purposes of this guide, premises equipment does <i>not</i> include any equipment that connects directly to Centrex lines without going through the equipment controller.
<b>Primary carrier</b>	The required component of the AT&T equipment controller that contains the primary processor module and up to two 206 and two 400 modules. This provides for connection of up to 12 lines and 12 extensions. <i>See also</i> Expansion carrier.

<b>Primary processor module</b>	This AT&T module, which is always installed in the center slot of the primary carrier, manages the components of your premises equipment. See also Expansion processor module.
<b>206 Module</b>	The AT&T equipment component that contains jacks for connecting up to two Centrex lines and up to six extensions to the equipment controller.

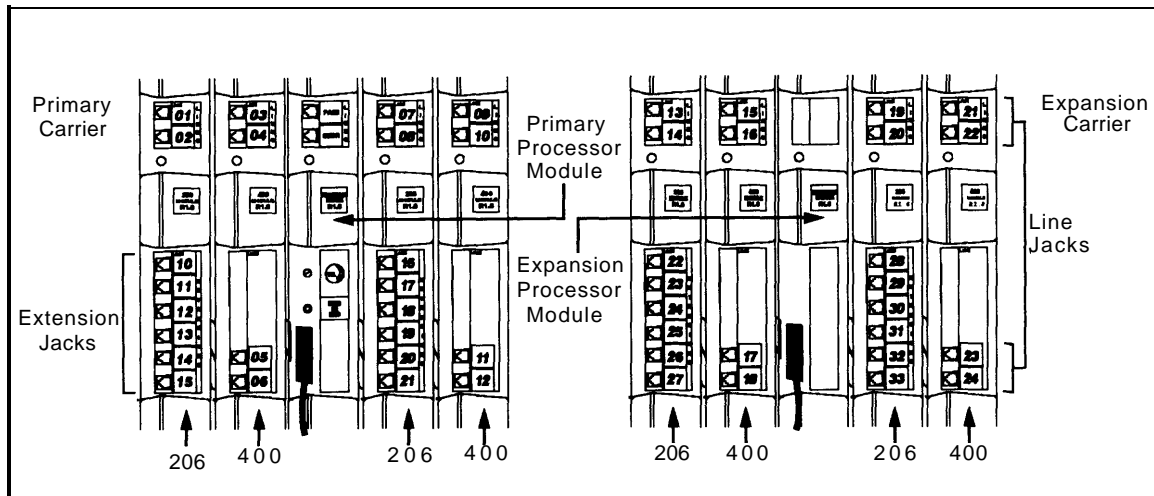
## **Installation Guidelines**

In this chapter, we refer to *line jacks* and *extension jacks*; these terms describe the locations where connections are made to the equipment controller. During installation, each Centrex line is connected to a line jack on the controller. In addition, each phone (or optional device) is connected to an extension jack on the controller (either directly or via a wall jack). Once connections are made, the controller associates each line jack (numbered consecutively from 01 through 24) with a specific extension jack (numbered consecutively from 10 through 33). Each Centrex line is the primary line for the phone at the corresponding extension. (Refer to Form B in the *System Planner*, which records how your phone numbers are assigned to system extensions.)

## **Placement of Carriers and Modules**

- **Carriers.** You will be installing either one or two carriers, depending on the number of lines you have (see “Capacity,” on page 1-8). *If you are going to install the expansion carrier, plan to install it to the right of the primary carrier.* Install the backplane(s) within five feet of the network interface jacks and a grounded 110 VAC electrical outlet not controlled by a switch. If you are installing two carriers, both must be plugged into the same power outlet. In addition, when you mount the backplane(s) on the wall, leave at least six inches of clearance at the top and sides, and two feet at the front and bottom.
- **Modules.** To install modules, follow the rules below:
  - Install the primary processor module in the *center* slot of the primary carrier.
  - If you are installing the expansion carrier, install the expansion processor module in its *center* slot.
  - The *first* (leftmost) slot in each carrier must contain a 206 module.
  - Do not skip slots when installing 206 and 400 modules.
  - A 400 module must be installed to the right of each 206 module (except the last 400 module, which can be skipped if you do not need the additional lines).
  - If a second 206 module is installed in a carrier, it must be installed to the right of the processor module.

Figure 2-1 shows the two carriers, with line and extension jacks numbered, for a configuration containing 24 lines and 24 extensions. For a detailed explanation of line and extension jack numbering, see Chapter 3.



**Figure 2-1. Line and Extension Numbering at the Equipment Controller**

## Connection of Telephones and Devices

You can connect the following telephones and devices to the equipment controller:

- **MLS- and MLC-Model Phones.** MLS- and MLC-model phones require at least two-pair wiring and are compatible with AT&T four-pair SYSTIMAX™ wiring. If you need a shorter cord for wall mounting, use AT&T's two-foot D4BU-29 mounting cord (available separately—see page C-12). An MLS-34D phone connected to extension jack 10 or 11 is used for System Programming. Use an MLS-12D phone for System Programming only if there are no MLS-34D phones installed at your business site.
- **Industry-Standard Devices.** Industry-standard equipment (including standard phones) require one-pair mounting cords; AT&T D2R mounting cords are recommended.
- **Standard Phones.** Connect standard touch-tone or rotary phones to the equipment controller for:
  - **Power Failure Operation.** During a power failure, MLS and MLC-model phones will not work because they require power to operate. However, if standard phones are connected to extension jacks 10, 16, 22, or 28, they can place and answer calls on lines at line jacks 01, 07, 13, or 19, respectively. Connect a standard phone to one or more of these extensions, either alone or combined with an MLS- or MLC-model phone. (If you combine a standard phone and an MLS- or MLC-model phone on one extension, you may want to turn off the standard phone's ringer during normal use.)

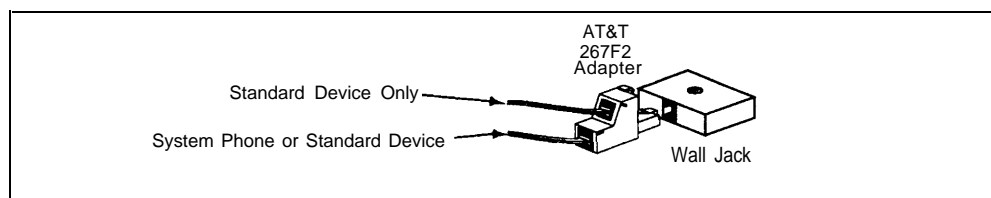
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**Hotline Phones.** A Hotline phone should be a standard phone—not an MLS or MLC-model phone—but can ring any type of phone. You can specify one alert extension for each Hotline phone, and you can install multiple Hotline phones, if you wish. A Hotline phone only requires connection to an available extension jack (with no Centrex line assigned to the extension). To simplify programming, we recommend installing Hotline phones and doorphones on the *last available* extension jacks on the last installed 206 module in the equipment controller (if the last module in the equipment controller is a 206 module with no corresponding 400 module, the last four extension jacks will not have Centrex lines assigned to them by default).

- **Auxiliary Equipment.** There are a variety of ways to set up fax machines, modems, and answering machines to work with the equipment controller. See Chapter 7 for advice on using this equipment. To connect a telephone and a fax on the same extension, see “Combination Extensions” below.
- **Doorphones.** You can connect up to two proprietary doorphones to the equipment controller. Like Hotline phones, doorphones only require connection to an available extension jack (with no Centrex line assigned to the extension). To simplify programming, we recommend installing doorphones and Hotline phones on the *last available* extension jacks on the last installed 206 module in the equipment controller (if the last module in the equipment controller is a 206 module with no corresponding 400 module, the last four extension jacks will not have Centrex lines assigned to them by default).
- **Call Reporting Devices.** You can connect a call accounting device to the SMDR jack on the primary processor module for recording call activity. (See “Call Reporting Devices (SMDR)” on page 7-7 for more information.)
- **In-Range Out-of-Building Protectors.** Installing phones in a different building from the equipment controller requires AT&T In-Range Out-of-Building (IROB) protectors, to prevent damage due to lightning (installation instructions are included with the protector).

### Combination Extensions

You can connect a standard device (such as a standard phone or a fax machine) on an extension by itself, or you can use an AT&T 267F2 bridging adapter (*only*) to combine the standard device with another standard device or an MLS- or MLC-model phone at one extension jack. You cannot install two MLS- or MLC-model phones on the same extension, and the combined REN of two devices on an extension must be no more than 2.0. Figure 2-2 shows how to connect the two devices to the bridging adapter at a combination extension,



**Figure 2-2. Connecting Two Devices on One Extension**

## Example Configuration

These two pages show an equipment controller with three 206 modules and three 400 modules, giving this particular configuration a capacity of 16 lines and 18 extensions. Note that two of the extensions are a Hotline phone and a doorphone, which do not use primary lines. Although your configuration may differ, this example shows various devices connected to 10 of the 18 extensions. The circled numbers in the figure refer to the following list, which gives a brief description of the equipment components.

### Equipment Controller

The equipment controller in this example contains both the primary and the expansion carriers, plus these components:

- ① **Backplanes.** The backplanes distribute power to the premises equipment and connect the modules.
- ② **206 Modules.** Each 206 module has jacks for two lines and six extensions.
- ③ **400 Modules.** Each 400 module provides four line jacks but no extensions. *Notice that each 400 module is installed to the right of a 206 module.*
- ④ **Primary Processor Module.** The primary processor module manages the components connected to the equipment controller. The following auxiliary equipment jacks are on the processor module:
  - **PAGE.** A loudspeaker paging system plugs directly into this modular jack. The premises equipment is compatible with any AT&T paging system, including the AT&T PagePac6® Plus shown here.
  - **SMDR.** A call accounting device or printer connects to this jack using an AT&T 355A or 355AF adapter. AT&T's 572 serial printer is shown here.
  - **MUSIC ON HOLD.** An AT&T Magic on Hold® system is connected to this jack to provide customized music and messages for callers on hold. Other types of audio equipment (including a CD player, cassette player, or stereo receiver) can be connected with an audio cord and RCA phono plug.
- ⑤ **Expansion Processor Module.** The expansion processor module extends the primary processor module's management capabilities to the modules in the expansion carrier.
- ⑥ **Line Jacks.** All four jacks on each 400 module and the top two jacks on each 206 module connect to Centrex lines.
- ⑦ **Extension Jacks.** Inside wiring for telephones and other telecommunications equipment connects to the bottom six jacks on each 206 module.
- ⑧ **Network Interface Jacks.** These jacks provide access to Centrex lines. Each Centrex line is connected to the equipment controller by plugging one end of the telephone line cord into one of these jacks, and the other end into a line jack on a 206 or 400 module.
- ⑨ **Expansion Cable.** The expansion cable connects the primary processor module to the expansion processor module.

### Extensions

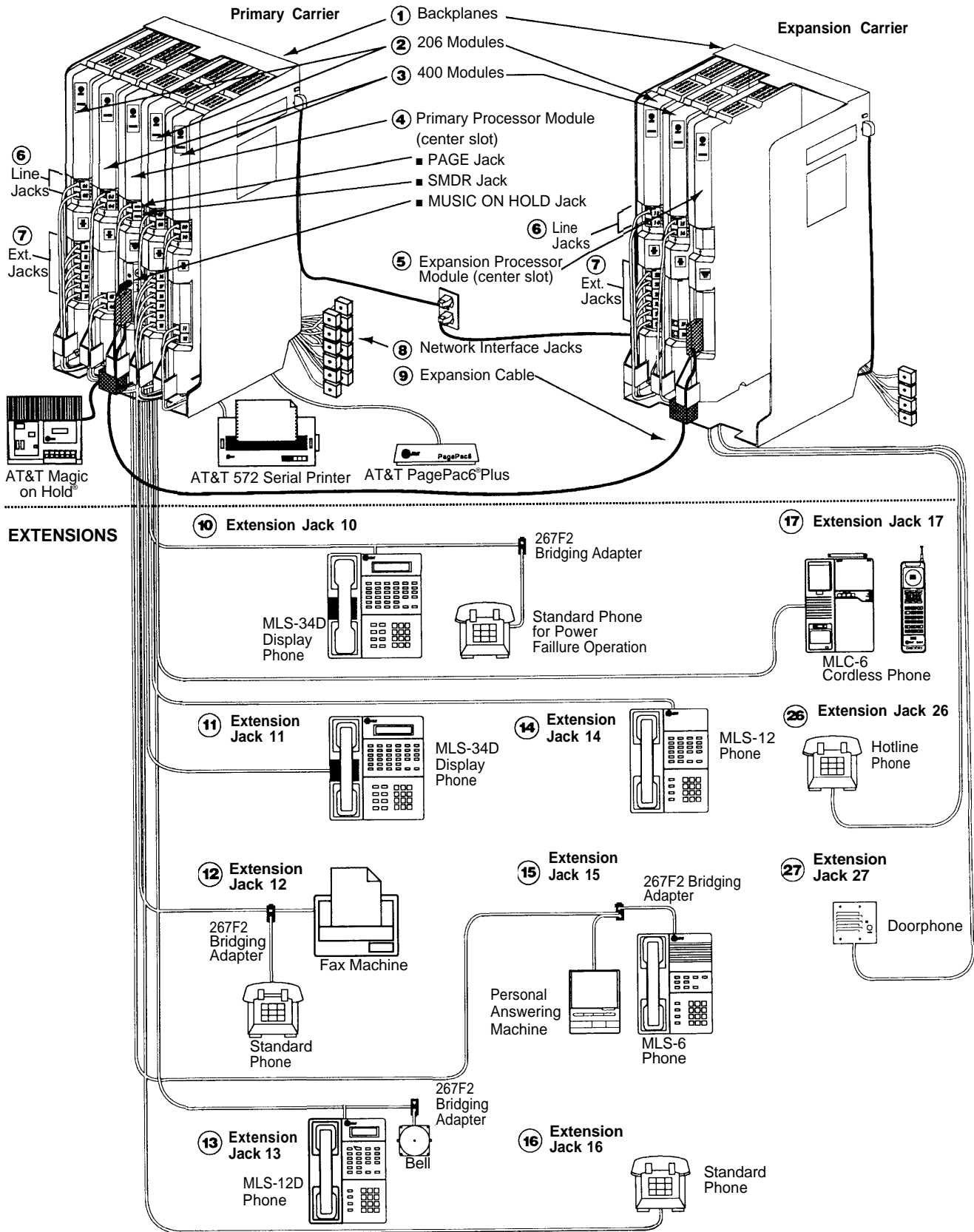
This example shows MLS- and MLC-model phones and industry-standard devices connected to the extension jacks in the equipment controller by way of the building's inside wiring.

- ⑩ **Extension Jack 10:** These devices are connected:
    - **MLS-34D Display Phone.** Typically, the receptionist on extension 10, called the *primary programming extension*, has an MLS-34D phone.
    - **AT&T 267F2 Bridging Adapter.** This adapter permits the connection of two devices—in this example a standard touch-tone phone and an MLS-34D phone—on one extension jack. This is called a *combination extension*. (You cannot connect two MLS- or MLC-model phones.)
    - **Standard Phone.** The MLS-34D phone on extension jack 10 will not work during a power failure; therefore, the receptionist can use the standard phone.
  - ⑪ **Extension Jack 11: MLS-34D Display Phone.** Another MLS-34D is connected to extension jack 11, or the *backup programming extension*. You can program the premises equipment from this extension while the phone at extension jack 10 is free to handle calls.

**NOTE:** An MLS-34D or MLS-12D is required for programming at extension jack 10 or 11, or both. Use an MLS-12D only if there are no MLS-34D phones installed at your site.
  - ⑫ **Extension Jack 12: Fax Machine and Standard Phone.** A fax machine and standard phone are connected together on this extension. This setup lets you share the fax line with a telephone. Alternatively, you can use an MLS- or MLC-model phone at another extension to monitor the fax machine (see page 7-2).
  - ⑬ **Extension Jack 13: MLS-12D Phone and Bell.** A loud bell, to provide loud ringing in a noisy area, is combined with an MLS-12 phone.
  - ⑭ **Extension Jack 14: MLS-12 Phone.** This phone is similar to the MLS-12D telephone (see extension jack 13), but it has no display.
  - ⑮ **Extension Jack 15: MLS-6 Phone and Answering Machine.** An MLS-6 phone and an answering machine are connected to this extension. (See page 7-5).
  - ⑯ **Extension Jack 16: Standard Phone.** A standard touch-tone phone (such as you might have in your home) is connected to this extension jack.
  - ⑰ **Extension Jack 17: MLC-6 Cordless Phone.** An AT&T MLC-6 cordless telephone is connected to this extension. It works like the corded MLS-6.
- Note how the Hotline phone and doorphone are connected to the last available extension jacks on the last installed 206 module in the equipment controller:*

  - ⑳ **Extension Jack 26: Hotline—Standard Phone.** When the handset of this phone is lifted, another phone rings.
  - ㉑ **Extension Jack 27: Doorphone.** A doorphone is installed at the building entrance. When someone at the entrance presses the doorphone button, the designated extensions (five maximum) in the office alert.

# EQUIPMENT CONTROLLER

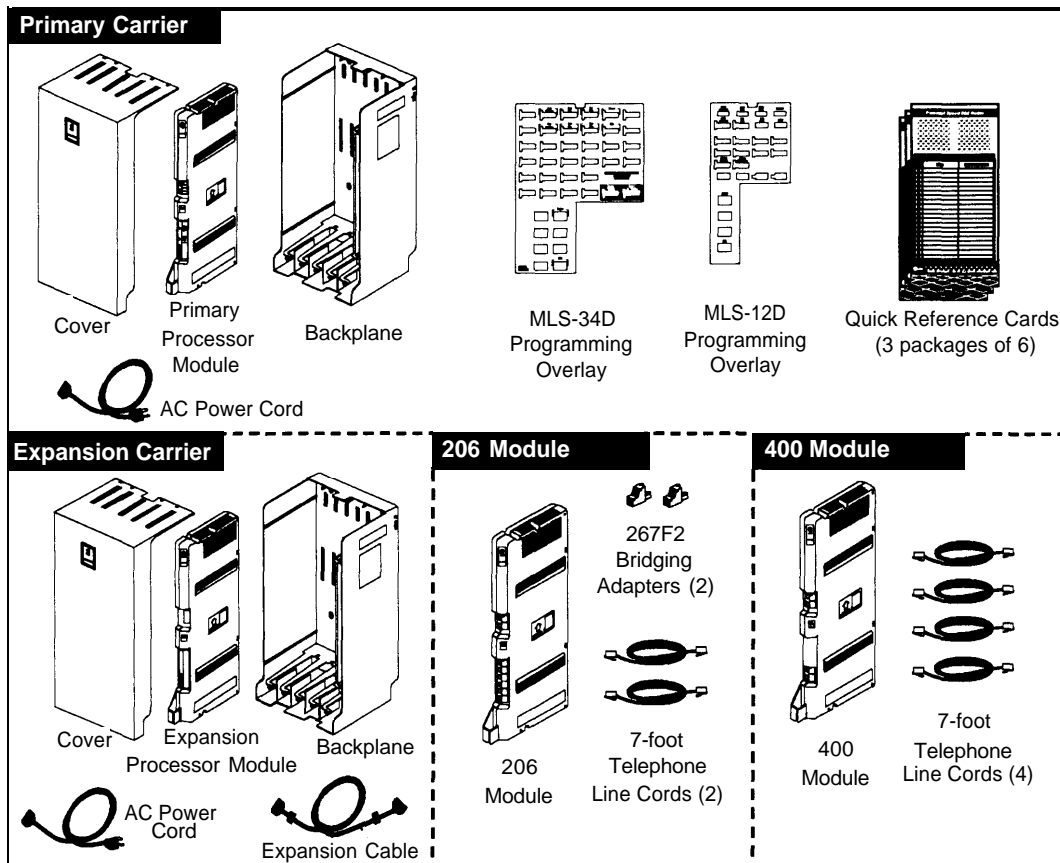




## Installation Procedures

Before installing the premises equipment, be sure you read the safety instructions on page 2-ii. In addition, be sure you have the parts shown in Figure 2-3 (if not, call the Helpline as instructed on the inside front cover of this guide). You will have up to four types of component packages; Figure 2-3 shows the contents of each package type in an area marked by a dashed line.

### Required Parts

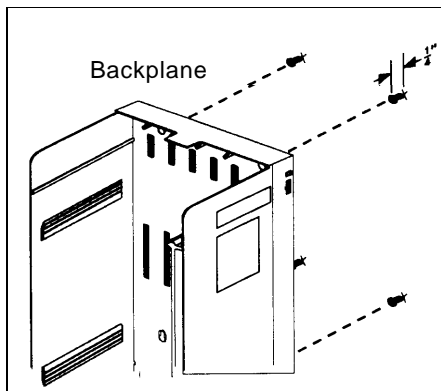


**Figure 2-3. Premises Equipment Parts**

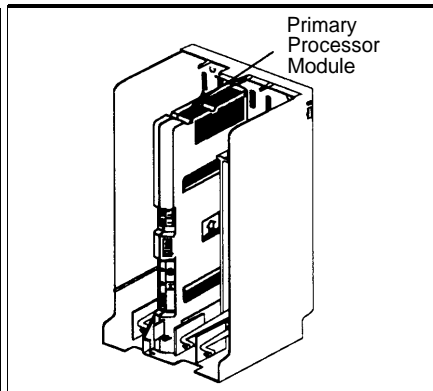
#### NOTES:

1. For each carrier, you will need to obtain four #12 screws of the appropriate type for the wall and the weight of the carrier (a carrier with two 206 modules, two 400 modules and a processor module weighs approximately 27.5 pounds).
2. If you need modular telephone cords for connecting the extension jacks on the equipment controller to the modular connecting blocks for extensions in the equipment room, short telephone cords for wall mounting MLS-model phones, or a 355A/355AF adapter and D8W telephone cord for connecting a call reporting device, order them before installation. See "Product Ordering Information" in Appendix C for ordering instructions.

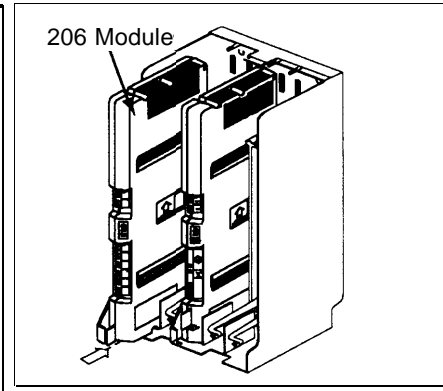
## Installing the Carriers and Modules



**1** A) Hold the backplane against the wall. (If you are also installing the expansion carrier, plan to install it to the *right* of the primary carrier, leaving 6" to 24" between carriers.) Using the four screw keyholes in the backplane as a template, mark screw locations on the wall. Start four #12 screws, leaving the screw heads approximately 1/4" away from the wall. Slip the backplane onto the screws and tighten them. B) If you are mounting the expansion carrier, repeat this step.



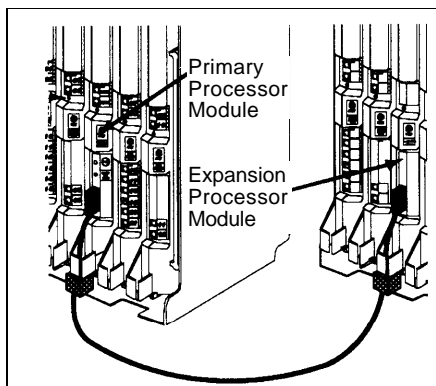
**2** A) Slide the primary processor module into the *center* slot of the primary carrier backplane. Push slowly but firmly until the module locks into place with two snaps, so that it is attached to the rear of the backplane and held by the locking tab on the bottom of the slot. Do not force the module. If it does not insert easily, remove the module, clear any obstruction, and reinsert. B) If you have an expansion carrier, slide the expansion processor module into its *center* slot until the module locks into place.



**3** Slide the first 206 module into the leftmost slot of the primary carrier backplane. (The system will not work if a 206 module is not installed in this slot.) Going from left to right, install a 206 module first, then a 400 module. Each 400 module must be to the right of a 206 module.

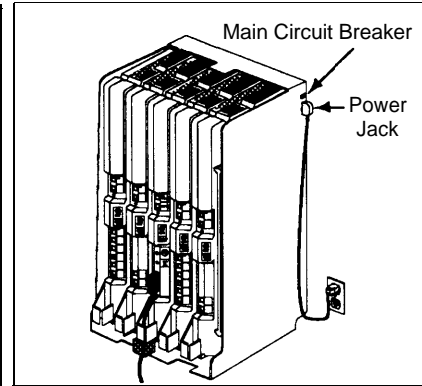
### ▲ WARNING:

*There are no customer-serviceable components inside the modules or backplane. Hazardous voltages within. DO NOT OPEN THE MODULES!*

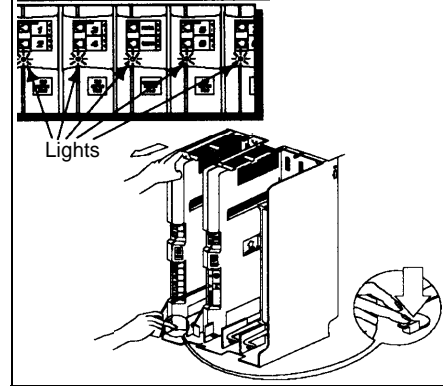


**4** If you have installed both carriers, plug the ends of the expansion cable into the two processor modules and tighten the screws. Route both ends of the cable through the hooks on the fronts of the modules.

**NOTE:** The colored plastic filters on the expansion cable should rest just below the hooks.

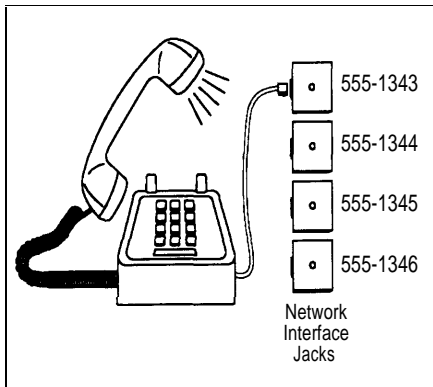


**5** A) Make sure the main circuit breakers on both carriers are off (pulled out). B) Press the AC power cord firmly into the power jack on the top right rear of the backplane until it locks into place. Plug the other end of the power cord into a grounded three-prong wall outlet not controlled by a switch. Repeat for the expansion carrier, plugging its cord into the same wall outlet. C) Push in the main circuit breaker for the expansion carrier *first*, and then push in the main circuit breaker on the primary carrier.

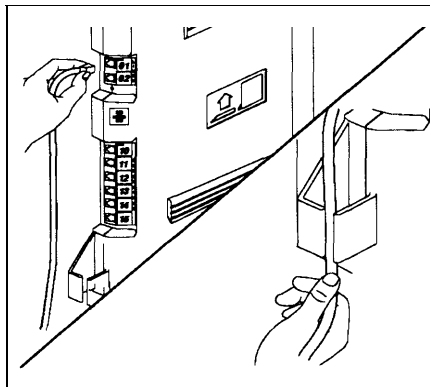


**6** Check all green lights on the fronts of the modules to make sure they are lit. If a *single light is out*, pull out the main circuit breakers, reseal the module, then push in the main circuit breakers (as you did in Step 5C). If *multiple lights are out*, check to see that the modules are installed in the right order. If they are, pull out the main circuit breakers, reseal the leftmost module of the ones that were out, then push in the main circuit breakers. If the lights are still out, call the Helpline.

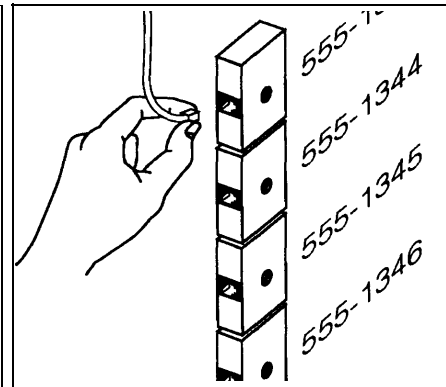
## Connecting Lines and Extensions



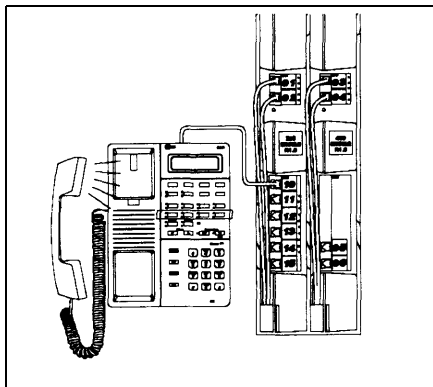
**1** Test for dial tone at the network interface jacks before connecting Centrex lines. Connect a standard touch-tone phone to the first network interface jack. Lift the handset and listen for dial tone. Repeat for each network interface jack. (If there is no dial tone, contact your local telephone company before continuing.)



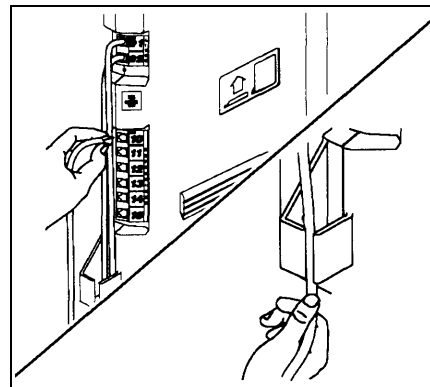
**2** A) Connect the telephone line cords to the line jacks on the 206 and 400 modules, starting with the top line jack on the leftmost 206 module. B) Route each cord through the hook on the front of the module, then through the slot between the module and the base of the backplane. Leave at least two feet of slack in cords to allow for easy replacement of modules (see "Replacing a Module" on page 2-14).



**3** Connect the free end of each telephone line cord to the appropriate network interface jack.



**4** Test the lines. Plug an MLS- or MLC-model phone into extension jack 10. Press the line buttons for each Centrex line and listen for the dial tone.

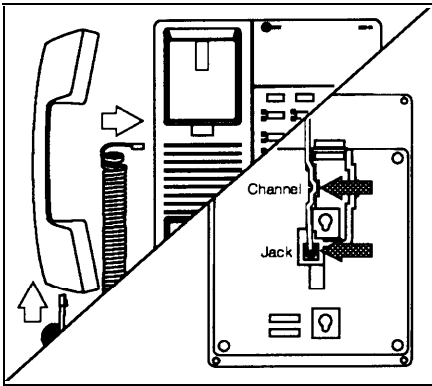


**5** A) Connect the modular telephone cords to the 206 module extension jacks, starting at the top jack on the leftmost module. B) Route each cord through the hook on the front of the module, then through the slot between the module and the base of the backplane. Leave at least two feet of slack in cords to allow easy replacement of modules (see "Replacing a Module" on page 2-14). Connect each cord to the appropriate wall jack or directly to a phone.

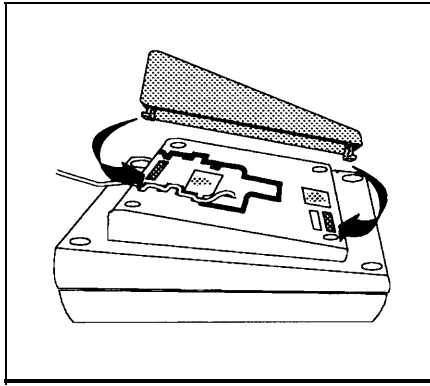
**NOTE:** If wall jacks are not installed, call a qualified service technician.

## Assembling MLS-Model Telephones

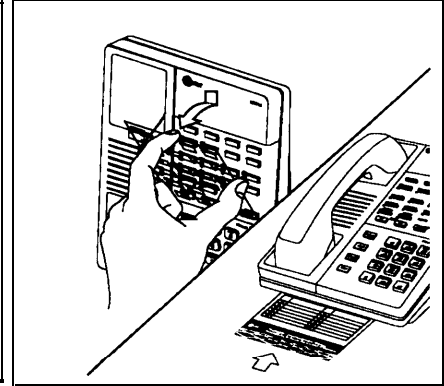
### Desk Mounting (Stand Required for MLS-34D)



**1** A) Plug one end of the handset cord into the jack on the handset and the other end into the small jack on the left side of the base. B) For all but MLS-34D phones, plug one end of the phone cord into the big jack on the bottom of the phone; push the cord into place along the channel on the bottom of the phone. C) To raise the phone's angle, go to Step 2. Otherwise, go to Step 3.

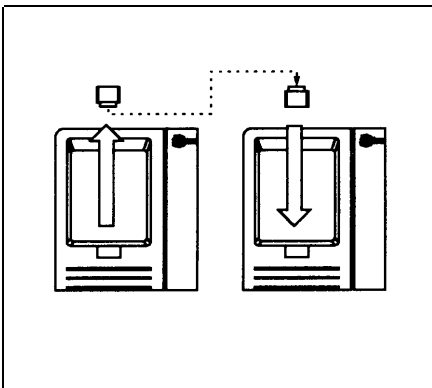


**2** To install the phone stand, gently place the phone upside down with the low end of the phone to your right. Insert the tab on the narrow end of the stand into the right slot on the bottom of the phone. (For an MLS-34D phone, feed the cord through the stand and plug it in.) Then insert the other tab into the left slot, pushing the stand down and slightly inward until the tab locks into place.



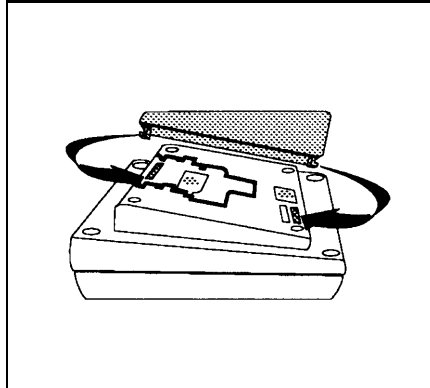
**3** A) Remove the plastic cover from the phone and place a labeled button sheet on the phone so the holes on the sheet fit over the buttons. Carefully replace the plastic cover. B) Slide the *Quick Reference* card under the telephone.

### Wall Mounting (Stand Required)



**1** Reverse the plastic hook that is located in the earpiece part of the handset cradle.

**NOTE:** These wall mounting instructions apply to *corded* MLS-model phones only. To wall mount an MLC-6 cordless phone, follow the instructions in the booklet provided with the phone.

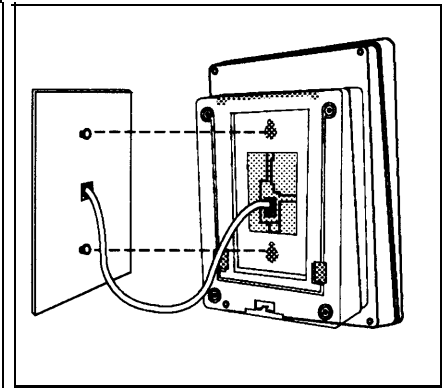


**2** To install the telephone stand, gently place the phone upside down with the low end of the phone to your right. Insert the tab on the narrow end of the stand into the left slot on the bottom of the phone. Then insert the other tab into the right slot, pushing the stand down and slightly inward until the tab locks into place.



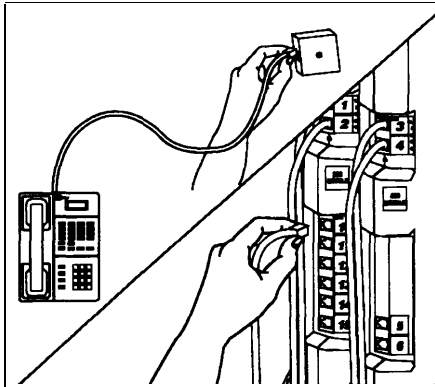
**CAUTION:**

Do not unscrew the bottom of the phone. To do so will expose you to a risk of electrical shock.



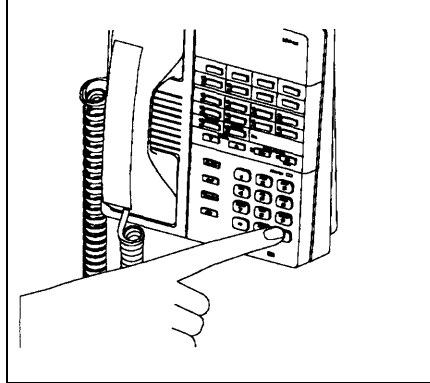
**3** A) Insert the short phone cord through the center of the stand and plug it into the jack on the bottom of the phone, then plug the other end into the modular wall jack. Mount the phone on the wall jack using the screw keyholes on the base of the stand. For proper mounting, the wall jack must be an AT&T 630B connecting block. Finally, connect the handset cord as described in "Desk Mounting," Step 1A above. B) Remove the plastic cover from the phone and place a labelled button sheet on the phone as in Step 3A above.

## Connecting and Testing Telephones



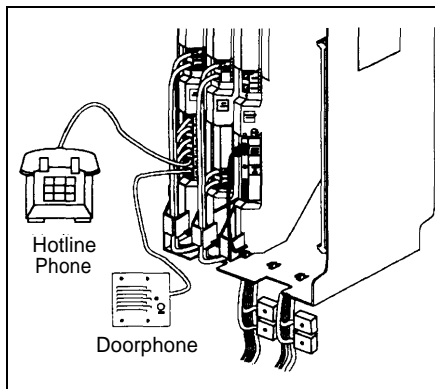
**1** To connect a phone, plug the modular telephone mounting cord into a modular wall jack or directly into a 206 module extension jack. (If you are connecting a standard phone and its mounting cord is loose, use an AT&T D2R mounting cord instead.)

To install two phones (or other devices) on a single extension jack, see Figure 2-2 on page 2-5.



**2** Test the telephone for proper operation. To test the power and lights on a MLS- or MLC-model phone, press and hold the [#] button for five seconds. Before releasing the [#] button, lift the handset. All lights should light, the ringer should sound, and (on the MLS-12D or MLS-34D phones only) a test pattern should appear on the display. (If not, call the Helpline.) Replace the handset; the phone is now in normal operating mode.

## Connecting Doorphones and Hotline Phones

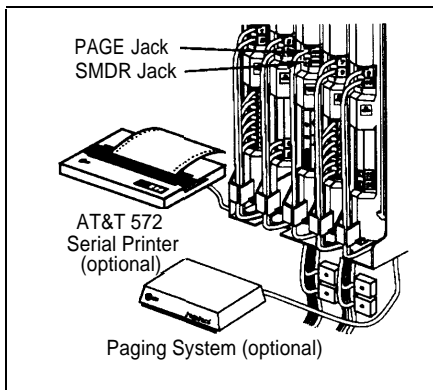


**1 Hotline Phone:** A) To install a Hotline phone, insert the modular telephone cord into the last available extension jack on the last installed 206 module. B) Route the cord as for other line and extension cords. (See Chapter 5 for instructions on programming a Hotline phone extension.)

**2 Doorphone:** A) To install an AT&T doorphone, insert the modular plug into the last available extension jack on the last installed 206 module. B) Route the cord as for other line and extension cords. (See Chapter 5 for instructions on programming a doorphone extension.)

**NOTE:** If you add a module to your premises equipment, you should move the Hotline phone and doorphone extensions. See "Adding New Modules" on page 2-14.

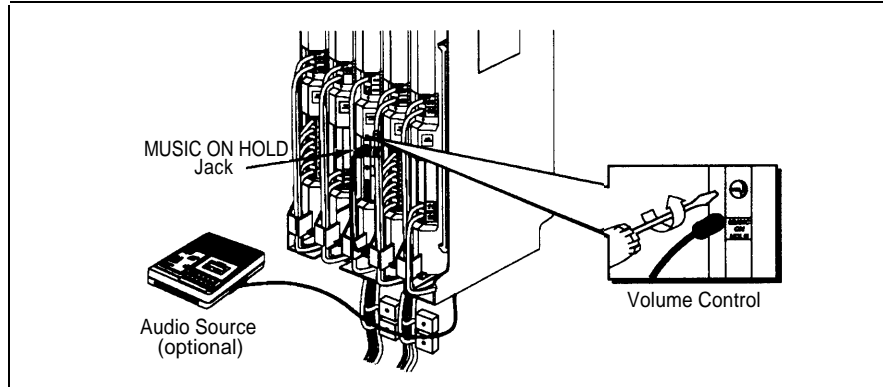
## Connecting Paging, Call Reporting (SMDR), and Music-on-Hold Devices



**Paging System:** To install an AT&T paging system, insert the modular plug for the paging system into the jack labeled PAGE on the primary processor module. Route the cord as for line and extension cords, then connect it to the loudspeaker paging system.

**Call Reporting (SMDR) Printer:** To install an AT&T 572 Serial Printer for call reporting, insert one end a D8W modular cord into the jack labeled SMDR on the primary processor module. Plug the other end into an AT&T 355AF adapter and then plug the 355AF adapter into the RS-232 serial port on the printer.

**NOTE:** Only the steps for connection to the equipment controller are provided here. See Chapter 5 for instructions on activating the Music-on-Hold Jack, Chapter 6 for using the paging system, and Chapter 7 for information on call reporting. Also refer to the manufacturer's instructions for additional information on using these devices.

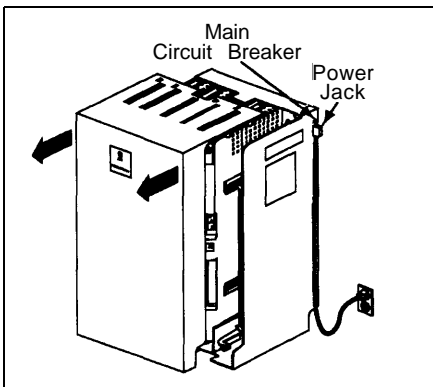


**Music-on-Hold Audio Source:** A) To connect an audio source, insert an RCA plug into the jack labeled MUSIC ON HOLD on the primary processor module. Route the cord as you did for the line and extension cords, then connect it to the audio source.

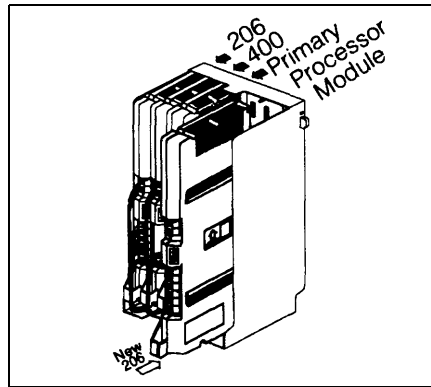
B) To adjust volume, first use a flathead screwdriver to turn the volume control on the primary processor module counter-clockwise to the lowest setting, then connect the AC power. Place a call on hold and listen while adjusting volume. If you do not hear music at any setting, check System Programming procedure #602 (see page 5-13).

## Equipment Upgrades

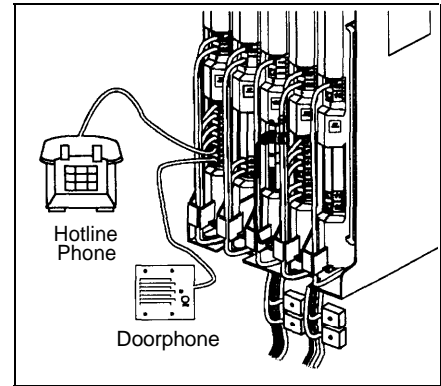
### Adding New Modules



**1** A) Pull out the main circuit breaker(s) on the carrier(s) to power down the equipment controller. B) Slide the equipment controller cover off the backplane.

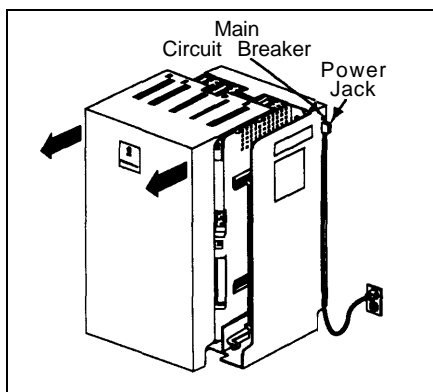


**2** A) Insert the new 206 and 400 modules as you did in Step 3 on page 2-9, making sure the 400 module is installed *to the right* of the 206 module. B) Connect line and extension jack cords as described on page 2-10.

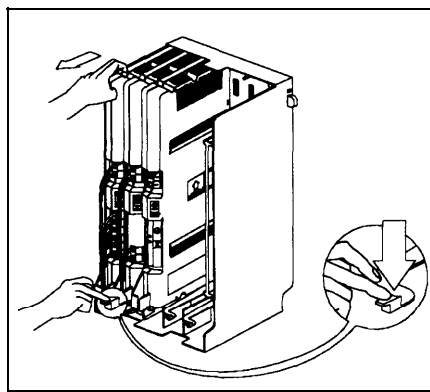


**3** Move the doorphone and/or Hotline phone extensions to the last installed 206 module. Unplug the Hotline phone and/or doorphone extension cords and connect them to the last available jacks on the last installed module. Refer to page 5-9 for instructions on adjusting System Programming. Power up the equipment controller and check the lights on the modules using the instructions in Steps 5 and 6 on page 2-9.

### Replacing a Module



**1** A) Pull out the main circuit breaker(s) on the carrier(s) to power down the equipment controller. B) Slide the equipment controller cover off the backplane.



**2** A) Check the slack in the wires. If there is not enough slack to remove the module without pulling the line and extension cords free, label and disconnect the wires before moving on to Step 2B. B) Place one hand on top of the module. With the other hand, grip the plastic bracket on the bottom front of the module, and use the middle finger to hold down the locking tab just below the bracket. C) Pull out the old module and insert the replacement. (Refer to Step 3 on page 2-9.)

**3** A) Connect the line and extension cords one at a time, making sure to place the correct cords into their corresponding jacks on the new module. B) Power up the equipment controller and check the lights on the modules using the instructions in Steps 5 and 6 on page 2-9. C) Replace the cover.

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# Using the Equipment with Centrex Services

# 3

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## Contents

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■ Jack Numbers for Extensions and Lines	3-3
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## Using the Equipment with Centrex Services

# 3

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### Overview

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This chapter explains how your premises equipment works in conjunction with your Centrex services. The following topics are discussed:

- Line assignments and ringing
- Line and extension numbering
- Popular Centrex services
- One-touch access to Centrex services.

When you have installed your premises equipment as described in Chapter 2, the equipment controller sets up your system (using default or “factory” settings) to work smoothly with your Centrex services. For example, the controller automatically distributes the Centrex lines connected to your equipment controller, assigning a *primary line* to each system extension, and sets all primary lines for immediate ringing. This means that anyone (inside or outside the Centrex system) can dial an extension directly, simply by dialing the phone number. (See “Primary and Secondary Lines” on page 1-5 for more details.)

**NOTE:**

This guide describes only the operation of your premises equipment; for information on Centrex services, see the Centrex documentation provided by your local telephone company.

If you wish to change the defaults described in this chapter, see Chapter 4 (for information on the options that are available) or Chapter 5 (for equipment programming procedures).

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## Terminology

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The following terms are used in this chapter. In addition, you may wish to review the “Terminology” section of “About This Guide,” which defines basic terms used throughout this guide, or the Glossary, which defines all terms.

<b>Auto Dial button</b>	A programmable telephone button that lets you dial a series of digits simply by pressing that button. An Auto Dial button can be used to store a Centrex feature code or a telephone number so that it can be dialed with one touch. <i>See also</i> Programmable button.
<b>Centrex extension number</b>	A short code (or “Centrex extension ID”) that can be used to dial another extension within the Centrex system. Typically, this is the last digits of the Centrex telephone number.
<b>Centrex system</b>	The total block of Centrex lines you subscribe to—all or some of which may be connected to the equipment controller for your system—together with the Centrex services associated with those lines. <i>See also</i> Premises equipment.
<b>Centrex telephone number</b>	The phone number that outside callers dial to reach an extension within the Centrex system.
<b>Inside call</b>	A call made from an extension inside the Centrex system to another extension inside the Centrex system, using the Centrex extension number.
<b>Outside call</b>	A call made from outside the Centrex system to an extension within the Centrex system, or from inside the Centrex system to a number outside the Centrex system. If your Centrex system uses a dial-out code (usually a “9”), you must dial it before you dial an outside telephone number.
<b>Premises equipment</b>	The AT&T equipment controller and MLS- and MLC-model telephones that you purchased as part of your system, plus all other telecommunications devices that are connected to your equipment controller. For purposes of this guide, premises equipment does <i>not</i> include any equipment that connects directly to Centrex lines without going through the equipment controller. <i>See also</i> Centrex system
<b>Programmable button</b>	A telephone button that can be set up to access a feature. On MLS- and MLC-model phones, programmable buttons can be used as Auto Dial buttons (for one-touch dialing of Centrex feature codes or telephone numbers) or equipment feature buttons.
<b>Recall</b>	An equipment feature that sends a timed switchhook flash to let you access a Centrex service. (Use Recall only on an outside or inside call; using Recall on an intercom call disconnects the call.)

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## Centrex Line Assignments and Ringing

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Your local telephone company provides a block of Centrex lines that are used with your telephones. When you connect these lines to your equipment controller and supply electrical power, the controller automatically assigns one Centrex line to each extension. The only exception is the phone connected to extension jack 10, which is assigned *all* of the lines in your system, to permit a receptionist to answer calls for users if they do not pick up immediately. (For more information on call coverage, see “Call Coverage Options” in Chapter 4.)

By default, the primary line for an extension is set for *immediate ringing* and any secondary lines are set for *delayed ringing*. When a call comes in on a line, it rings immediately at the extension where the line is assigned as a primary line; after about 20 seconds it also begins to ring at any extensions where the line is assigned as a secondary line (for example, at the receptionist’s extension).

### NOTE:

The equipment controller passes Centrex ringing patterns through to each phone (for example, Centrex ringing patterns are usually different for outside and inside calls).

## Centrex Line and Extension Numbers

---

Each Centrex line is identified by a seven-digit telephone number (for example, 555-1212). When someone outside your system calls a Centrex telephone number (an *outside call*), the call rings at the extension where that number is assigned as the primary line.

Users who are on the same Centrex system can generally dial another extension (an *inside call*) using the *Centrex extension number*. The Centrex extension number is typically the last digits of the telephone number—the number of digits is determined by the local telephone company, but in most cases the last four or five digits of the telephone number are used. For example, the Centrex extension number for 555-1212 might be 1212 or 51212. (Some Centrex systems may also provide a one-or two-digit “Centrex extension ID” that can be used to dial other extensions.)

## Jack Numbers for Extensions and Lines

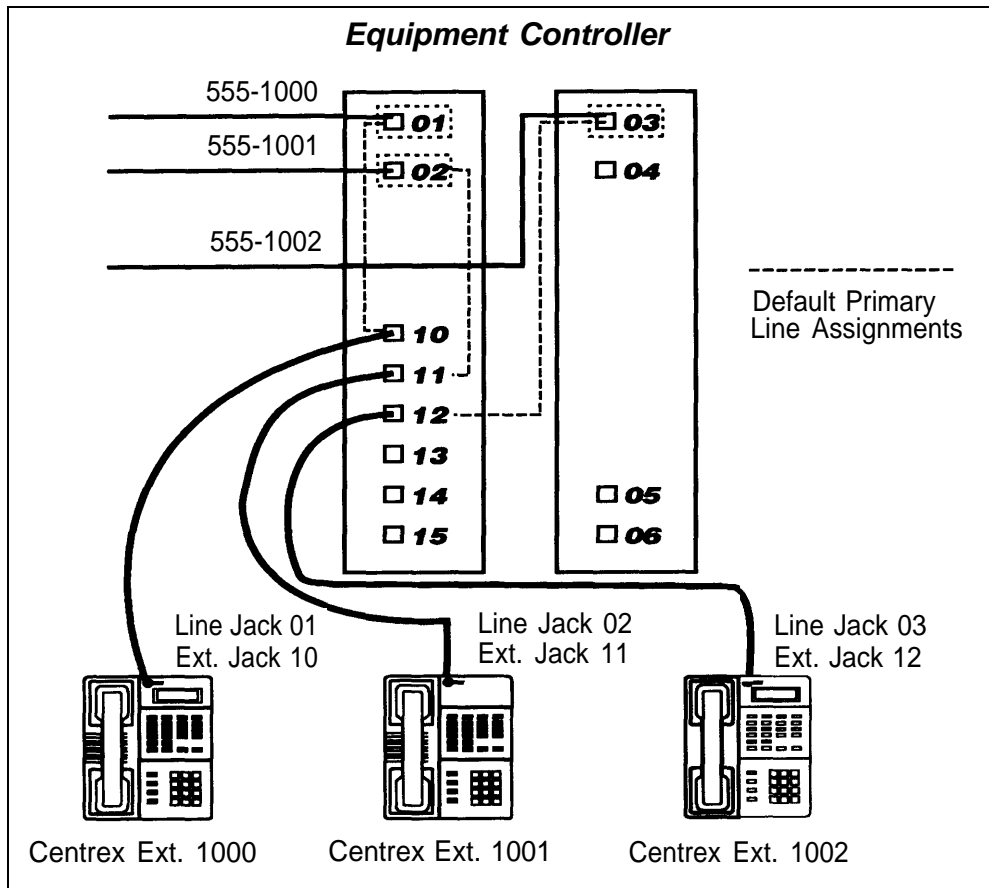
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Although users will identify extensions by the Centrex extension number, the equipment controller tracks lines and extensions using two other numbers, based on the physical connections at the equipment controller. When your premises equipment was installed (see Chapter 2), the following connections were made:

- Each Centrex line comes into your building from your local telephone company and terminates at a network interface jack; each network interface jack is then connected to a line jack on the equipment controller. Each line jack on the controller is identified by a *line jack number*. Line jack numbers run from 01 through 24 (if you have the maximum number of lines that can be used with your premises equipment).

- Each telephone is connected (either directly or through a wall jack) to an extension jack on the equipment controller. Each extension jack on the controller is identified by an *extension jack number*. Extension jack numbers run from 10 through 33 (if you have the maximum number of extensions that can be used with your premises equipment).

Line jack numbers and extension jack numbers are required for many of the programming procedures that you use to customize your premises equipment.



**Figure 3-1. Centrex and Equipment Line Numbers**

Figure 3-1 shows line jack numbers and extension jack numbers in relation to telephone numbers and Centrex extension numbers in a very small (three-telephone) system. The three lines in this example (555-1000, 555-1001, and 555-1002) use the last four digits of the phone number as the Centrex extension number. The first line has Centrex extension number 1000; it is connected to the first line jack on the equipment controller (line jack 01), and serves as the primary line for the phone connected to extension jack 10. The other two lines are connected to line jacks 02 and 03, and provide primary lines for the phones connected to extension jacks 11 and 12, respectively.

**NOTE:**

Figure 3-1 shows only primary line assignments. By default, the equipment controller assigns all lines to the phone connected to extension jack 10, but only the first line is primary.

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## Centrex Services

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With each Centrex line, you have a set of Centrex services (some services may not be available on all lines). Table 3-1 lists some of the most popular Centrex services.

To complement your Centrex services, your equipment controller provides additional features. You can use Table 3-1 to identify the services you have on your Centrex system; then see Chapter 4 for more information on equipment features you may want to add to your system.

Centrex services are supplied by your local telephone company; see the Centrex documentation provided by your local telephone company for more specific information on the services available with your system. Also, be aware that the names of services may vary depending on the supplier. You can use the *System Planner* to record the services available on each line in your system.

### NOTE:

Many Centrex services are accessed by pressing the switchhook on a standard phone, then dialing a Centrex feature code. On an MLS- or MLC-model phone, however, use the Recall feature to send a timed switchhook flash and then dial the Centrex feature code—see Chapter 5 for instructions on programming the Recall feature on a button and Chapter 6 for instructions on using the Recall feature. Pressing the switchhook on an MLS- or MLC-model phone disconnects the current call instead of sending a switchhook flash.

**Table 3-1. Examples of Popular Centrex Services**

Name	Description
Abbreviated Extension Dialing	Lets users call another Centrex extension by dialing a short code (or “Centrex extension ID”).
Call Detail Recording	Records calling statistics for each Centrex line; reports are sent periodically from the telephone company.
Call Forwarding (Busy)	When a caller gets a busy signal, forwards the call from the busy line to a designated number.
Call Forwarding (No Answer)	When a caller gets no answer within a designated number of rings, forwards call from the unanswered line to a designated number.
Call Forwarding (Send All Calls)	Forwards all calls to a number specified by the user when the feature is activated. (User may be able to specify an inside or outside number.)
Call Hold	Puts a call on hold so that the user can place another call on the same line.
Call Pickup	Lets a user dial a code to pick up a call ringing at any extension in the pickup group.
Call Waiting	When an inside caller gets a busy signal, the caller can dial a code to send a “call waiting” tone to the dialed extension. The party dialed can then pick up the call or hang up when finished with the current call (the waiting call rings). Another form of Call Waiting supplies a “call waiting” tone whenever a call comes in on a busy line; the caller does not have to dial a code to send the signal.
Conference	Lets a user speak with several parties at the same time.
Dial-Out Code	Requires that users dial a code (usually “9”) before dialing an outside number. If a dial-out code is required, this code should be programmed for the premises equipment using the PBX Dial-Out Code (#106) procedure. See page 5-10.

Name	Description
Direct Connect	Lets the user at a designated extension dial another extension automatically by lifting the handset on a phone.
Directed Call Pickup	Lets a user dial a code to pick up a ringing call that was made to a specific Centrex extension.
Distinctive Ringing	Lets a user determine whether an incoming call or call waiting signal is from an inside caller or a caller outside the Centrex system. (The equipment controller passes Centrex ringing patterns through to the phones in your system.)
800 Service	Lets callers from predetermined area codes make toll-free inward calls, billed to you at a rate based on expected usage.
Line Calling Restrictions	Restricts calls made from a specific Centrex line (or group of lines). May allow entry of an authorization code to override restrictions.
Make Busy	Allows selected lines to seem busy to callers.
Multi-Line Hunt	Directs an incoming call made to a specific telephone number to any one of the lines in a Centrex line group (customized hunting patterns may be available from your local telephone company).
Night Service	Allows special call handling, when a receptionist is not available (for example, forwarding all calls or enabling any user to answer calls).
Outward WATS	Lets users place calls to predetermined area codes at a billing rate based on the expected usage.
Speed Dialing (Group)	Lets all system users call a number from a predefined list by dialing a short code (receptionist maintains list).
Speed Dialing (Personal)	Lets a user who has the feature call a number from a predefined list by dialing a short code (user maintains list).
Transfer	Lets a user transfer calls to another Centrex extension (or in some cases to an outside number).
Voice Mail	When the user at an extension doesn't answer and this feature is on, lets a caller leave a message for the person at the extension.

## One-Touch Access to Centrex Services

All MLS- and MLC-model phones have preprogrammed [ *Conf* ] and [ *Transfer* ] buttons that can be used for one-touch access to the Centrex services for conference calling and call transfer. (See the Centrex documentation provided by your local telephone company for specific instructions; but where instructions for Centrex conference calling or call transfer say "press the switchhook on your phone," press the [ *Conf* ] or [ *Transfer* ] button instead.)

*Auto Dial buttons* let you program a sequence of digits onto a programmable phone button, and then dial the digits simply by pressing the programmed button. You can use Auto Dial buttons to store the codes you use to access Centrex services, or to store frequently-dialed phone numbers for one-touch dialing.

---

You can store dialing sequences on two types of telephones:

- On *MLS- and MLC-model phones* you can store feature codes and phone numbers on any of the programmable buttons, as long as no lines are assigned to the buttons. MLS- and MLC-model phone buttons can be programmed centrally from an MLS-34D or MLS-12D phone connected to extension jack 10 or 11, or directly at a user's extension. In addition to Centrex feature codes and phone numbers, you can program MLS- and MLC-model phone buttons with codes for features that are available with your premises equipment; see "One-Touch Access to Equipment Features" in Chapter 4 for instructions.
- On industry-standard phones with programmable buttons (*feature phones*), you can store feature codes and phone numbers on any programmable buttons. Buttons on feature phones must be programmed at the user's extension.

### **Storing Centrex Feature Codes on Auto Dial Buttons**

---

To store a Centrex feature code on an Auto Dial button, first make sure the service is available on the Centrex line for the extension being programmed. Then store the Centrex feature code on the button. (For MLS- and MLC-model phones, use the instructions on pages 5-15 and 5-16; for feature phones, follow the instructions provided with the phone.)

**NOTE:**

When a Centrex feature code is stored on a programmable button on an MLS- or MLC-model phone, the lights next to the button do *not* show when the feature is active.

### **Storing Phone Numbers on Auto Dial Buttons**

---

You can store outside telephone numbers or Centrex extension numbers on Auto Dial buttons. Pressing the button automatically dials the number. Outside numbers and Centrex extension numbers can be stored on any phone with programmable buttons.

To program an outside telephone number, store the complete number, including the dial-out code ("9" on most Centrex systems) if your Centrex system requires it for outside calls. For example, to dial 201 555-1212, store 9 1 201 555 1212 on the Auto Dial button.

**NOTE:**

If a dial-out code is required for outside calls, this code should be programmed for the premises equipment using the PBX Dial-Out Code (#106) procedure. See page 5-10.

If you store a Centrex extension number on a button, you can use the button to call the extension simply by pressing the button or to help in transferring the call. (For instructions on using Centrex call transfer, see the Centrex documentation provided by your local telephone company.)

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# Decisions for Customizing Your System

# 4

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# Decisions for Customizing Your System

# 4

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## Overview

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As discussed in Chapter 3, the default settings for your premises equipment are designed to complement your Centrex services. However, you may wish to customize your premises equipment to fit the needs of your business more exactly.

This chapter describes some equipment features that can provide added benefits to your system, as well as some settings that you may wish to change to tailor your phone system to your needs. Use the material here to help you make choices about the way you want your system to work and identify the relevant programming procedures; then see Chapter 5 for detailed programming instructions.

**NOTE:**

The *System Planner* for your premises equipment provides an ongoing record of your equipment setup and programming. If you change the programming for your premises equipment after installation, record any changes in your *System Planner*. This ensures that you always have a current record of your equipment programming.

The following topics are discussed in this chapter:

- Call coverage options
- One-touch access to equipment features
- Optional equipment features
- Auxiliary equipment.

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## Terminology

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The following terms are used in this chapter. In addition, you may wish to review the “Terminology” section of “About This Guide,” which defines basic terms used throughout this guide, or the Glossary, which defines all terms.

<b>Auto Dial button</b>	A programmable telephone button that lets you dial a series of digits simply by pressing that button. An Auto Dial button can be used to store a Centrex feature code or a telephone number so that it can be dialed with one touch. <i>See also</i> Equipment feature button and Programmable button.
<b>Auxiliary equipment</b>	Telecommunications equipment (other than MLS- and MLC-model telephones) that can be connected to the equipment controller. Auxiliary equipment includes industry-standard devices that can connect directly to the public telephone network (such as standard phones or fax machines) as well as devices that require the interface provided by the equipment controller (such as a loudspeaker paging system).
<b>Call coverage</b>	An arrangement that lets a receptionist or a person at another extension answer a call when the dialed extension is busy or not answered. Call coverage may be provided centrally by a receptionist (using default equipment settings), locally by a person at another extension (requiring secondary line assignments), or using Centrex coverage services (such as call forwarding or voice mail). In addition, answering machines may be installed at key extensions to take messages when a person is not available to take calls.
<b>Doorphone</b>	An AT&T proprietary phone that can be wall mounted outside your office or in a lobby, to allow visitors to alert up to five system extensions by pressing a button. The doorphone includes a speaker and microphone, to allow two-way conversation between the doorphone and the phone that answers.
<b>Equipment feature</b>	A feature provided by your equipment controller (as opposed to a service provided by Centrex).
<b>Equipment feature button</b>	A programmable telephone button on an MLS- or MLC-model telephone that enables you to access an equipment feature simply by pressing that button. <i>See also</i> Auto Dial button and Programmable button.
<b>Hotline phone</b>	A standard phone that rings another extension automatically when the handset is lifted.
<b>Premises equipment</b>	The AT&T equipment controller and MLS- and MLC-model telephones that you purchased as part of your system, plus all other telecommunications devices that are connected to your equipment controller. For purposes of this guide, premises equipment does <i>not</i> include any equipment that connects directly to Centrex lines without going through the equipment controller.

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**Programmable button** A telephone button that can be set up to access a feature. On MLS- and MLC-model phones, programmable buttons can be used as Auto Dial buttons (for one-touch dialing of Centrex feature codes or telephone numbers) or equipment feature buttons.

## **Call Coverage Options**

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This section describes your options for providing call coverage when the user at an extension is not available to take calls. The following options are discussed:

- Central Call Coverage by a receptionist (the default)
- Centrex Call Coverage using Centrex features such as call forwarding or voice mail
- Local Call Coverage by another extension
- Coverage by an answering machine
- Additional options for extensions that provide call coverage.

An extension that picks up calls on another extension's line is referred to as a *covering extension*. An extension whose calls can be picked up by another extension is referred to as a *covered extension*.

## **Central Call Coverage**

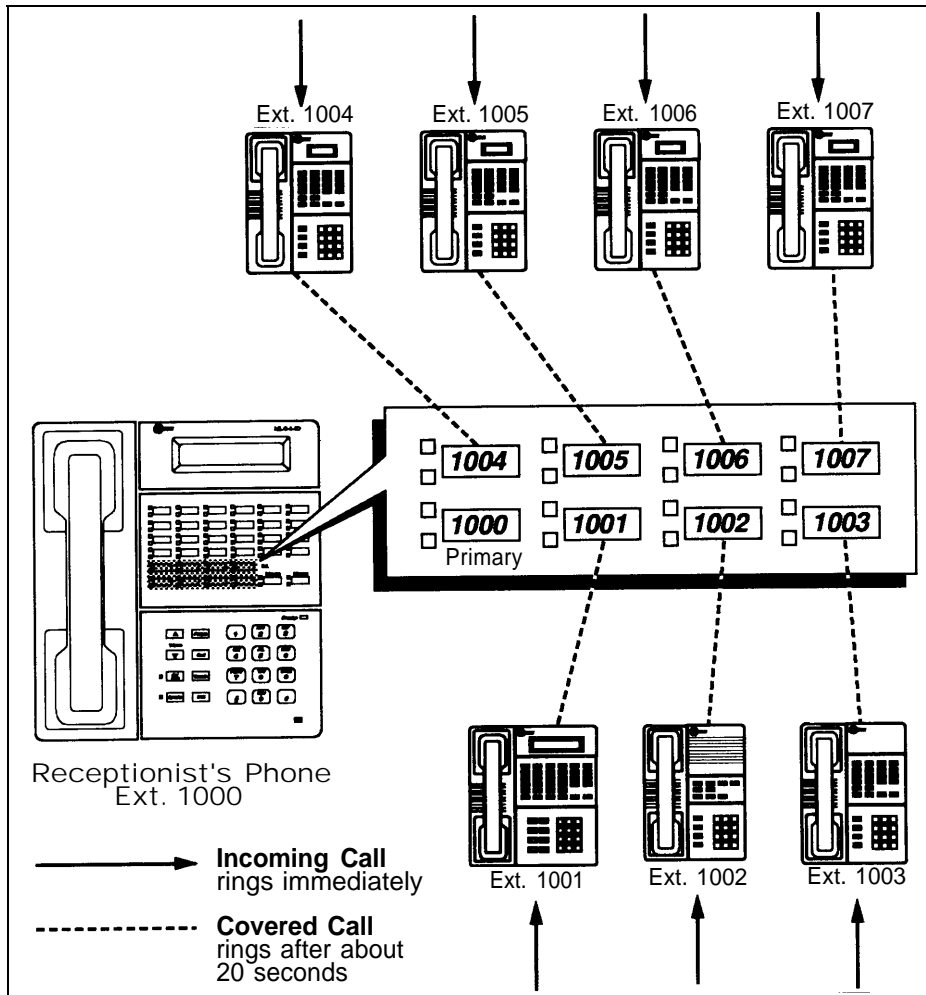
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Central Call Coverage—the default call coverage setup—lets a central receptionist answer calls that are not picked up by the user at the dialed extension. When a call comes in on a line, it rings first at the phone where the line is assigned as a primary line, but if the user at that extension does not pick it up, it also rings at the receptionist's phone.

**NOTE:**

For a central receptionist, install an MLS-34D phone (which has 32 line/programmable buttons). This phone can easily handle the system maximum of 24 lines and still have eight programmable buttons available for features.

Figure 4-1 shows how Central Call Coverage works.



**Figure 4-1. Central Call Coverage**

Setup for Central Call Coverage is simple, because the equipment controller automatically assigns all lines to the receptionist's phone (the phone connected to extension jack 10). The Centrex line connected to line jack 01 on the equipment controller is assigned as the primary line; all other lines are assigned as secondary lines. This arrangement lets a receptionist cover all of the lines in your system.

Table 4-1 shows the equipment programming settings that are needed for Central Call Coverage. The first column shows the name of the programming procedure or function. System Programming procedures, which determine how the equipment controller handles lines and extensions, include the procedure number in parentheses—for example, "Line Assignment (#301)." Telephone Programming procedures, which affect the operation of individual extensions, show only the name of the procedure. (See Chapter 5 for more information on programming.) The remaining columns show the required and optional settings for this call coverage setup.

**Table 4-1. Programming for Central Call Coverage**

<b>Procedure</b>	<b>Setting for Receptionist (Extension Jack 10)</b>	<b>Setting for Other Extensions</b>
Line Assignment (#301)	<p>*In addition to its own primary line, assigns all other lines in the system as secondary lines.</p> <p>If a line should not be answered by the receptionist, remove that line's assignment for extension jack 10.</p>	<p>*Assigns a unique primary line to each extension.</p>
Abbreviated Ringing (#305)	<p>*Normally, if a call comes in when you are on the phone, the call will ring at your phone only once (but the light next to the line button will continue to flash).</p> <p>To have incoming calls keep ringing, even when you are busy on another call, set Abbreviated Ringing to "not active" (setting applies to all lines assigned at that extension).</p>	<p>*Normally, if a call comes in when you are on the phone, the call will ring at your phone only once (but the light next to the line button will continue to flash).</p> <p>To have incoming calls keep ringing, even when you are busy on another call, set Abbreviated Ringing to "not active" (setting applies to all lines assigned at that extension).</p>
Line Ringing	<p>*Sets the primary line for "immediate ring;" sets secondary lines for "delayed ring" (after about 20 seconds). If a line should not be answered by the receptionist, set to "no ring."</p> <p>If the receptionist should answer all calls on a line, set ringing for that line to "immediate ring."</p>	<p>*At each extension, sets the primary line for "immediate ring."</p> <p>If the receptionist should answer all calls on a particular user's line, set ringing for that line to "delayed ring" or "no ring" at the user's extension.</p>
<p>* Default settings for premises equipment.</p>		

## **Centrex Call Coverage**

Centrex Call Coverage uses Centrex services—such as call forwarding or voice mail—to provide coverage for unanswered calls.

To set up Centrex Call Coverage, remove all secondary lines from the receptionist's phone (the phone connected to extension jack 10). You may also wish to program the codes for Centrex coverage services onto programmable phone buttons, to provide one-touch access to those services.

Table 4-2 shows the settings you should change to switch from Central Call Coverage to Centrex Call Coverage. The first column shows the name of the programming procedure or function. System Programming procedures, which determine how the equipment controller handles lines and extensions, include the procedure number in parentheses—for example, "Line Assignment (#301)." Telephone Programming procedures, which affect the operation of individual extensions, show only the name of the procedure. (See Chapter 5 for more information on programming.) The remaining columns show the required and optional settings for this call coverage setup.

**Table 4-2. Programming for Centrex Call Coverage**

Procedure	Setting for Phone at Extension Jack 10	Setting For Other Extensions
Line Assignment (#301)	Remove all lines except the primary line.	No changes needed
Button features	To provide one-touch access to Centrex coverage services, program the Centrex feature codes onto Auto Dial buttons.	To provide one-touch access to Centrex coverage services, program the Centrex feature codes onto Auto Dial buttons.

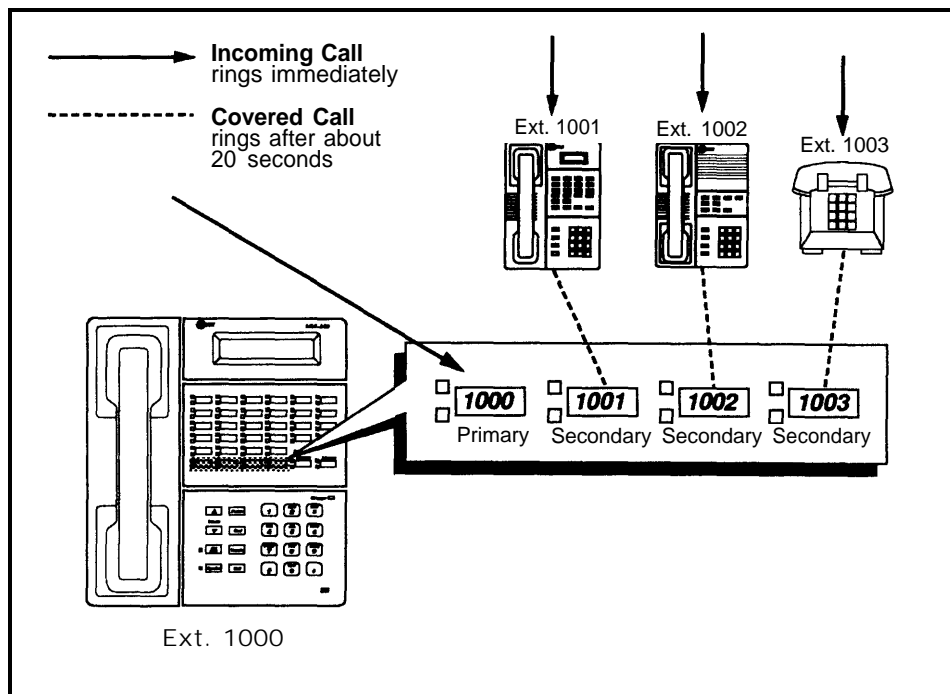
## Local Call Coverage

Local Call Coverage enables co-workers to cover each others' phones. This coverage setup can eliminate the need for a central receptionist.

**NOTE:**

MLS- or MLC-model phones are recommended at covering extensions, so that the user at a covering extension can see which line is ringing when a call comes in.

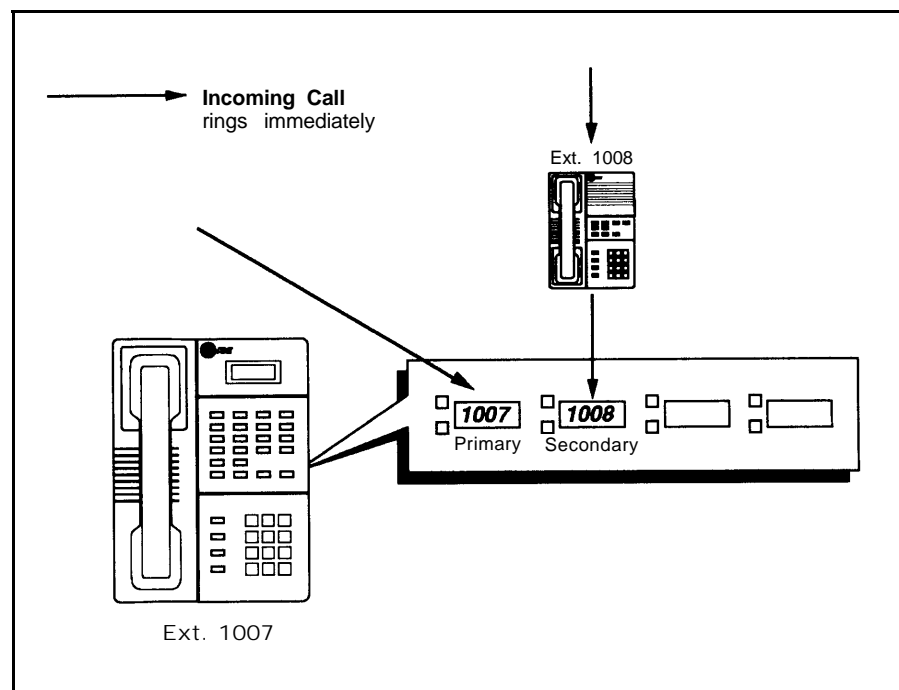
Figure 4-2 shows one example of how Local Call Coverage works.



**Figure 4-2. Local Call Coverage: Backup Call Answering**

Centrex extension 1000 (shown in Figure 4-2) is a covering extension for three other extensions. It has a primary line (-1000) and three secondary lines (-1001, -1002, and -1003). With the secondary lines set for “delayed ring,” calls to those lines begin ringing at extension 1000 after about 20 seconds. This setup might be useful for someone who serves as a backup answering position for a department. (Alternatively, each of these four extensions could be assigned secondary lines for all the other members of the extension group, so that any member of the group could cover calls for any other member.)

The phone at extension 1007 (see Figure 4-3) has a primary line plus a single secondary line. With the secondary line set for “immediate ring,” all calls on the secondary line ring immediately at the covering extension. This setup is useful when someone screens all calls on a line, transferring them only when the user at the covered extension wants to take the call.



**Figure 4-3. Local Call Coverage: Immediate Call Answering**

To set up Local Call Coverage, remove secondary lines from the receptionist’s phone (the phone connected to extension jack 10) and assign them to covering extensions as needed. (To have the receptionist keep covering some lines, remove only the lines that will be covered by other extensions.)

Adjust line ringing for primary and secondary lines to fit the type of call coverage you want. For example, set a primary line to “immediate ringing” (the default setting) if calls should ring first at the covered extension. Then set the line to “delayed ring” or “no ring” at the covering extension.

**Button-Down Mode (#723)** adjusts ringing for *all* phones. Designed for people who are accustomed to 1A Key systems, this setting means that calls ring only on an extension’s primary line (or on the intercom). When a call comes in on a secondary line, the lights next to the line button flash, but the call does not ring. The person at the covering extension must press the line button to answer the call. This prevents users from accidentally answering incoming calls on secondary lines when they are trying to place calls on their primary lines. At the

phone connected to extension jack 10, lines ring according to defaults (“immediate ring” for the primary line and “delayed ring” for secondary lines). If you are combining Local Call Coverage with button-down operation, you may want to adjust Line Ringing at covering extensions so that some secondary lines ring. (To put the system into button-down mode, see page 5-10.)

Table 4-3 shows the settings you must change to switch from Central Call Coverage to Local Call Coverage. The first column shows the name of the programming procedure or function. System Programming procedures, which determine how the equipment controller handles lines and extensions, include the procedure number in parentheses—for example, “Line Assignment (#301).” Telephone Programming procedures, which affect the operation of individual extensions, show only the name of the procedure. (See Chapter 5 for more information on programming.) The remaining columns show the required and optional settings for this call coverage setup.

**Table 4-3. Programming for Local Call Coverage**

<b>Procedure</b>	<b>Setting at Extension Jack 10</b>	<b>Setting For Covering Extensions</b>	<b>Setting For Covered Extensions</b>
Line Assignment (#301)	Remove any assignments for lines that you do not want covered.	Assign any secondary lines to be covered by the extension.	<i>No change required</i>
Line Access Restriction (#302)	Set secondary lines to “incoming only” if you want to control use of secondary lines (see page 4-16). Any Centrex calling restrictions for the line are also in effect.	Set secondary lines to “incoming only” if you want to control use of secondary lines (see page 4-16). Any Centrex calling restrictions for the line are also in effect.	<i>No change required</i>
Automatic Extension Privacy (#304)	Make sure the setting is “not assigned,” so that users at covered extensions will be able to join conversations on their primary lines.	Make sure the setting is “not assigned,” so that users at covered extensions will be able to join conversations on their primary lines.	Set to “assigned” (or program Privacy on a lighted button) to prevent users at covering extensions from joining calls on this extension’s primary line.



Procedure	Setting at Extension Jack 10	Setting for Covering Extensions	Setting for Covered Extensions
Abbreviated Ringing (#305)	Set to “not active” for an extension if you want incoming calls to keep ringing, even when the user at the extension is busy on another call (this setting applies to all lines assigned at that extension).	Set to “not active” for an extension if you want incoming calls to keep ringing, even when the user at the extension is busy on another call (this setting applies to all lines assigned at that extension).	<i>No change required</i>
Line Ringing	<i>No change required</i>	<p>To pick up calls on secondary lines only when there is no answer on the covered lines, set ringing for secondary lines to “delayed ring.” To answer <i>all</i> calls, set ringing for secondary lines to “immediate ring.”</p> <p>Alternatively, use Button-Down Mode (#723) to set secondary lines (at <i>all</i> system extensions) to “no ring;” this setting means that when a call comes in on a secondary line, the lights next to the line button flash, but the call does not ring. The user at the covering extension must press the line button to answer the call.</p>	If the user at the covering extension should screen all calls, set the primary line to “no ring” or “delayed ring.”
Do Not Disturb ([ Feature ] [ 2 ] [ 1 ])	<i>No change required</i>	<i>No change required</i>	Program on a lighted button (on an MLS- or MLC-model phone only). When the feature is on, calls do not ring at the extension, but callers hear ringing. (The lighted button shows when Do Not Disturb is on.) This option is only recommended when all calls for an extension are covered by a user at another extension.
Privacy ([ Feature ] [ 2 ] [ 2 ])	<i>No change required</i>	<i>No change required</i>	Program on a lighted button (on an MLS- or MLC-model phone only) to allow the person at the extension to turn Privacy on and off. This allows the person at the extension to control when others who share a line can join in on a call.

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## **Call Coverage with Answering Machines**

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Personal answering machines are a call coverage option that can be used alone or combined with other call coverage solutions. An answering machine can be combined with a telephone at any extension, using a bridging adapter as described on page 2-5. With this setup, an answering machine covers *all* ringing calls on an extension (on both primary and secondary lines). For more details on connecting personal answering machines, see page 7-5.

## **Additional Options for Covering Extensions**

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The following equipment features can be especially useful when they are programmed onto equipment feature buttons for covering extensions. Programming procedures are explained in detail in Chapter 5.

- **Fax Management.** If you are connecting a fax machine to an extension in your system, first use **Fax Machine Extensions (#601)** to identify the extension where the fax machine is installed. Then, on the covering extension's phone, program a one-touch Intercom Calling button with the extension jack number for the fax machine. This enables the person at the covering extension to see whether the fax machine is busy or not responding (for instance, out of paper). Use **Line Assignment (#301)** to remove the fax line from the receptionist's phone. For more information on setting up fax machine extensions, see page 7-1.
- **Message Light On** and **Message Light Off** can be assigned to programmable buttons, to turn the message lights on MLS- or MLC-model phones on and off. (To use a button programmed with one of these features, you must press that button and *then dial the extension jack number.*)
- Use **Line Access Restriction (#302)** if you wish to control outgoing calls on secondary lines. For more information, see page 4-16.
- **Night Service** must be turned on and off at the receptionist's phone (the phone connected to extension jack 10 on the equipment controller). For more information about Night Service, see page 4-13.

## **One-Touch Access to Equipment Features**

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As discussed in "One-Touch Access to Centrex Services" in Chapter 3, you can store any dialing sequence—such as Centrex feature codes or frequently-dialed phone numbers—on programmable phone buttons. In addition, you can program the buttons on MLS- and MLC-model phones with the codes for features that are available with your premises equipment.

MLS- and MLC-model phone buttons can be programmed centrally from an MLS-34D or MLS-12D display phone connected to extension jack 10 or 11, or directly at a user's extension. For equipment features that require an extension or line jack number, you should program the features centrally, storing the feature codes on programmable buttons—this lets people use the features simply by pressing buttons, without needing to remember the jack numbers. (See Appendix B for a complete discussion of equipment features that require extension or line jack numbers.)

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Some features require buttons with lights. Other features do not require buttons with lights, but do use the lights to show status information if they are available. For features that can be turned off and on by the user (such as Do Not Disturb and Privacy), the features are on whenever the lights are on.

**NOTE:**

The lights on MLS-model phones do not show status information for Centrex features.

Information on programming equipment features is provided on page 5-16.

Here are some specific features you might want to store on programmable buttons:

- Voice paging of specific extensions
- Voice paging of Calling Groups
- Extension jack numbers for frequently-dialed extensions inside your system (so that users can call with one touch, talk without tying up their primary lines, and monitor the status of that extension).
- Message Light On and Message Light Off
- Privacy and Do Not Disturb, which require buttons with lights
- Recall, to send a switchhook flash for accessing Centrex features while on a call.

## **Intercom Calling**

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If you store an extension jack number on a programmable button at an MLS- or MLC-model phone, you can use the button as a *Direct Station Select (DSS)* button, to call the extension with one touch, simply by pressing the button. This enables you to call the extension using the intercom, so you can make an inside call without tying up your primary line (as well as the primary line for the person you are calling). (See Appendix B for details on intercom calling.)

In addition, the lights next to the button act as *Busy Lamp Fields (BLF)* that show calling activity for the extension:

- Idle (*no lights*)
- Busy (*red on*)
- Calling you using the intercom (*green flash*).

If the extension is identified as a fax extension, the button also shows a *red broken flutter* when the fax is not responding (for instance, when it is out of paper).

This equipment feature is called *Call Viewing*. You may wish to use Call Viewing at any covering extension (for example, at the receptionist's phone), so the person at the covering extension can monitor calling activity at covered extensions by looking at the Intercom Calling buttons. Since Call Viewing requires buttons with lights for each extension covered, an MLS-34D, MLS-12, or MLS-12D phone is recommended for this function.

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**Example:**

A person at a covering extension who screens another extension's calls may need an Intercom Calling button for the covered extension (possibly with voice paging) to announce calls and visitors. The lights beside the Intercom Calling button show when the covered extension is busy.

To program an Intercom Calling button, see page 5-15.

## **Paging**

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Two equipment features enable you to page system extensions. For ease of use, you should store these features on the programmable buttons of MLS- or MLC-model phones, so that a user can page a phone or group of phones simply by pressing the programmed button.

The following types of paging are available:

- **Paging over an optional loudspeaker paging system**, which may be connected to the equipment controller. You access the loudspeaker by dialing an equipment feature code, which can be programmed onto a button on an MLS- or MLC-model phone.
- **Paging over MLS-model phones**, which have built-in speakers, provides an inexpensive alternative to a loudspeaker paging system. By dialing the appropriate feature code, you can page an extension (*Voice Paging*) or a Calling Group (*Group Paging*). Paged extensions beep (at any extension that has an MLS-model phone) to indicate that the speaker has been turned on; then your voice is heard over the speaker. When a caller picks up the page (by picking up the handset or pressing [ *Mic* ]), the page becomes an intercom call between the person who paged and the person who picked up. (Because it is an intercom call, the call does not tie up the user's primary line.)

The feature code for Group Paging, or for paging a particular extension, can be stored on a telephone button for one-touch dialing. (Paging an extension requires that the extension jack number be stored on the telephone button.)

If you are busy on a call when someone tries to voice page your extension, your phone rings instead of turning on the speaker for the page. If you try to voice page an extension where a standard phone or MLC-6 is connected, the phone rings.

**Example:** A car dealership puts all extensions for the sales staff into a Calling Group. To talk to salespeople, the sales manager simply presses a programmed button on an MLS- or MLC-model phone. A paging intercom call goes to the Calling Group. The phones' primary lines remain free for incoming calls.

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To set up loudspeaker paging:

- Connect a loudspeaker paging system to the primary processor module of the equipment controller, as described on page 2-13.
- To let a user access loudspeaker paging with one touch, install an MLS- or MLC-model phone at the user's extension and program a button with the feature code for loudspeaker paging (see page 5-16).

To set up paging to MLS-model phones:

- Install MLS-model phones in locations where you want employees to hear voice-paging announcements.
- To set up group paging, first use **Calling Group Extensions (#502)** to assign extensions to Calling Groups. Exclude extensions with fax machines, Hotline phones, doorphones, or other auxiliary equipment from Calling Groups. You can set up as many as four Calling Groups.
- Program paging buttons on MLS- or MLC-model phones, so that people can easily page groups or individuals. (Program these features onto buttons so that users will not have to remember group numbers or extension jack numbers.) See page 5-16 for programming information.

## Optional Features for Premises Equipment

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In addition to the features you have available through Centrex, you can use equipment features to support your company's call handling. This section discusses some of the most useful features; for a complete listing, see Table 4-6 on page 4-25. Programming instructions are in Chapter 5.

## Night Service

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The Night Service feature allows you to change the way a group of extensions operates after normal business hours. When Night Service is turned on, all incoming calls will ring *immediately* the extensions in the **Night Service Group (#504)**, even if Line Ringing for those extensions is set for "delayed ring" or "no ring" during normal daytime use. For Night Service to work properly, all lines should be assigned to the extensions in the Night Service Group.

**Example:** The security guard at Company X has a standard single-line phone with *all* of the lines for the company assigned to it. The secondary lines are set to "no ring," so that the guard only receives calls on the primary line for the extension during the day. When Night Service is on, however, all lines ring immediately at the security desk, to provide backup call answering when there is no one available in the office.

Table 4-4 shows the programming settings that must be entered to set up Night Service. The first column shows the name of the programming procedure or function. System Programming procedures include the procedure number in parentheses—for example, "Line Assignment (#301)." The remaining columns show the required and optional settings for Night Service.

If you wish to restrict calling from Night Service Group extensions, use **System Password (#403)** to specify the system password. If a password is programmed, users in the Night Service Group must enter it before dialing outside telephone numbers or Centrex extension numbers (with some exceptions, described on page 5-13). Intercom calls can be made without using the password (see Appendix B). The password must be entered to turn Night Service on or off. A System Password cannot be entered from a standard phone or from an MLC-6 cordless phone.

**Table 4-4. Programming for Night Service**

Procedure	Setting at Extension Jack 10	Setting for Night Service Group Extensions
Line Assignment (#301)	<i>No change required</i>	Assign the lines that may ring at night (or all lines) to the extensions you wish to include in the Night Service Group.
Night Service Button (#503)	Program the Night Service button on any lighted programmable button on the MLS-34D or MLS-12D display phone. (Whether or not you are using a central receptionist, the Night Service button can only be on the telephone connected to extension jack 10.) Press the button to turn Night Service on or off.	<i>No change required</i>
Night Service Group Extensions (#504)	<i>No change required</i>	Assign extensions to the Night Service Group.

## Speed Dialing

Centrex may provide speed dialing for some or all of your Centrex lines. However, you can store additional numbers using the Speed Dialing feature available with your premises equipment.

Speed Dial numbers are outside telephone numbers or Centrex extension numbers that a user can dial automatically by pressing [ *Feature* ] and a two-digit code.

**NOTE:**

The Speed Dial numbers available with your premises equipment can be dialed *only* from MLS- and MLC-model phones.

## System Speed Dialing

You can program frequently dialed phone numbers—such as suppliers, repair services, customers, or other business associates—so that *all users in the system with MLS- and MLC-model phones* can dial them by pressing *three* buttons: [ *Feature* ] plus a two-digit code.

The following notes apply to System Speed Dial numbers:

- System Speed Dial numbers are stored in the *equipment controller*, so a user at any MLS- or MLC-model phone can dial them provided that a Centrex line is assigned to the extension.

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- The equipment controller can store a maximum of 80 System Speed Dial numbers (dial codes 20-79).
  - System Speed Dial numbers *must* be programmed from an MLS-34D or MLS-12D display phone at extension jack 10 or 11.
  - If you must include a dial-out code before dialing an outside number, include the dial-out code in the programmed Speed Dial number.
  - It is recommended that you do not store Centrex feature codes as System Speed Dial numbers. (If the equipment controller sees an asterisk in the Centrex feature code, it will interpret the number as a Marked System Speed Dial number and will not dial the asterisk.)

Appendix A provides a form on which to record Speed Dial numbers. You should record all System Speed Dial numbers on the top of that form and give a copy to each user with an MLS- or MLC-model phone.

You may decide to use Centrex speed dialing on all lines for the numbers that all users need often; Centrex speed dial numbers can be dialed from both standard phones and MLS- or MLC-model phones.

Frequently-dialed numbers can also be programmed onto Auto Dial buttons on MLS- or MLC-model phones for even faster *one-touch* dialing.

### **Personal Speed Dialing**

Personal Speed Dial numbers are available *only* at the extension for which they are programmed (for users who have MLS- or MLC-model phones). The following notes apply to Personal Speed Dial numbers:

- Personal Speed Dial numbers are stored in an *extension's* memory and are for the private use of that extension.
- Each extension can have a maximum of 20 Personal Speed Dial numbers (dial codes 80-99).
- Personal Speed Dial numbers can be programmed from an MLS-34D or MLS-12D phone at extension jack 10 or 11, *or* from the user's extension.
- Personal Speed Dial numbers do not have to be used to store telephone numbers. Like programmable buttons, they can also be programmed to provide faster access to equipment and Centrex features.
- If you must include a dial-out code before dialing an outside number, include the dial-out code in the programmed Speed Dial number.

Users can record their Personal Speed Dial numbers on the *Quick Reference* cards for their phones or on the bottom of the Appendix A "Speed Dial Numbers" form.

### **Calling Restrictions**

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Once a caller has access to a Centrex line, Centrex can provide dialing restrictions for the line. Centrex restrictions apply to *all* appearances of a line—controlling calling on all phones that have that line assigned, whether the line is assigned as a secondary line or as a primary line.

The dialing restrictions that are available through your equipment controller can provide additional flexibility, letting you control a particular extension's access to

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a Centrex line—for example, permitting all calls on a line at the extension where it is assigned as a primary line while preventing outgoing calls on the line from an extension where it is assigned as a secondary line. In addition, equipment dialing restrictions can provide some of the protection provided by Centrex restrictions, restricting dialing on a specific Centrex line assigned to an extension, restricting dialing for *all* lines assigned to an extension, or overriding *equipment* dialing restrictions. (Users can always place and receive intercom calls, regardless of the equipment dialing restrictions placed on their extensions.)

Refer to Table 4-5 on page 4-20 for a summary of the dialing restrictions and permissions that are available through your equipment controller.

**NOTE:**

If you have Centrex dialing restrictions on a line and also program equipment dialing restrictions for the line or an extension where the line is assigned, both the Centrex and equipment restrictions will apply to the line or extension. However, equipment dialing permissions will *not* override Centrex restrictions.

### **Restricting Line Access**

As noted previously, Centrex dialing restrictions apply to all appearances of the line to which they are assigned. If you wish to customize the restrictions for a line that is assigned to more than one extension, use the System Programming **Line Access Restriction (#302)** procedure to limit a particular extension's access to a Centrex line. For example, you may wish to set an extension's secondary lines to "incoming only." This prevents the person at a covering extension from making outgoing calls on another user's primary line. The following options are available for Line Access Restriction:

- *No restrictions.*
- *Incoming only.* The person at the extension can receive but not place calls on the line. If you restrict a line on an extension to incoming calls only, the user cannot get a dial tone on that line.
- *Outgoing only.* The person at the extension cannot receive calls on the line, but can place calls.
- *No access.* The person at the extension can see the status of the line (by looking at the lights next to the line button), join a call, and pick up a held call. However, the user at the extension cannot place or receive calls on the line.

For programming instructions for Line Access Restriction (#302), see page 5-11.

### **Restricting Dialing for All Lines at an Extension**

The Line Access Restriction procedure controls an extension's access to a line. Once an extension has access to a line, what it can dial is controlled by Outgoing Call Restriction, Disallowed Phone Number Lists, and (if a System Password is defined) Night Service. These last three restrictions are similar to those provided by Centrex; but the Centrex restrictions are *by line* (for all extensions the line is assigned to) and the equipment restrictions are *by extension* (for all lines assigned to the extension).



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**NOTE:**

While procedures that restrict dialing are very effective, absolute protection against misuse cannot be guaranteed. MLS- and MLC-model phones give more protection than standard phones. Therefore, we strongly recommend that you install MLS- and MLC-model phones where restricting phone use is important.

When an extension is allowed access to a Centrex line, you can use the following procedures to control calling for *all* lines to which the extension has access:

- **Outgoing Call Restriction (#401)** provides the following choices:
  - *No restriction* allows outside calls to long distance and local numbers, and inside calls.
  - *Local only* allows outside calls to local numbers, and inside calls (make sure the Toll Call Prefix is set properly, using procedure #402).
  - *Inside only* allows inside calls only.
- **Disallowed Phone Number Lists (#404)** creates lists of numbers that cannot be dialed. The numbers on a Disallowed List can be entire telephone numbers, or numbers of a certain type (such as all numbers in a particular area code). You can store as many as four different lists of up to 10 numbers each. For information on entering telephone numbers into lists, see “Entering Telephone Numbers into Lists” on page 4-18. (For programming information, see page 5-12.)

After you create the Disallowed Lists, use the **Disallowed List Assignments (#405)** procedure to assign one or more of the lists to a specific extension.
- **Night Service** (with a System Password defined) restricts calling on Centrex lines by all extensions in the Night Service Group. Night Service (with or without a password) also causes after-hours calls to ring immediately at the extensions in the equipment Night Service Group, regardless of Line Ringing during normal day operation. See page 4-13 for details on Night Service.

### Overriding Dialing Restrictions

The following programming procedures provide ways to override all equipment dialing restrictions, except those imposed by Line Access Restriction (the extension must have access to a Centrex line):

- **Emergency Phone Number List (#406)** defines a list of up to ten numbers that can be dialed from any extension in the system. A typical Emergency number is 911. For information on entering telephone numbers into lists, see “Entering Telephone Numbers into Lists” on page 4-18. (For programming information, see page 5-12.)

**NOTE:**

A variety of factors influence the effectiveness of dialing restrictions. Avoid putting 800 numbers in your Emergency List. If you need to allow restricted users to dial 800 numbers, put those numbers in an Allowed Phone Number List (see page 4-18).

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- **Marked System Speed Dial Numbers** can be dialed from any extension. System Speed Dial numbers are telephone numbers that a user can dial automatically by pressing [ *Feature* ] (or [ # ] on a standard phone), followed by a two-digit code. “Marking” a System Speed Dial number when the number is programmed lets any user in the system dial it, overriding any equipment dialing restrictions for the extension.
  - **System Password (#403)** creates a password that, when entered at any MLS-model phone, overrides equipment dialing restrictions for the duration of a call. This means that a person who knows the password can make a call from a restricted extension. If you define a System Password, turning on Night Service also restricts calling for the Night Service Group. See page 4-13 for details on Night Service.

You can use the following procedure to override all equipment dialing restrictions, except Line Access Restriction and Night Service with a System Password:

- **Allowed Phone Number Lists (#407)** allows you to create lists of numbers that specific extensions are allowed to dial. Even if an extension’s settings for Outgoing Call Restriction and Disallowed Phone Numbers would normally prevent the extension from dialing a number, defining the number as an Allowed Phone Number lets the extension dial it. (For example, if you put 900 numbers on a Disallowed List but want users to be able to call a specific 900 technical support hotline, put that number in an Allowed List.) For information on entering telephone numbers into lists, see “Entering Telephone Numbers into Lists” on page 4-18. (For programming information, see page 5-12.)

The equipment controller stores as many as four different Allowed Lists of up to 10 numbers each. After creating Allowed Lists, use the **Allowed List Assignments (#408)** procedure to assign one or more of the lists to a specific extension.

## Entering Telephone Numbers into Lists

This section explains how to enter telephone numbers into Disallowed Phone Number Lists, Allowed Phone Number Lists, and an Emergency Phone Number List.

To store a telephone number, dial the number as you would normally; but leave out the dial-out code if you must normally dial one to place outside calls. However, for toll calls you should include a toll call prefix such as 1 or 0 (if you must dial one to place toll calls) and the area code.

For example, to prevent all calls to a specific area code, you need only enter the toll call prefix and the area code in a Disallowed List. When a user at an extension to which the list is assigned tries to dial a number in that area code, the user hears a reorder tone (fast busy signal) as soon as they dial the area code, before they have a chance to dial the rest of the number.

When you store a telephone number in a list, you can also use the “wildcard” character to stand for any single digit in a phone number. To enter the wildcard character, press [ *Hold* ]; the wildcard appears as “!” on the telephone display. For example, if you want to prevent users from placing calls to any numbers beginning with 202, 212, 222, 232, 242, 252, 262, 272, 282, and 292, you can enter each number in a separate list entry, or you can combine them into one

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entry by entering [ 2 ] [ Hold ] [ 2 ] into your list (using the wild card for the middle digit).

The examples below show how you would enter telephone numbers for a Disallowed List, including both normally-dialed numbers and numbers with wildcards.

- **Specific Telephone Numbers.** Dial the telephone number directly. For example, to prevent calls to the local number 555-5678, press [ 5 ] [ 5 ] [ 5 ] [ 5 ] [ 6 ] [ 7 ] [ 8 ].
- **All Telephone Numbers in One Area Code.** The following list entries prevent calls to the 900 area code:
  - *List 1 (Toll Call Prefix required)*
    - 1900 Prevents direct-dial calls to area code 900
    - 0900 Prevents operator-assisted calls to area code 900
  - *List 2 (Toll Call Prefix not required)*
    - 900 Prevents all calls to area code 900.

**NOTE:**

The entries you must make to restrict toll calls differ depending on the setting for the **Toll Call Prefix (#402)** procedure. (This setting tells the equipment controller whether a “0” or “1” is required when you make toll calls.) Make sure the Toll Call Prefix is set correctly for your dialing area. If it is not, entries on the Disallowed and Allowed Lists may not be handled properly.

- **All Telephone Numbers in One Exchange.** The following list entries prevent calls to the 976 exchange:
  - *List 1 (Toll Call Prefix required)*
    - 976 Prevents local calls
    - 1!0!976 Prevents direct-dial calls to area codes with “0” as the second digit
    - 1!1!976 Prevents direct-dial calls to area codes with “1” as the second digit
    - 0!0!976 Prevents operator-assisted calls to area codes with “0” as the second digit
    - 0!1!976 Prevents operator-assisted calls to area codes with “1” as the second digit
    - 1976 Prevents direct-dial in-state calls (needed only when 0 or 1 is required for in-state toll calls)
    - 0976 Prevents operator-assisted in-state calls (needed only when 0 or 1 is required for in-state toll calls)
  - *List 2 (Toll Call Prefix not required)*
    - 976 Prevents local calls
    - !0!976 Prevents calls to area codes with “0” as the second digit, such as 203
    - !1!976 Prevents calls to area codes with “1” as the second digit, such as 212

- 
- **International Long Distance.** To prevent international calls, enter the international prefix numbers, [ 0][ 1][ 1].

You can also use Allowed List entries to override numbers that would otherwise be disallowed. For example, if you wish to allow calls to a specific 900 number (such as a technical support number), put the number in an Allowed List:

- *List 1 (Toll Call Prefix required)*

19005559999

09005559999

- *List 2 (Toll Call Prefix not required)*

9005559999

### **Summary of Equipment Dialing Restrictions**

Table 4-5 summarizes the equipment dialing restrictions and permissions, showing how they can be combined in a variety of ways to customize an extension's dialing privileges. This table assumes that at least one Centrex line is assigned to the extension for which you are creating dialing restrictions.

**Table 4-5. Dialing Restrictions and Permissions**

Settings that restrict an extension's access to a specific Centrex line

Type of Restrictions or Permissions for the Extension	Example	Setting for Line Access Restriction (#302)	Setting for Outgoing Call Restriction (#401)	Setting for Disallowed/Allowed Phone Number Lists (#404/#405)
<b>Can only monitor call activity and pick up held calls on a specific Centrex line (cannot place or receive calls on the line)</b>	<i>Example: The receptionist's phone has the boss' private line, so the receptionist can see when the boss is on the line and can pick up calls the boss has put on hold.</i>	"No access" for that line	No changes needed	No changes needed
<b>Can only receive (but not place) calls on a specific Centrex line</b>	<i>Example: A line is only used for taking sales orders.</i>	"Incoming only" for that line	No changes needed	No changes needed
<b>Can only place (but not receive) calls on a specific Centrex line</b>	<i>Example: A line is only used for telemarketing.</i>	"Outgoing only" for that line	No changes needed	No changes needed
<b>Can only place inside calls (and can answer any call)</b>	<i>Example: Clerks in a supermarket can call the service desk to check prices, but they cannot make outgoing calls.</i>	"No restriction"	"Inside only"	No changes needed
<b>Can only place inside and local calls (and can answer any call)</b>	<i>Example: An extension in the lobby permits visitors to make local and inside calls, but they are prevented from making long-distance calls.</i>	"No restriction"	"Local only"	Any local numbers that should not be dialed from the extension are put into a Disallowed List (see page 4-19).
<b>Can place inside, local, and long-distance calls (and can answer any call)</b>	<i>Example: An employee can make any type of call on lines appearing on his or her phone, but calls to some specific local and long-distance numbers are restricted.</i>	"No restriction"	"No restriction"	Any local and long-distance numbers that should not be dialed from the extension are put into a Disallowed List (see page 4-19).

Settings that restrict an extension's dialing once it gets a line

**NOTE:**

Emergency numbers, Marked System Speed Dial Numbers, Allowed Phone Numbers, and numbers dialed using the System Password override all dialing restrictions if a user has access to a Centrex line to place the call.

## Dialing Restrictions: An Example

The following example shows how the equipment controller checks dialing restrictions and permissions when a user places a call. The controller checks the number dialed against all the equipment dialing restrictions that apply to the extension placing the call. When the number dialed passes a restriction, it goes to the next one, if necessary. When a number violates a restriction, the call is stopped and the user hears a reorder (fast busy signal) tone.

In this example, the user is dialing on a line that has Outgoing Call Restriction set to "local only." In addition, the extension has an Allowed Phone Number List that contains a "1800" entry. Notice that the equipment controller keeps checking the number until it finds a valid reason to complete the call or stop it.

<b>Dial: 1 201 555-1212</b>	<b>Dial: 1 800 555-1212</b>
<i>Emergency Number?</i> No, keep checking	<i>Emergency Number?</i> No, keep checking
<i>Marked System Speed Dial Number?</i> No, keep checking	<i>Marked System Speed Dial Number?</i> No, keep checking
<i>System Password entered?</i> No, keep checking	<i>System Password entered?</i> No, keep checking
<i>Night Service on?</i> No, keep checking	<i>Night Service on?</i> No, keep checking
<i>Allowed Phone Number?</i> No, keep checking	<i>Allowed Phone Number?</i> Yes, complete the call (if there are no Centrex restrictions)
<i>Disallowed Phone Number?</i> No, keep checking	
<i>Outgoing Call Restriction violated?</i> Yes, call dropped and reorder tone given	

### NOTE:

If you have Centrex dialing restrictions on a line and also program equipment dialing restrictions for the line or an extension where the line is assigned, both the Centrex and equipment restrictions will apply to the line or extension. However, equipment dialing permissions will *not* override Centrex restrictions.

## Auxiliary Equipment

You can use a variety of auxiliary devices with your phone system, either by connecting them directly to the equipment controller or by connecting them to extensions. This chapter includes information on auxiliary equipment that requires programming, including Hotline phones, loudspeaker paging systems, doorphones, call reporting devices (SMDR), fax machines, and music-on-hold sources. Chapter 7 includes further information about this equipment and additional equipment that does not require programming (including answering machines, modems, and credit card scanners). In addition, Chapter 2 includes information about connecting auxiliary equipment to your equipment controller. Programming procedures are explained in detail in Chapter 5.

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## Hotline Phones

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The **Hotline (#603)** procedure allows you to identify Hotline extensions and alert extensions, so that when a person lifts the handset of a Hotline phone, the alert extension rings automatically. You can specify one alert extension for each Hotline phone, and you can designate as many Hotline phones as you wish. In addition, the loudspeaker paging system can be designated as the alert extension for a Hotline phone, so that a Hotline phone can be used to make announcements over the loudspeaker.

**Example:** A market installs one Hotline phone at its meat counter. When a customer picks up the Hotline phone, the butcher's phone rings. Another Hotline phone is installed at a cash register and the loudspeaker paging system is identified as the alert extension, so a sales clerk can pick up the Hotline phone to request a "price check" over the loudspeaker.

To set up a Hotline phone:

- Connect the Hotline phone to the last available extension jack on the equipment controller. (A *standard touch-tone or rotary phone* is recommended at the Hotline extension.)
- Use **Line Assignment (#301)** (see page 5-11) to remove the primary line assignment from the Hotline extension jack. If you do not remove the primary line assignment, the Hotline phone will not work.
- Use the **Hotline (#603)** procedure (see page 5-13) to identify the extension where the Hotline phone is located; the same procedure identifies the *alert extension* (or loudspeaker paging system) that will be signalled when the Hotline phone is used.
- Make sure the Hotline phone extension is not in the **Pickup Group (#501)**, **Calling Group (#502)**, **Night Service Group (#504)**, or **Hunt Group (#505)**. (See page 5-13.)

## Doorphones

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You can specify up to five extensions that are alerted when a visitor presses the button on a doorphone. If the alert extension is an MLS-model phone, the doorphone signal is a distinctive *ding-dong* to distinguish it from regular calls. The person who answers a doorphone call can then use his or her phone to speak to the visitor outside the office. You can install two doorphones if you need them. (If you install two doorphones, they each have a different signal at MLS-model phones.)

**Example:** You can install a doorphone outside your building entrance (or in the hallway outside your suite) to allow visitors to signal telephones inside the office when the receptionist is not there and the front door is locked.

To set up doorphones:

- Connect the doorphone to the last available extension jack on the equipment controller.
- Use **Line Assignment (#301)** to remove the primary line assignment from the doorphones' extensions.
- Use the **Doorphone Extensions (#604 and #605)** procedures to identify the extensions on which doorphones are installed.

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- Use **Doorphone Alert Extensions (#606)** to identify up to five extensions that will be signalled by a doorphone when the doorphone button is pressed.
  - Make sure the doorphone extension is not in the **Pickup Group (#501)**, **Calling Group (#502)**, **Night Service Group (#504)**, or **Hunt Group (#505)**. (See page 5-13.)

## **Call Reporting**

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Centrex may provide call reporting and accounting services. However, if you do not subscribe to this service, you can install call accounting devices and printers that allow you to print call reports. To get a better idea of the call reporting capabilities available with your premises equipment, see “Call Reporting Devices (SMDR)” on page 7-7.

To set up a call accounting device or printer for call reporting, install the equipment according to the directions on page 2-13. Then use **SMDR Record Type (#608)** to specify the type of calls that you want to record for call reporting.

## **Fax Machines**

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**Fax Machine Extensions (#601)** lets you identify an extension on which a fax machine is installed. If you also program the fax extension as an Intercom Calling button (by storing the extension jack number on a programmable button with a light), the button will show the status of the fax machine when it is in use or needs paper. Do not assign a fax machine’s primary line to any other extension. See “Fax Machines” on page 7-1 for more details on setting up and using fax machines.

## **Music on Hold**

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**Music on Hold (#602)** activates or deactivates an optional music-on-hold system, which can be connected to an RCA jack on the equipment controller (see page 2-13).

## **Identifying the Equipment Features You Need**

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Table 4-6 shows the optional features available with your premises equipment. Make a check mark in the rightmost column to indicate whether you need the feature shown on that row. The page numbers where you can find programming information are shown in the “For instructions, see . . .” column. Two types of features are included in the table:

- **System Programming.** Features that are available through System Programming are identified by the procedure code that is used to program the feature (# and three digits). For these features, the “For instructions, see . . .” column of Table 4-6 shows the words *System Programming*.



- **Telephone Programming.** Features that are available to an extension through telephone programming are identified by the words *Telephone Programming* in the “For instructions, see . . .” column of the table.

**Table 4-6. Optional Features Available for Premises Equipment**

<b>Feature</b>	<b>Description</b>	<b>For instructions, see...</b>	<b>✓</b>
Abbreviated Ringing	Affects ringing for calls received at an extension when the user at the extension is busy on another call.	Page 5-11 <i>System Programming</i> (procedure #305)	
Auto Dialing Buttons	One-touch dialing of Centrex feature codes or phone numbers.	Page 5-15 <i>Telephone Programming</i>	
Automatic Extension Privacy	Prevents other extensions from picking up calls on an extension's primary line.	Page 5-11 <i>System Programming</i> (procedure #304)	
Button-Down Mode	Sets ringing on all secondary lines to “no ring,” so users at covering extensions must press line buttons to answer calls on them.	Page 5-10 <i>System Programming</i> (procedure #723)	
Call Forwarding	Forwards calls to another extension.	Page 5-16 <i>Telephone Programming</i>	
Call Pickup	Enables users to answer calls ringing at other extensions.	Page 5-16 <i>Telephone Programming</i>	
Call Reporting (SMDR)	Records calling statistics for each extension.	Page 5-13 <i>System Programming</i> SMDR Record Type (procedure #608) SMDR Top of Page (procedure #609)	
Dial Mode	Sets the equipment controller to send touch-tone or rotary signals on a line.	Page 5-11 <i>System Programming</i> (procedure #201)	
Dialing Restrictions	Limits the use of a line assigned to an extension.	Page 5-11 <i>System Programming</i> Line Access Restrictions (procedure #302).	
	Limits calling from both primary and secondary lines at an extension.	Page 5-12 <i>System Programming</i> Outgoing Call Restriction (procedure #401).	
	Sets up customized restrictions and permissions for calls made from each extension.	Page 5-12 <i>System Programming</i> Disallowed Phone Number Lists (procedure #404) Allowed Phone Number Lists (procedure #407) Emergency Phone Number List (procedure #406) System Password (procedure #403) Allowed List Assignments (procedure #408) Disallowed List Assignments (procedure #405)  Page 5-14 <i>Telephone Programming</i> Marked System Speed Dial numbers	
Display Language	Sets display on MLS-34D or MLS-12D phone to English, Spanish, or French.	Page 5-11 <i>System Programming</i> (procedure #303)	

<b>Feature</b>	<b>Description</b>	<b>For instructions, see...</b>	✓
Do Not Disturb	Prevents the phone from ringing.	Page 5-16 <i>Telephone Programming</i> Requires a button with a light.	
Doorphones	Lets visitors signal one or more extensions from a doorphone.	Page 5-13 <i>System Programming</i> Doorphone 1 Extension (procedure #604) Doorphone 2 Extension (procedure #605) Door hone Alert Extensions (procedure #606)	
Emergency Phone Numbers	Defines a list of numbers that can be dialed by any extension, regardless of equipment dialing restrictions. (Does <i>not</i> circumvent Centrex dialing restrictions.)	Page 5-12 <i>System Programming</i> (procedure #406)	
Exclusive Hold	Prevents other extensions that share the same line from picking up a call on hold.	Page 5-16 <i>Telephone Programming</i>	
Fax Machines	Identifies a fax machine extension.	Page 5-13 <i>System Programming</i> (procedure #601)	
Group Calling	Rings all extensions in a Calling Group.	Page 5-13 <i>System Programming</i> Calling Group Extensions (procedure #502) Page 5-16 <i>Telephone Programming</i>	
Group Paging	Pages all extensions in a Calling Group over their MLS-model phone speakers.	Page 5-13 <i>System Programming</i> Calling Group Extensions (procedure #502) Page 5-16 <i>Telephone Programming</i>	
Group Pickup	Picks up any ringing call for a pickup group.	Page 5-13 <i>System Programming</i> Pickup Group Extensions (procedure #501) Page 5-16 <i>Telephone Programming</i>	
Hotline	Lets the user at an extension ring another extension (or the loudspeaker paging system) automatically, simply by lifting the handset of the Hotline phone.	Page 5-13 <i>System Programming</i> (procedure #603)	
Intercom Calling	Lets users who have MLS- or MLC-model telephones make calls within the system using the [ <i>Intercom</i> ] buttons on their phones, so at they do not tie up their primary lines.	Page 5-15. Also see Appendix B	
Last Number Redial	Redials the last inside or outside number dialed.	Page 5-16 <i>Telephone Programming</i>	
Loudspeaker Paging	Connects a user to an (optional) loudspeaker paging system.	Page 5-16 <i>Telephone Programming</i>	
Message Lights	Turns the message light on an MLS- or MLC-model phone on or off.	Page 5-16 <i>Telephone Programming</i> Message Light On Message Light Off	

<b>Feature</b>	<b>Description</b>	<b>For instructions, see...</b>	✓
Music on Hold	Turns off the RCA jack in the equipment controller (used to connect a music source; the default is "on").	Page 5-13 <i>System Programming</i> (procedure #602)	
Night Service	Causes all lines assigned to extensions in the Night Service Group to ring immediately when a call comes in on any line (primary or secondary). If a password is defined, the Night Service Group extensions are restricted from making outgoing calls.	Page 5-13 <i>System Programming</i> Night Service Group Extensions (procedure #504) Night Service Button (procedure #503) Page 5-12 System Password (procedure #403)	
Privacy	Prevents other extensions that share a line from joining calls.	Page 5-16 <i>Telephone Programming</i>	
Recall	Sends a timed switchhook flash over the Centrex line.	Page 5-16 <i>Telephone Programming</i>	
Save Number Redial	Saves number for redial when the button is pressed while you are on a call.	Page 5-16 <i>Telephone Programming</i>	
Speed Dial Numbers	Can be system-wide (used by anyone in the system) or personal (only on an extension.)	Page 5-14	
System Password	Defines a system password; if programmed, restricts Night Service Group extensions when Night Service is on. Also, password can be entered to override equipment dialing restrictions.	Page 5-12 <i>System Programming</i> (procedure #403)	
Touch-Tone Enable	Changes digits dialed to touch-tone signals for the duration of a call.	Page 5-16 <i>Telephone Programming</i>	

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## Alphabetic List of System and Telephone Programming Procedures

For information on a programming procedure, see the page cited in this table. System Programming procedures are identified by the procedure code following the procedure name (for example, #305 for Abbreviated Ringing). Telephone Programming procedures show only the procedure name.

<b>Procedure</b>	<b>Page</b>	<b>Procedure</b>	<b>Page</b>
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### Overview

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In Chapter 4, you prepared to customize the premises equipment and individual telephones to meet the needs of your business. This chapter explains how to use programming to accomplish that.

There are two types of programming that you can perform:

- **System Programming** lets you customize your premises equipment to meet the needs of your business. You can program the premises equipment from the MLS-model display phone at either extension jack 10 or 11, allowing you to program from extension jack 11 (the *backup* programming extension) while the receptionist at extension jack 10 (the *primary* programming extension) continues to handle calls. (An MLS-34D phone is required for programming if your premises equipment includes any MLS-34D phones; if not, you can use an MLS-12D phone.)
  - **Preparation.** See page 5-4, “System Programming Procedures,” to find out how you get ready for System Programming.
  - **Instructions.** Detailed descriptions and step-by-step programming instructions, with defaults, are on pages 5-10 through 5-14. These tables are designed as a flowchart for initial System Programming; the features are listed in the correct order for programming the system after it is started up. (Troubleshooting features are indicated by a broken phone symbol. For more troubleshooting information, see page C-3.) System Speed Dial programming instructions are on page 5-14.
- **Telephone Programming** lets users customize their telephones to meet their individual needs; for example, users can program available phone buttons for one-touch access to their most frequently used features and telephone numbers. Telephone Programming is performed from the phone at extension jack 10 or 11 using an MLS-34D or MLS-12D phone (called *Centralized Telephone Programming*), or from a user’s extension using an MLS- or MLC-model phone (called *Extension Programming*).

- **Preparation.** See page 5-4, “Telephone Programming Procedures,” to find out how you prepare for Telephone Programming.
- **Instructions.** To program a phone from extension jack 10 or 11, use the instructions at the top of page 5-15. To program at the extension, use the instructions at the bottom of page 5-16, then go to the appropriate box on page 5-16 for instructions on programming an individual feature.

Brief summaries of all programming procedures are also provided on the inside back cover of this book.

## **Terminology**

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The following terms are used in this chapter. In addition, you may wish to review the “Terminology” section of “About This Guide,” which defines basic terms used throughout this guide, or the Glossary, which defines all terms.

<b>Auto Dial button</b>	A programmable telephone button that lets you dial a series of digits simply by pressing that button. An Auto Dial button can be used to store a Centrex feature code or a telephone number so that it can be dialed with one touch. <i>See also</i> Equipment feature button and Programmable button.
<b>Button-Down Mode</b>	A system-wide setting that causes incoming calls on secondary lines to flash, but not ring. A user must press the line button down to pick up the call. This feature enables the equipment to imitate the way lines ring at extensions on key telephone systems, such as the 1A Key System.
<b>Centralized Telephone Programming</b>	A method of telephone programming that lets you program individual extensions in the system from an MLS-34D or MLS-12D phone at extension jack 10 or extension jack 11. Centralized Telephone Programming is an alternative to <i>Extension Programming</i> .
<b>Equipment feature</b>	A feature provided by your equipment controller (as opposed to a service provided by Centrex).
<b>Equipment feature button</b>	A programmable telephone button on an MLS- or MLC-model telephone that enables you to access an equipment feature simply by pressing that button. <i>See also</i> Auto Dial button and Programmable button.
<b>Extension Programming</b>	A method of telephone programming that lets users program their own extensions from their MLS- or MLC-model phones. Extension Programming is an alternative to <i>Centralized Telephone Programming</i> .
<b>Premises equipment</b>	The AT&T equipment controller and MLS- and MLC-model telephones that you purchased as part of your system, plus all other telecommunications devices that are connected to your equipment controller. For purposes of this guide, premises equipment does <i>not</i> include any equipment that connects directly to Centrex lines without going through the equipment controller.

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<b>Programmable button</b>	A telephone button that can be set up to access a feature. On MLS- and MLC-model phones, programmable buttons can be used as Auto Dial buttons (for one-touch dialing of Centrex feature codes or telephone numbers) or equipment feature buttons.
<b>System Programming</b>	Designates the way the premises equipment works for your business on a system-wide basis. System Programming requires an MLS-34D or MLS-12D phone and must be done from extension jack 10 or extension jack 11.
<b>Telephone Programming</b>	Customizes ringing or adds special dialing features for extensions, to meet the needs of individual users. Telephone Programming can be done either centrally (see Centralized Telephone Programming) or from the user's own extension (see Extension Programming).

## **System Programming Procedures**

In general, you can program the premises equipment in one of two ways:

- **Direct Method.** With this method, you access a programming procedure by dialing the code for that procedure.
- **Cycle Method.** With this method, you cycle through the procedures in numerical order by pressing [ *Next Procedure* ] or [ *Prev Procedure* ] (see the programming overlays on pages 5-5 and 5-6). This method is best for programming the premises equipment for the first time or for changing a series of related settings.

### **NOTE:**

You can be talking on the phone while you program. This is useful if you need to talk with someone at the AT&T Helpline about programming. However, you must call before you enter programming mode, and you must use the handset to talk, not the speaker and microphone.

Review the following two procedures before you start to program, as they may facilitate your programming task:

- **Button-Down Mode (#723)** adjusts ringing for all phones connected to your equipment controller. Designed for people who are accustomed to 1A Key systems, this feature causes incoming calls on secondary lines to flash (but not ring). To pick up a call, a user must press the line button. This prevents users from accidentally answering incoming calls on secondary lines when they are trying to place calls on their primary lines. Only the receptionist's phone at extension jack 10 follows the premises equipment defaults ("immediate ring" for the primary line and "delayed ring" for secondary lines). The default for Button-Down Mode is "Not Active."



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- **Copy Settings (#399)** copies Automatic Extension Privacy and Abbreviated Ringing settings as well as Fax Machine extensions, equipment dialing restrictions, and group assignments from one extension to another; it does not copy line assignments, line ringing settings, or button programming—see page 5-11 for a list of the specific programmed settings that are copied. To save time, you can program one extension for each *type* of phone connected to the equipment controller, and then use Copy Settings to program other phones of the same type. For example, you can program one MLS-12D phone and then copy its settings to other extensions that have MLS-12D phones.

## **Programming Overlays**

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System Programming requires a *programming overlay* placed over the phone's dial pad.

During System Programming, the normal functions of several buttons on the display phone at extension jack 10 or 11 change. For example, the left [ *Intercom* ] button becomes [ *System Program* ], the button used to enter System Programming mode. To identify these buttons while programming, place the appropriate programming overlay (provided with the premises equipment) on the dial pad of the phone at extension jack 10 or 11. Figures 5-1 and 5-2 show the programming overlays for the MLS-34D and MLS-12D phones, and explain what the special buttons do while programming.

## **Telephone Programming Procedures**

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Two methods can be used to program telephones:

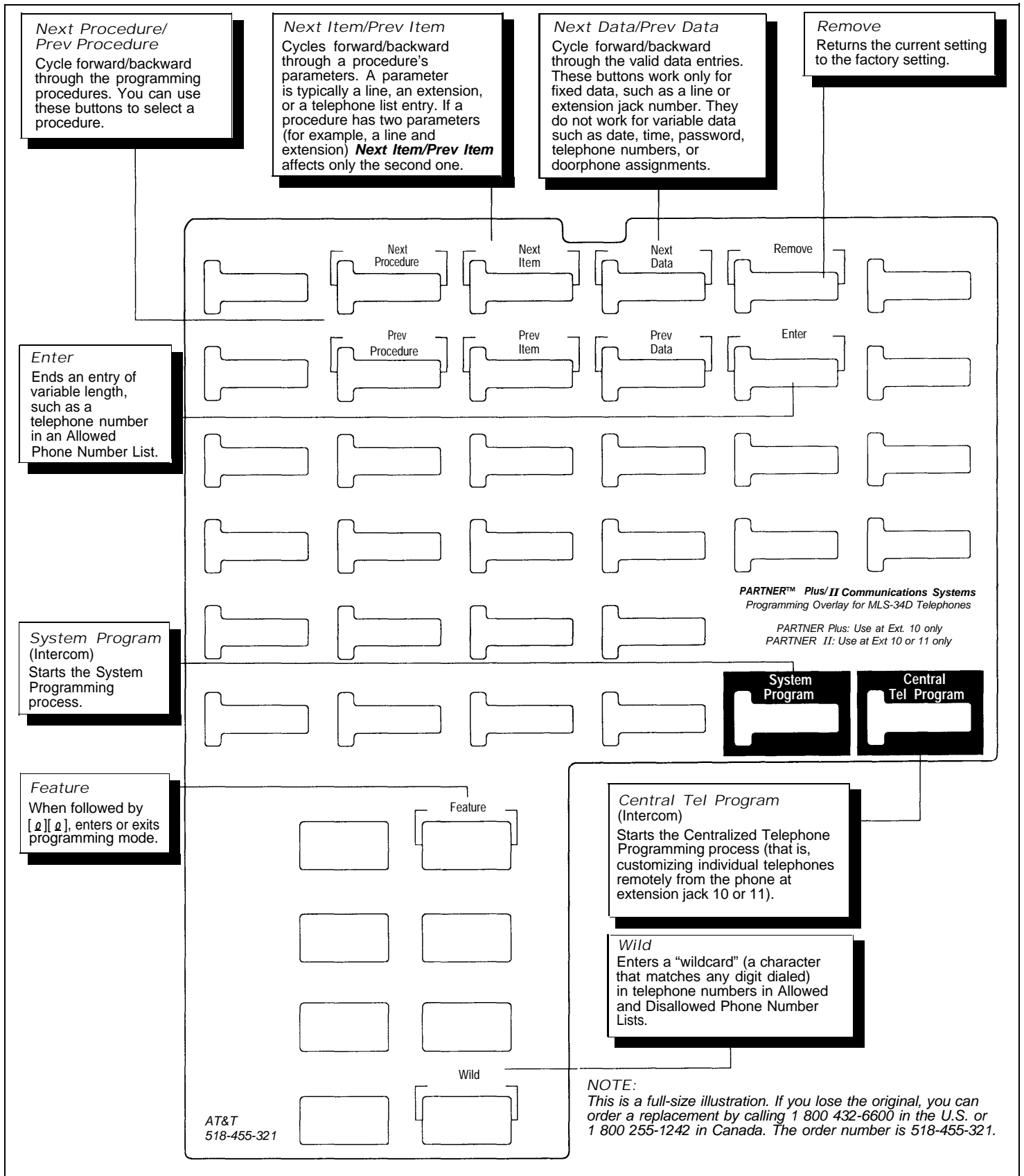
- **Centralized Telephone Programming** from extension jack 10 or 11
- **Extension Programming** from an MLS- or MLC-model phone at the extension being programmed.

During Centralized Telephone Programming, the display phone at extension jack 10 or 11 takes on the characteristics of the telephone being programmed, including any System Programming and the lines assigned to the phone. Make sure the programming phone is as large as the largest phone connected to the equipment controller, because an MLS-12D phone cannot program an MLS-34D phone. When you enter Centralized Telephone Programming, green lights appear next to any line buttons that are already assigned so that you do not attempt to program over them.

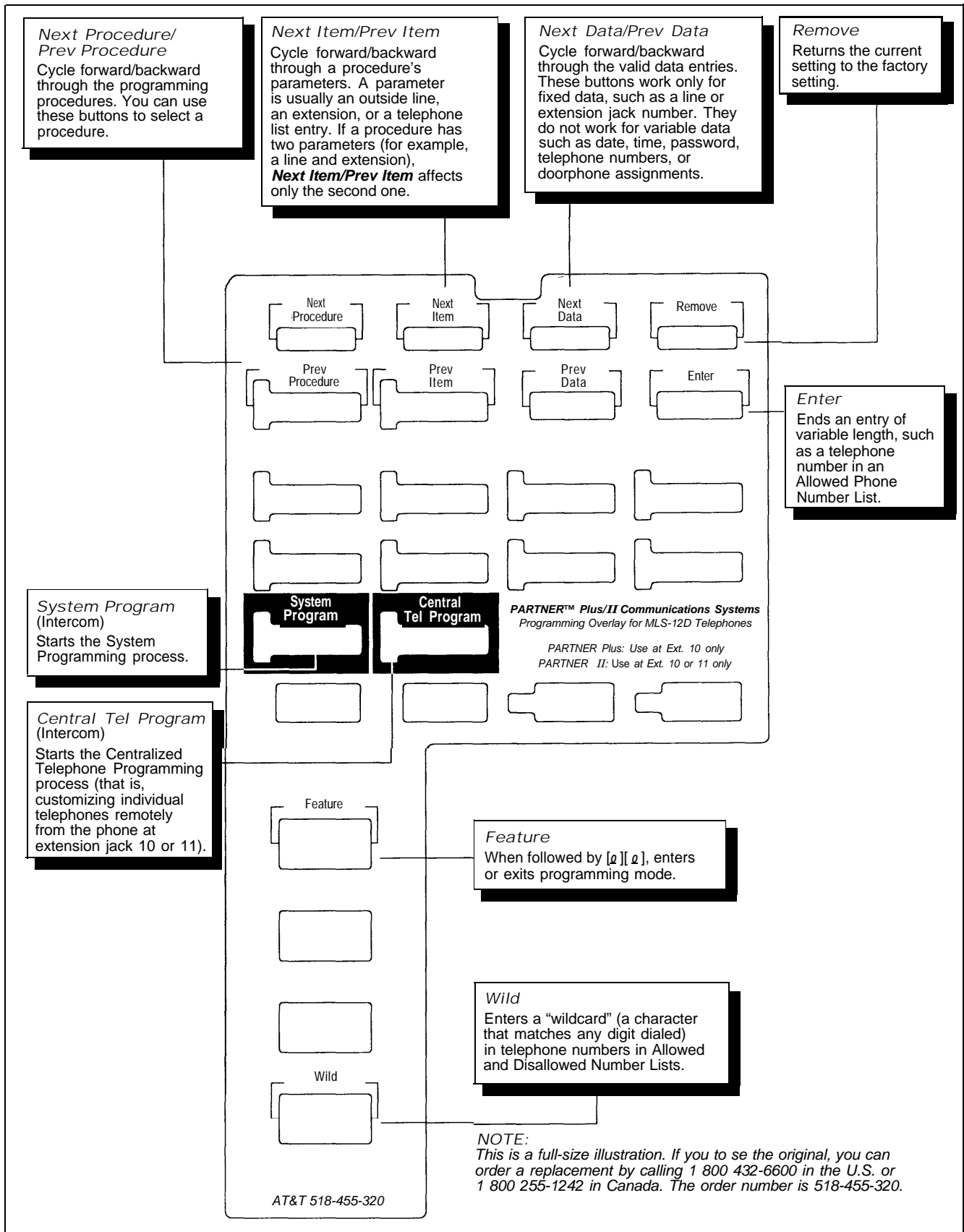
## **Programming Telephone Buttons**

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Telephone buttons without lines assigned to them are *programmable buttons*. Programmable buttons that are used to store outside telephone numbers, Centrex extension numbers, or Centrex feature codes are called *Auto Dial buttons*, because pressing the button automatically dials the number stored on the button.



**Figure 5-1. Programming Overlay for MLS-34D Phone**



**Figure 5-2. Programming Overlay for MLS-12D Phone**

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In addition, you can use programmable buttons to store equipment feature codes or extension jack numbers for one-touch Intercom Calling. These buttons are called *equipment feature buttons*. (The equipment features that you can program onto buttons are described on page 5-16. Note that some equipment features require programming on a button with lights so that you can see whether a feature is turned on or off.)

**NOTE:**

If your business includes industry-standard feature phones with programmable buttons, follow the directions for those phones in order to program any telephone numbers or Centrex feature codes that you want to make available for one-touch access. Feature phones may also support speed dialing for faster access to Centrex services.

Figure 5-3 illustrates the MLS- and MLC-model phones: MLS-34D, MLS-12D, MLS-12, MLS-6, and MLC-6. As you program buttons, mark their functions on the phone's labeling sheet (see the examples in Figure 5-3).

## **Changing Settings after Installation**

As your business grows or changes, you will probably need to change the way your premises equipment was originally programmed. The following sections describe some instances where such changes might be needed.

### **Changing the System Clock**

You may need to change or reset the system clock for daylight saving time, after a prolonged power failure, or after a complete equipment reset. To change the system clock, use the following procedures:

- **System Date (#101)** to set the month, day, and year
- **System Day (#102)** to set the day of the week
- **System Time (#103)** to set the hour and minute.

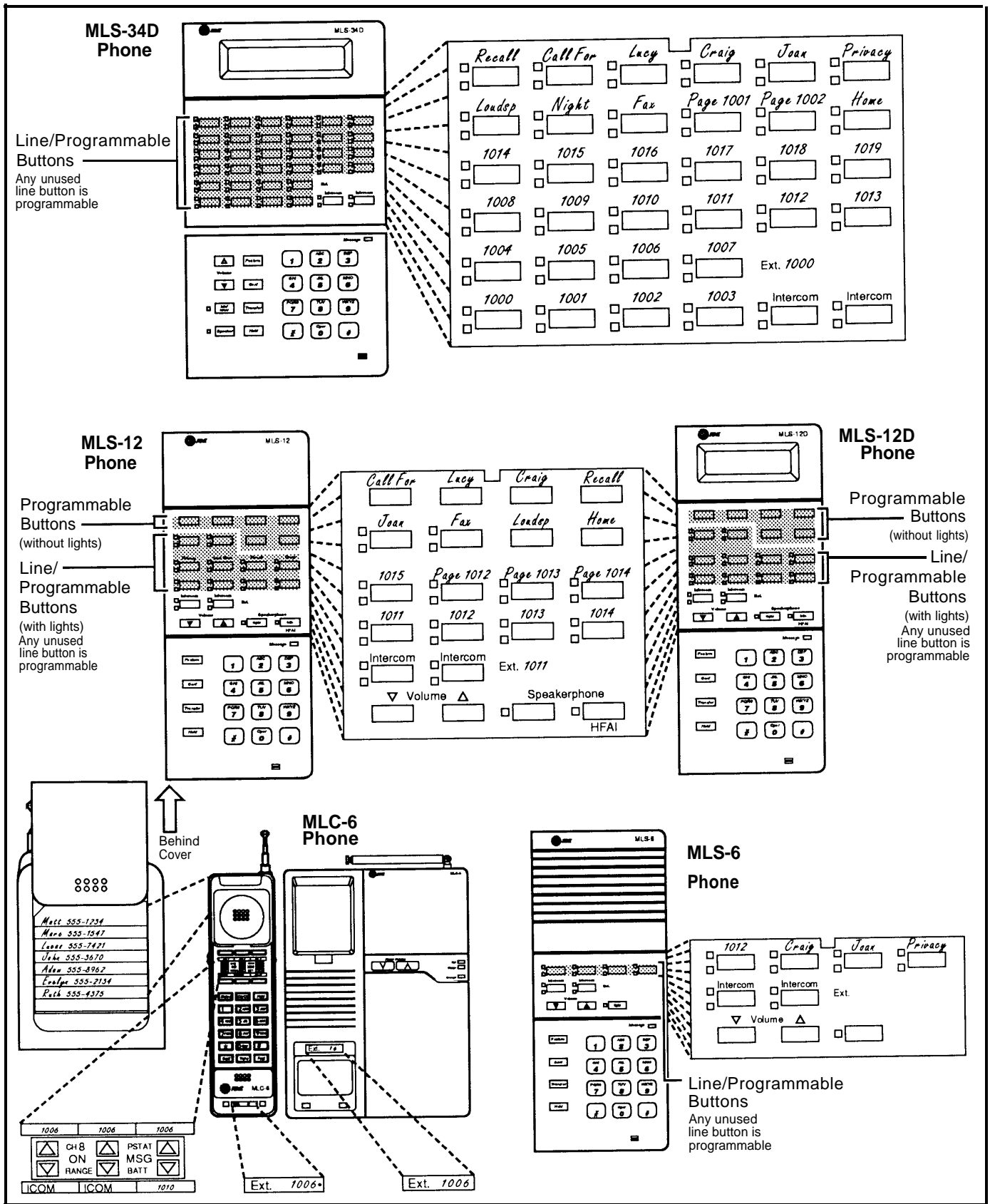


Figure 5-3. Programmable Buttons and Labeling Sheets on MLS- and MLC-Model Phones

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## **Adding Modules and Centrex Extensions**

If you add new modules to your equipment controller after installation, you will need to identify new extensions and to change Hotline and doorphone extensions (if those devices are installed). Likewise, if you add a Centrex extension after installation, you must adjust programmed settings to accommodate the new extension. You may want to use Copy Settings (#399) to copy some settings—see page 5-11 for information on the programmed settings that can be copied with this feature. (If you are using new extensions for auxiliary equipment, see Chapter 7.)

Use the following procedures to adjust the programming for your premises equipment when you add a module or an extension:

- **Line Assignment (#301)** lets you verify that the primary line is assigned to an extension that you added. If it is not, use this procedure to assign the line. (You can also use this procedure to assign a secondary line to the extension.)
- **Line Ringing** (Centralized Telephone Programming) specifies when a primary or secondary line will start ringing at the extension.
- **Line Access Restriction (#302)** determines whether users on each of the lines assigned to the extension can place or receive calls on the line.
- **Dial Mode (#201)** identifies a line as rotary or touch-tone.

## **Hotline Phone and Doorphone Extensions**

Hotline phones and doorphones should be connected to the last available extension jacks on the last installed 206 module in the equipment controller. If you add modules to your existing configuration and you have Hotline phones or doorphones connected to it, you will need to move the equipment (see page 2-14) and change the following programming procedures:

- **Hotline (#603)** to identify the new Hotline extension.
- **Doorphone Extensions (#604 and #605)** to identify the new doorphone extension(s).
- **Line Assignment (#301)** to remove the primary line from the new Hotline phone and/or doorphone extensions.

### **NOTE:**

Remember to reassign the primary lines to the extension jacks where Hotline phones and/or doorphones were previously installed.

# System Programming Reference

System Programming changes settings for the system as a whole, or for individual lines or extensions. You can also use System Programming to set up dialing restrictions, define groups, and set up optional equipment. Button-Down Mode (#723) can be activated (if needed) before Line Ringing is set. Use Copy Settings (#399) to copy settings from one extension to another.

## Place the Programming Overlay on the dial pad of the MLS display phone at extension jack 10 or 11

### TO START SYSTEM PROGRAMMING

PRESS [ *Feature* ] [ 2 ] [ 2 ]  
 PRESS [ *System Program* ]  
 PRESS [ *System Program* ]

### TO END SYSTEM PROGRAMMING

PRESS [ *Feature* ] [ 2 ] [ 2 ]

### TO USE A SPECIFIC PROCEDURE

DIAL [ # ] and the three-digit procedure code  
*Example: [ # ] [ 1 ] [ 2 ] [ 1 ] for System Date*

### TO CYCLE THROUGH SYSTEM PROGRAMMING PROCEDURES

PRESS [ *Next Procedure* ] or [ *Prev Procedure* ]

**NOTE:** Procedures #399, #609, #722, #723, and #728—shown below in dashed boxes—are skipped when cycling.

### TO CYCLE THROUGH AVAILABLE SETTINGS

PRESS [ *Next Data* ] or [ *Prev Data* ]

### TO RETURN TO DEFAULT SETTING

PRESS [ *Remove* ]

## SYSTEM

### SYSTEM DATE

Sets the month, day, and year to appear on display phones (MLS-34D and MLS-12D). Include leading zeroes for single-digit months or days (for example, January 3, 1992 is entered as 010392).

DIAL #101

DIAL the date in MMDDYY form

### SYSTEM DAY

Sets the day of the week to appear on display phones (MLS-34D and MLS-12D).

DIAL #102

DIAL 1 = Sunday ✓  
 2 = Monday  
 3 = Tuesday  
 4 = Wednesday  
 5 = Thursday  
 6 = Friday  
 7 = Saturday

### SYSTEM TIME

Sets the time to appear on display phones (MLS-34D and MLS-12D). Enter four digits in 24-hour military notation, from 0000 for 12 midnight to 2359 for 11:59 p.m. (for example, 8:15 a.m. = 0815). System displays times as a.m. or p.m.

DIAL #103

DIAL the time in HHMM form (military)

### PBX DIAL-OUT CODE

This procedure identifies the digit you dial to get out of the Centrex system to place an outside call.

Dial #106

Dial the digit for the code (0–9) needed to call out  
 ✓ = 9

✓ = Factory Setting

☎ = Troubleshooting procedure (see Appendix C)

### RECALL TIMER DURATION

The Recall feature sends a timed signal (switchhook flash) to the Centrex system to which your premises equipment is connected. This setting changes the length of the signal in 25-millisecond (msec) increments. (For example, 01 = 25 msec, 80 = 2000 msec.) Factory setting is correct for most equipment. Change the factory setting only if:

- Using Recall drops calls (shorten the time).
- Using Recall has no effect—i.e., no dial tone (lengthen the time).

DIAL #107

DIAL two digits to set the length of a switchhook flash (01 to 80)

✓ = 18 (450 msec)

### ROTARY DIALING TIMEOUT

Change the factory setting only if you have trouble calling out on rotary lines with standard touch-tone phones. (For example, if users dial slowly and calls are not completed or are connected to wrong numbers, lengthen the timeout.) Use only if the Dial Mode (#201) for at least one line is set to "rotary."

DIAL #108

DIAL 1 = 4 seconds  
 2 = 8 seconds ✓  
 3 = 12 seconds

### RESET LINE ASSIGNMENTS

Resets line assignments to what they were when the premises equipment was first started up: all lines are assigned to the phone connected to extension jack 10, so that a receptionist can view line activity and cover lines; and every other extension connected to the equipment controller is assigned a single primary line. To assign additional lines to an extension or to remove a line assigned to an extension, use Line Assignment (#301).

DIAL #722

### BUTTON-DOWN MODE

Sets extension jacks 11-33 so that only the extension's primary line (under the bottom leftmost programmable button on an MLS- or MLC-model phone) rings; any other lines assigned to this extension will not ring unless you use Line Ringing to change them. At extension jack 10, the extension's primary line rings immediately and all other lines ring after a short delay.

DIAL #723

DIAL 1 = Not active ✓  
 2 = Active

**NOTE:** This option overrides any current Line Ringing settings that were specified using Centralized Telephone Programming. After activating this mode, use Centralized Telephone Programming from extension jack 10 or 11 to adjust Line Ringing on specific extensions.


### SYSTEM RESET – PROGRAMMING SAVED

**IMPORTANT:** Using this procedure disconnects any active calls but retains equipment controller settings. Use it only if the equipment controller fails to function correctly after a power failure or down period.

DIAL #728

## LINES

### DIAL MODE

Identifies individual lines as touch-tone or rotary. You may also need to adjust the Rotary Dialing Timeout (#108). 

#### DIAL #201

DIAL a line jack number

- 1 = Touch-Tone ✓
- 2 = Rotary

PRESS [ *Next Item* ] to program another line

### HOLD DISCONNECT TIME

Selects the signal that the equipment controller uses to detect when a caller on hold hangs up. Change the setting to "long" if the equipment controller disconnects callers on hold before they hang up, or to "short" if users get dial tone when trying to retrieve calls left on hold.


#### DIAL #203

DIAL a line jack number

- DIAL 1 = Long (450 msec) ✓
- 2 = Short (50 msec)

PRESS [ *Next Item* ] to program another line

✓ = Factory Setting

 = Troubleshooting procedure (see Appendix C)

## EXTENSIONS

### LINE ASSIGNMENT

Assigns the Centrex lines that are available at an extension, in consecutive order. The default order of line assignment is from left to right, starting with the bottom row of line buttons on an MLS- or MLC-model phone.

To put the lines in a different order, first use this procedure to remove all assigned lines; then assign lines in the desired order.

#### DIAL #301

DIAL an extension jack number

A red LED lights next to each line button that has a line assigned.

To remove all existing line assignments, press [ *Remove* ] before selecting a line.

DIAL a line jack number (01 to 24)

If that line is currently assigned, a green LED will light next to the button it is assigned to.

- DIAL 1 = Assigned
- 2 = Not Assigned
- 3 = Select Button and then press a line button to assign the line to that button

*If you use option 3 after a line has been assigned, the line moves from the old button to the new button you select.*

PRESS [ *Next Item* ] to program another line for this extension

#### To program another extension:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ], enter a new extension jack number, and repeat above steps

**NOTE:** Use the Line Ringing procedure (page 5-15) to identify when each line should start ringing at an extension. See page 3-3 for information on default line assignments.

### LINE ACCESS RESTRICTION

Restricts calling on specified lines at the specified extension.

#### DIAL #302

DIAL an extension jack number

DIAL a line jack number

- DIAL 1 = No Restriction ✓
- 2 = Outgoing Only
- 3 = Incoming Only
- 4 = No Access (line appears on button, but you can use line only to pick up a held call)

PRESS [ *Next Item* ] to program another line

#### To program another extension:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ], enter a new extension jack number, and repeat above steps

### DISPLAY LANGUAGE

Identifies the language used for display messages if the specified extension has an MLS-34D or MLS-12D phone.

#### DIAL #303

DIAL an extension jack number

- DIAL 1 = English ✓
- 2 = Spanish
- 3 = French

PRESS [ *Next Item* ] to program another extension

### AUTOMATIC EXTENSION PRIVACY

Prevents other extensions with the same line from joining a call on the specified extension. You can also use this procedure to prevent users from interrupting calls on an extension with a fax machine or modem. Privacy can also be programmed on a button for manual use (see page 5-16).

#### DIAL #304

DIAL an extension jack number

- DIAL 1 = Assigned
- 2 = Not assigned

PRESS [ *Next Item* ] to program another extension

### ABBREVIATED RINGING

Determines how calls ring at an extension when the extension is busy on a call on a different line. If Abbreviated Ringing is on and you are busy on a call, the call rings once; the green button for the line continues to flash until you answer the call or the caller hangs up.

#### DIAL #305

DIAL an extension jack number

- DIAL 1 = Active (1 ring) ✓
- 2 = Not Active (repeated ringing)

PRESS [ *Next Item* ] to program another extension.

### COPY SETTINGS

Copies following settings from one extension to another:

- #302 Line Access Restriction
- #303 Display Language
- #304 Automatic Extension Privacy
- #305 Abbreviated Ringing
- #401 Outgoing Call Restriction
- #405 Disallowed List Assignments
- #408 Allowed List Assignments
- #501 Pickup Group Extensions
- #502 Calling Group Extensions
- #504 Night Service Group Extensions
- #505 Hunt Group Extensions
- #601 Fax Machine Extensions

#### DIAL #399

DIAL a source extension jack number

DIAL target extension jack numbers



# System Programming Reference

System Programming changes settings for the system as a whole, or for individual lines or extensions. You can also use System Programming to set up dialing restrictions, define groups, and set up optional equipment.

**Place the Programming Overlay on the dial pad of the MLS display phone at extension jack 10 or 11**

## TO START SYSTEM PROGRAMMING

PRESS [ *Feature* ] [ *Q* ] [ *Q* ]

PRESS [ *System Program* ]

PRESS [ *System Program* ]

## TO END SYSTEM PROGRAMMING

PRESS [ *Feature* ] [ *Q* ] [ *Q* ]

## TO USE A SPECIFIC PROCEDURE

DIAL [ # ] and the three-digit procedure code

*Example: [ # ] [ 1 ] [ Q ] [ 1 ] for System Date*

## TO CYCLE THROUGH SYSTEM PROGRAMMING PROCEDURES

PRESS [ *Next Procedure* ] or [ *Prev Procedure* ]

**NOTE:** Procedures #399, #609, #722, #723 and #728- shown below—in dashed boxes are skipped when cycling.

## TO CYCLE THROUGH AVAILABLE SETTINGS

PRESS [ *Next Data* ] or [ *Prev Data* ]

## TO RETURN TO DEFAULT SETTING

PRESS [ *Remove* ]

## DIALING RESTRICTIONS AND PERMISSIONS

### OUTGOING CALL RESTRICTION

Restricts calling on *all* lines at an extension.

**NOTE:** Emergency numbers, Marked System Speed Dial numbers, and Allowed List numbers override call restrictions; a user can also enter the System Password to override restrictions.

#### DIAL #401

DIAL an extension jack number

DIAL 1 = No Restriction ✓  
2 = Inside Only  
3 = Local (inside and local) Only

PRESS [ *Next Item* ] to select another extension

### TOLL CALL PREFIX

Indicates whether users must dial a 0 or 1 to make a long-distance call.

#### DIAL #402

DIAL 1 = 0/1 plus Area Code and Number ✓

2 = Area Code and Number Only

### SYSTEM PASSWORD

Defines a 4-digit password that users can enter to override dialing restrictions. If a password is defined, it must be entered to turn Night Service on and off; when Night Service is on, users in the Night Service Group must enter the password to make outgoing calls (other than Emergency numbers and Marked System Speed Dial numbers).

#### DIAL #403

DIAL 4 digits to set the password

✓ = Factory Setting

### DISALLOWED PHONE NUMBER LISTS

Creates up to 4 lists of telephone numbers that users *cannot* dial (up to 10 numbers per list). Use procedure #405 to assign lists to extensions.

#### DIAL #404

DIAL a list number (1 to 4)

DIAL a list entry (01 to 10)

#### To add entry:

DIAL the phone number (up to 12 digits)

PRESS [ *Enter* ]

**NOTE:** For instructions on entering phone numbers, see "Entering Telephone Numbers into Lists" (page 4-18).

PRESS [ *Remove* ] to remove a list entry

PRESS [ *Next Item* ] to select another list entry

#### To program another list:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ], enter a new list number, and repeat above steps

### DISALLOWED LIST ASSIGNMENTS

Assigns one or more Disallowed Lists to an extension.

#### DIAL #405

DIAL an extension jack number

DIAL a list number (1 to 4)

DIAL 1 = Assigned  
2 = Not assigned ✓

PRESS [ *Next Item* ] to program another list

#### To program another extension:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ], enter a new extension jack number, and repeat above steps

### EMERGENCY PHONE NUMBER LIST

Creates a list of up to 10 telephone numbers that all users *can* dial from *any* extension, regardless of equipment dialing restrictions.

#### DIAL #406

DIAL a list entry (01 to 10)

#### To add entry:

DIAL the phone number (up to 12 digits)

PRESS [ *Enter* ]

**NOTE:** For instructions on entering phone numbers, see "Entering Telephone Numbers into Lists" (page 4-18).

PRESS [ *Remove* ] to remove a list entry

PRESS [ *Next Item* ] to select another list entry

### ALLOWED PHONE NUMBER LISTS

Creates up to 4 lists of telephone numbers (with up to 10 numbers per list) that users *can* dial from the specified extensions, regardless of equipment dialing restrictions. Lists must also be assigned to extensions using procedure #408.

#### DIAL #407

DIAL a list number (1 to 4)

DIAL a list entry (01 to 10)

#### To add entry:

DIAL the phone number (up to 12 digits)

PRESS [ *Enter* ]

**NOTE:** For instructions on entering phone numbers, see "Entering Telephone Numbers into Lists" (page 4-18).

PRESS [ *Remove* ] to remove a list entry

PRESS [ *Next Item* ] to select another list entry

#### To program another list:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ], enter a new list number, and repeat above steps

### ALLOWED LIST ASSIGNMENTS

Assigns one or more Allowed Lists to an extension.

#### DIAL #408

DIAL an extension jack number

DIAL a list number (1 to 4)

DIAL 1 = Assigned  
2 = Not Assigned ✓

PRESS [ *Next Item* ] to select another list

#### To program another extension:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ], enter a new extension jack number, and repeat above steps

## GROUPS

### PICKUP GROUP EXTENSIONS

Assigns an extension to a Pickup Group. Calls to a Group can be picked up by any user.

#### DIAL #501

DIAL a group number (1 to 4)

DIAL an extension jack number

DIAL 1 = Assigned to group  
2 = Not assigned to group ✓

PRESS [ *Next Item* ] to assign another extension

#### To program another group:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ] enter a new group number, and repeat above

### CALLING GROUP EXTENSIONS

Assigns extension to a Calling Group. Anyone can ring or page all extensions in a Group (first user to pick up call is connected).

#### DIAL #502

DIAL a group number (1 to 4)

DIAL an extension jack number

DIAL 1 = Assigned to group  
2 = Not assigned to group ✓

PRESS [ *Next Item* ] to assign another extension

#### To program another group:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ], enter a new group number, and repeat above

### NIGHT SERVICE BUTTON

Programs a button to turn Night Service on and off. Option 3 assigns Night Service to a button of the MLS-display phone at extension jack 10. If a System Password is programmed, you must enter it to turn Night Service on or off.

#### DIAL #503

DIAL 1 = Assigned to standard button

2 = Not assigned ✓

3 = Select button—and then press a programmable button

*If you use Option 3 after a Night Service button has been assigned, the Night Service button moves from the old button to the new button (overriding any previously programmed feature on that button).*

### NIGHT SERVICE GROUP EXTENSIONS

Assigns an extension to the Night Service Group. When Night Service is on, lines set to “no ring” or “delayed ring” in the Group change to “immediate ring,” and if a System Password has been programmed, people in the Group can only dial emergency and Marked System Speed Dial numbers

#### DIAL #504

DIAL an extension jack number

DIAL 1 = Assigned to group  
2 = Not assigned to group ✓

PRESS [ *Next Item* ] to assign another extension

### HUNT GROUP EXTENSIONS

Assigns extension to a Hunt Group. *Intercom* calls to a Group ring at the first non-busy extension, the next call to that Group will not ring there unless all other Group phones are busy. (**NOTE:** This feature is not recommended for most systems. If Centrex Hunt Groups are available, use them instead.)

#### DIAL #505

DIAL a group number (1 to 6)

DIAL an extension jack number

DIAL 1 = Assigned to group  
2 = Not assigned to group ✓

PRESS [ *Next Item* ] to assign another extension

#### To program another group:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ] enter a new group number, and repeat above

## AUXILIARY EQUIPMENT

### FAX MACHINE EXTENSIONS

Identifies an extension to which a fax machine is connected. To monitor the status of the fax machine from an MLS-model phone in another location, see “Fax Management” (the bottom half of this box).

#### DIAL #601

DIAL an extension jack number

DIAL 1 = Assigned  
2 = Not Assigned ✓

PRESS [ *Next Item* ] to identify another extension

### FAX MANAGEMENT

To monitor the status of fax machines from MLS-model phones:

1. Use Fax Machine Extensions (#601) procedure to identify extension jacks where fax machines are connected.
2. On an MLS-model phone, program a button with lights as an Intercom Calling button for the fax extension jack number (for each fax extension to be monitored). Label the Intercom Calling button appropriately (for example, “FAX 1012”).

### MUSIC ON HOLD

Activates and deactivates the MUSIC ON HOLD jack. When active and an audio source is connected to the jack and turned on, callers on hold hear music or recorded messages.

#### DIAL #602

1 = Active ✓  
2 = Not Active

### HOTLINE

Identifies a “Hotline” extension and an “alert” extension. When a user picks up the Hotline phone, it rings the alert extension. The Hotline phone should be a standard touch-tone phone; the alert extension can have any type of phone or can be the loudspeaker paging system.

Use #301 to remove any Centrex lines from this extension. Use #502, #504, and #505 to remove this extension from Calling, Night Service, and Hunt Groups

#### DIAL #603

DIAL an extension jack number to identify the Hotline

DIAL an extension jack number (except the Hotline) to identify the alert extension or [ z ] [ a ] if the loudspeaker paging system will be the alert extension

#### To remove the Hotline and alert:

PRESS [ *Remove* ]

### DOORPHONE 1 EXTENSION

Identifies a doorphone extension. When a person uses the doorphone, it signals all the alert extensions for the doorphone at the same time.

Use #301 to remove any Centrex lines from this extension. Use #502, #504, and #505 to remove this extension from Calling, Night Service, and Hunt Groups.

#### DIAL #604

DIAL an extension jack number (12–15, 18–21, 24–27, 30–33)

### DOORPHONE 2 EXTENSION

See “Doorphone 1 Extension.”

#### DIAL #605

DIAL an extension jack number (12–15, 18–21, 24–27, 30–33)

### DOORPHONE ALERT EXTENSIONS

Identifies up to 5 extensions to be signalled by a doorphone (identified using procedures #604 or #605). When a person uses the doorphone, it signals all alert extensions at the same time. If the alert extension is an MLS-model phone, the call signals with a unique “ding-dong” sound to distinguish it from other calls.

#### DIAL #606

DIAL an extension jack number (except a doorphone extension)

DIAL 1 = Not an alert ✓  
2 = Doorphone 1 alert  
3 = Doorphone 2 alert  
4 = Doors 1 and 2

PRESS [ *Next Item* ] to select another extension (up to 5 alert extensions per doorphone)

### SMDR RECORD TYPE

Identifies the type of calls a call reporting device should record. For each call, the equipment controller records the date and time, call duration, extension jack number, dialed number, and type of call.

#### DIAL #608

DIAL 1 = All calls ✓  
2 = Outgoing calls only

### SMDR TOP OF PAGE

Notifies the equipment controller that the printer has been aligned to the top of a new page. The controller responds by printing the call report page header.

#### DIAL #609

✓ = Factory Setting



# Telephone Programming Reference

## Centralized Telephone Programming

Use Centralized Telephone Programming to program features or store telephone numbers for individual extensions. Line Ringing must be programmed from an MLS display phone at extension jack 10 or 11 (using Centralized Telephone Programming); all other features can be programmed on an MLS- or MLC-model phone at the user's extension (see "Extension Programming" on next page).

**Place the Programming Overlay on the dial pad of the MLS display phone at extension jack 10 or 11**

### TO START PROGRAMMING

PRESS [ *Feature* ] [ *Δ* ] [ *Δ* ]

PRESS [ *System Program* ]

PRESS [ *System Program* ]

PRESS [ *Central Tel Program* ]

DIAL the extension jack number of the MLS- or MLC-model phone to be programmed

*Buttons on which lines are assigned for the extension light up to show the current Line Ringing setting; remaining buttons can be programmed with Auto Dial numbers, extension jack numbers, or features*

### TO PROGRAM ANOTHER FEATURE AT THE SAME EXTENSION

After you finish changing a setting, simply continue with the instructions in the box shown for the new feature on page 5-16

### TO CHANGE SETTING FOR ANOTHER EXTENSION

PRESS [ *Central Tel Program* ]

DIAL the extension jack number for the new extension

### TO ERASE A FEATURE OR AUTO DIAL BUTTON

PRESS the programmed button

PRESS [ *Mic* ]

### TO END PROGRAMMING

PRESS [ *Feature* ] [ *Δ* ] [ *Δ* ]

## LINES

### LINE RINGING

Determines when calls ring at the extension:

- Immediate ring (*green steady*)
- Delayed ring—starts ringing after about 20 seconds (*green slow flashing*)
- No ring (*green fast flutter*)

PRESS each line button until the desired ringing option appears in the display

### \*IMPORTANT:

If you program 911 or other emergency numbers as Speed Dial numbers and want to place test calls:

1. Remain on the line and briefly explain to the dispatcher the reason for the call before hanging up.
2. Perform such activities in the off-peak hours, such as early morning or late evening.

## SPEED DIALING

### PERSONAL SPEED DIAL NUMBERS

Stores up to 20 Personal Speed Dial numbers for a user's extension. Users with MLS- or MLC-model phones can program Personal Speed Dial numbers.

PRESS [ *Feature* ]

DIAL a 2-digit code (80 to 99)

DIAL the dial-out code (if you must dial one to make an outside call) and the phone number—up to 20 digits including special characters (see page 5-14)

After programming, the user can dial the number automatically by pressing [ *Feature* ] plus the 2-digit code.

### AUTO DIALING\*

Stores outside phone numbers, Centrex feature codes, or Centrex extension numbers on programmable buttons of MLS- or MLC-model phones, so users can dial simply by pressing the programmed buttons.

PRESS a programmable button

#### To program a phone number:

DIAL the complete number exactly as you would dial it manually, including a dial-out code if you must dial one to place an outside call (the number can be up to 20 digits, including special characters; see page 5-14)

#### To program a Centrex feature code:

DIAL the feature code (to use the Centrex feature while on a call, a Recall signal can be included as the first character stored on the button)

### ONE-TOUCH INTERCOM CALLING

If you program an extension jack number on a programmable button on an MLS- or MLC-model phone, you can place an intercom call to the extension simply by pressing the programmed button (on a button with lights, the lights beside the Intercom Calling button show calling activity at the extension).

PRESS a programmable button

PRESS left [ *Intercom* ]

DIAL the extension jack number (to ring the extension when the button is pressed) or

[ *Δ* ] plus the extension jack number (to voice page the extension when the button is pressed)

# Telephone Programming Reference

## EQUIPMENT FEATURES

### DO NOT DISTURB

Prevents the phone from ringing; callers hear ringing (except intercom callers, who hear a busy signal). This feature is recommended only if someone else answers calls for your extension.

PRESS a programmable button with lights  
PRESS [ *Feature* ] [ *Q* ] [ *1* ]

### EXCLUSIVE HOLD

Prevents other extensions that share a line from picking up calls placed on hold.

PRESS a programmable button  
PRESS [ *Feature* ] [ *Q* ] [ *2* ]

### RECALL

Sends a timed switchhook flash over the phone line. This lets the user access Centrex services while on a call

PRESS a programmable button  
PRESS [ *Feature* ] [ *Q* ] [ *3* ]

### SAVE NUMBER REDIAL

Saves a telephone number into temporary memory if user presses the button before hanging up the call. Pressing the Save Number Redial button then redials the number, even after intervening calls.

**NOTE:** This feature can be programmed onto more than one button.

PRESS a programmable button  
PRESS [ *Feature* ] [ *Q* ] [ *4* ]

### LAST NUMBER REDIAL

Automatically redials the last telephone number dialed.

PRESS a programmable button  
PRESS [ *Feature* ] [ *Q* ] [ *5* ]

### PRIVACY

Prevents other extensions that share a line from joining telephone conversations.

PRESS a programmable button with lights  
PRESS [ *Feature* ] [ *Q* ] [ *Z* ]



Requires a button with lights

### TOUCH-TONE ENABLE

Lets users with rotary lines use phone services such as "Bank by Phone" that require touch-tone digits. After the user presses Touch-Tone Enable, all numbers dialed during the call are sent as touch-tone digits.

PRESS a programmable button  
PRESS [ *Feature* ] [ *Q* ] [ *8* ]

### MESSAGE LIGHT ON

Turns on the Message light at an extension with an MLS- or MLC-model phone.

PRESS a programmable button  
PRESS [ *Feature* ] [ *Q* ] [ *9* ]

### MESSAGE LIGHT OFF

Turns off the Message light at an extension with an MLS- or MLC-model phone.

PRESS a programmable button  
PRESS [ *Feature* ] [ *1* ] [ *Q* ]

### CALL FORWARDING

Forwards all calls to another system extension. You can use this feature at your own extension or at the extension where you want your calls forwarded.

PRESS a programmable button  
PRESS [ *Feature* ] [ *1* ] [ *1* ]

### CALL PICKUP (any extension)

Picks up a call ringing at any other extension in the system (you cannot pick up an intercom call).

PRESS a programmable button  
PRESS left [ *Intercom* ] [ *8* ]  
DIAL the extension jack number

### GROUP PICKUP

Picks up a call ringing at any extension in a Pickup Group (you cannot pick up an intercom call). To define the Pickup Group, see System Programming procedure #501.

PRESS a programmable button  
DIAL left [ *Intercom* ] [ *8* ] [ *8* ]  
DIAL the Pickup Group number (1-4)

### LOUDSPEAKER PAGING

Connects the user to the (optional) loudspeaker paging system.

PRESS a programmable button  
PRESS left [ *Intercom* ] [ *Z* ] [ *Q* ]

### GROUP CALLING

Simultaneously places an intercom call to all extensions in a Calling Group (see System Programming procedure #502). The first user to answer is connected to the caller.

PRESS a programmable button  
PRESS left [ *Intercom* ] [ *Z* ]  
DIAL a Calling Group number (1-4)

### GROUP PAGING

Simultaneously places a voice-paging intercom call to all extensions in a Calling Group (see System Programming procedure #502). When using this feature, the caller hears a beep and begins speaking; the caller's voice is then heard on the speakers of all system phones in the Calling Group. The first user to answer the call (by picking up the handset or pressing the [ *Mic* ] button) is connected to the caller.

PRESS a programmable button  
PRESS left [ *Intercom* ] [ *5* ] [ *Z* ]  
DIAL a Calling Group number (1-4)

### EXTENSION HUNT GROUP

Places a ringing or paging intercom call to the next available extension in a Hunt Group (see System Programming procedure #505).

**NOTE:** This feature is not recommended for most systems. Centrex Hunt Groups are available, use them instead.

*For ringing the first available extension:*  
PRESS a programmable button  
DIAL left [ *Intercom* ] [ *Z* ] [ *Z* ]  
DIAL a Hunt Group number (1-6)

*For paging the first available extension:*  
PRESS a programmable button  
PRESS left [ *Intercom* ] [ *5* ] [ *Z* ] [ *Z* ]  
DIAL a Hunt Group number (1-6)

### DIRECT LINE PICKUP

Picks up a ringing, held, or active call on a line. This feature is useful for accessing a call on a line that is not assigned to the extension.

PRESS a programmable button  
DIAL left [ *Intercom* ] [ *8* ] [ *8* ]

## Extension Programming

Users can program features or store telephone numbers at their own phones using Extension Programming. Line Ringing must be programmed from the MLS display phone at extension jack 10 or 11 (using Centralized Telephone Programming); all other features can be programmed on an MLS- or MLC-model phone at the user's extension.

### TO PROGRAM OR CHANGE A PERSONAL SPEED DIAL NUMBER, AUTO DIAL NUMBER, OR EQUIPMENT FEATURE:

PRESS [ *Feature* ] [ *Q* ] [ *Q* ] to enter program mode

Follow the boxed instructions in "Centralized Telephone Programming" (page 5-15) to program the first number or feature

To program more numbers or features, follow their boxed instructions

PRESS [ *Feature* ] [ *Q* ] [ *Q* ] when you are finished programming

### TO REMOVE AN AUTO DIAL NUMBER OR EQUIPMENT FEATURE FROM A BUTTON:

PRESS [ *Feature* ] [ *Q* ] [ *Q* ] to enter program mode

PRESS the programmed button ←

PRESS [ *Mic* ]

To remove another number or feature, repeat the last two steps

PRESS [ *Feature* ] [ *Q* ] [ *Q* ] when you are finished programming

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# Using Telephones

# 6

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# Using Telephones

# 6

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## Overview

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This chapter explains how to use your telephones. It does not provide detailed instructions about using your Centrex services. See the Centrex documentation provided by your local telephone company for information on Centrex services.

## Terminology

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The following terms are used in this chapter. In addition, you may wish to review the “Terminology” section of “About This Guide,” which defines basic terms used throughout this guide, or the Glossary, which defines all terms.

<b>Centrex extension number</b>	A short code (or “Centrex extension ID”) that can be used to dial another extension within the Centrex system. Typically, this is the last digits of the Centrex telephone number.
<b>Combination extension</b>	An extension that has two devices connected to it using a special connector called a bridging adapter. Combination extensions can connect two industry-standard devices or an industry-standard device and an MLS- or MLC-model phone, but not two MLS- or MLC-model phones.
<b>Equipment feature</b>	A feature provided by your equipment controller (as opposed to a service provided by Centrex).
<b>Equipment feature button</b>	A programmable telephone button on an MLS- or MLC-model telephone that enables you to access an equipment feature simply by pressing that button.
<b>Inside call</b>	A call made from an extension inside the Centrex system to another extension inside the Centrex system, using the Centrex extension number.

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<b>Intercom call</b>	A call that is made using the [ <i>Intercom</i> ] button on an MLS- or MLC-model telephone, to call another system extension without tying up primary Centrex lines.
<b>Outside call</b>	A call made from outside the Centrex system to an extension within the Centrex system, or from inside the Centrex system to a number outside the Centrex system. If your Centrex system uses a dial-out code (usually a "9"), you must dial it before you dial an outside telephone number.
<b>Primary line</b>	The main Centrex line assigned to an extension, generally used to place and receive all calls for that extension. When a caller dials a phone number, the call rings immediately at the extension where the line is assigned as a primary line (unless line ringing is changed to let a user at another extension screen calls on the line). See <i>also</i> Secondary line.
<b>Secondary line</b>	A line assigned to an extension for call coverage purposes, generally with delayed or no ringing. When a call comes in on the line, it rings first at the extension where it is assigned as the primary line; only if there is no answer does it ring at the extension where it is a secondary line. See <i>also</i> Primary line.
<b>Standard phone</b>	An industry-standard touch-tone or rotary phone such as you might have in your home. Some standard phones include special feature buttons for frequently-used calling functions.

## **MLS- and MLC-Model Telephones**

---

MLS-and MLC-model telephones have some buttons and indicators in common. Refer to pages 6-4 and 6-5 for an explanation of where they are and how they work. Call handling instructions for MLS- and MLC-model telephones and industry-standard phones begin on page 6-12.

## **Ringling Patterns and Dial Tones**

---

Your Centrex system determines the ringing pattern you will generally hear when calls ring at your phone. (For example, there may be different ringing patterns for inside and outside calls.) If someone makes an intercom call to your phone, you will hear a ring and a beep (*ring BEEP . . . ring BEEP . . . ring BEEP . . .*).








When making most calls, you will hear the *Centrex dial tone*, indicating that you are connected with a Centrex line. (If you press [ *Intercom* ], you hear the intercom dial tone. See Appendix B for information on using the intercom button.)



## Lights

Each line button has a green light and a red light. The meaning of these lights varies, depending on whether the button is used to access a line or is programmed with an equipment feature or Intercom Calling number.

**Table 6-1. Light Patterns for MLS- and MLC-Model Phones**

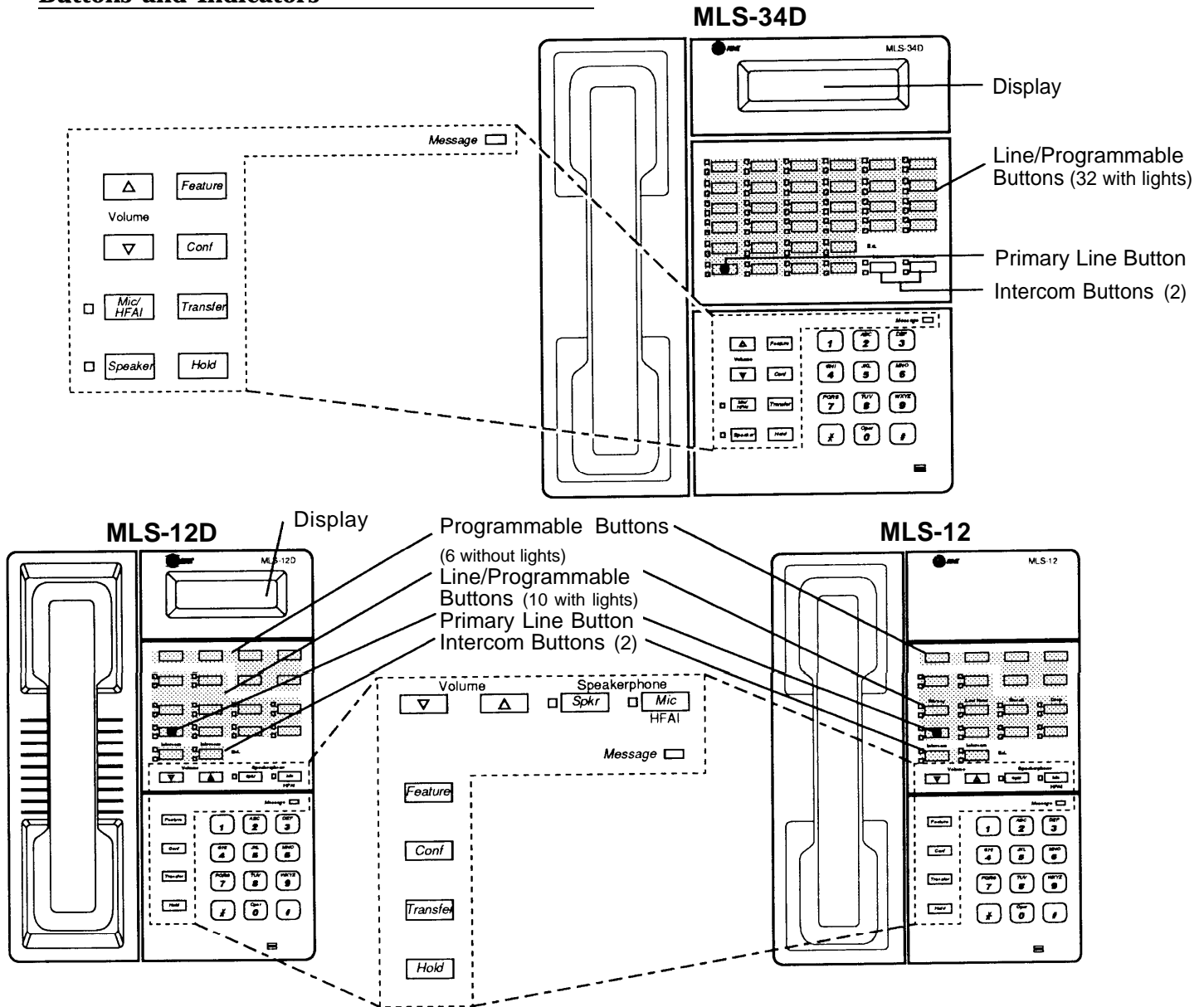
Light Pattern	Line Button	Feature Button*	Intercom Calling Button
Steady On 	Line is busy—green if your phone is busy, red if a person at another extension is busy on the line.	Feature is on.	Red means the person or FAX machine at the extension is making or answering a call.
Off  (steady off)	Line is idle (not in use).	Feature is off.	Extension idle (not in use).
Flash  (long on, long off)	A call is ringing on the line. Green flash means a call is ringing at your extension. Red flash means a call is ringing on the line, but not at your extension.	—	Green if an intercom call is coming in from the extension or the FAX machine extension is calling you.
Alternating Red/Green Flash  (red on, green on)	Appears at both extensions in a joined call.	—	—
Wink  (long on, short off)	A call is on hold. When green, the call is on hold at your extension—when red, at another extension. (Anyone with the line can retrieve the call.)	—	—
Flutter  (short on, short off)	Green means a call is on Exclusive Hold at your extension and can only be retrieved from your extension.	—	—
Broken Flutter  (short on/off, long off)	—	—	<i>Fax Management:</i> Fax not answering, may be out of paper.

\*Applies only to Night Service, Do Not Disturb, and Privacy, which must be programmed on a button with lights (see pages 5-13 and 5-16).

**NOTE:**

When a phone is in programming mode, the lights show information about programmed settings. See “Telephone Programming Procedures” on page 5-4 for details.

## Buttons and Indicators



The following buttons and displays appear on MLS- and MLC-model phones. (Some controls and indicators are not available on all phones.)

**Display.** (MLS-34D and MLS-12D only) Shows date, day, and time when phone is idle, number dialed when placing a call, extension jack number calling when receiving an intercom call, and duration while a call is in progress. When programming, shows settings, options, and prompts.

**Line/Programmable Buttons.** Used for Centrex lines, programmed dialing sequences such as Centrex feature codes or telephone numbers, or programmed equipment features. When no line is assigned, the button may be programmed. The MLS-34D has 32 programmable buttons; the MLS-12D and MLS-12 have 16 programmable buttons (10 with lights); the MLS-6 and MLC-6 phones have 4 programmable buttons.

**Primary Line Button.** The bottom leftmost line/programmable button, always used for the primary line assigned to the phone.

**Intercom Buttons.** Use for Intercom calling. See Appendix B.

**Other Buttons and Indicators** (shown in exploded views)

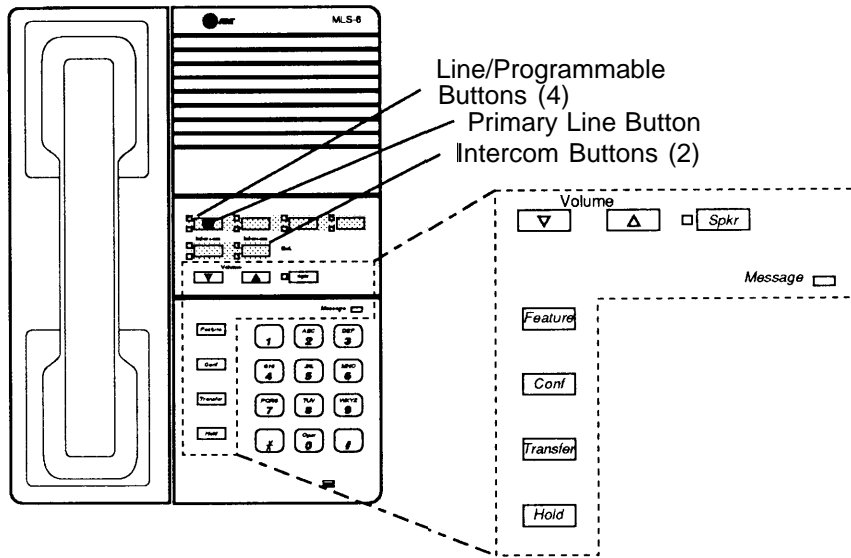
**Feature.** Use to change programmed settings or to access equipment features.

**Conf (Conference).** Use to access your Centrex conference calling.

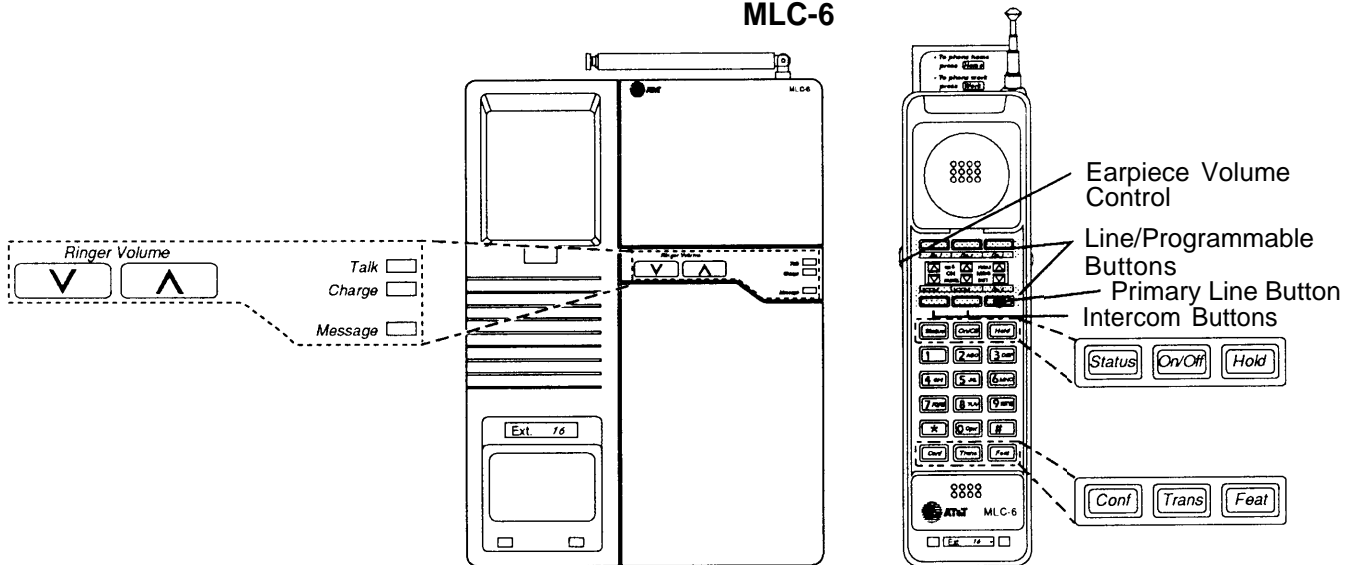
**Transfer.** Use to access your Centrex call transfer.

**NOTE:** You must subscribe to Centrex conference or transfer to use these services.

## MLS-6



## MLC-6



**Hold.** Press to put a call on hold.

**Spkr (Speaker)** (all models except the MLC-6). Press to dial without lifting the handset. Turns on speaker and microphone (if available), so you can have a conversation without lifting the handset.

**Mic (Microphone)** (MLS-34D, MLS-12D, and MLS-12 only). The light next to this button shows when the microphone is turned on; press this button to turn off the microphone when you are using the built-in speaker. Leave on to use Hands-Free Answer on Intercom feature (see Appendix B).

**Message Indicator.** Lights when someone signals you with the Message Light On feature.

**Volume Control Buttons.** Press ▾ to decrease or ▴ to increase the volume of the ringer, speaker, and handset.

- To adjust ringer volume, press ▾ or ▴ while the phone is idle and the handset is on the phone.
- To adjust speaker volume, press ▾ or ▴ while listening to a call through the speaker.
- To adjust handset volume, press ▾ or ▴ while listening through the handset.

**On/Off** (MLC-6 only). Turns the handset on and off, (You must turn the handset on to make calls.)

**Status** (MLC-6 only). Quickly updates the display on the MLC-6 handset.

**Talk** (MLC-6 only). Lights when handset is lifted and turned on.

**Charge** (MLC-6 only). Lights when handset is placed on the base and handset batteries are charging.

---

## Switchhook and Recall

---

When you are on a call using an MLS- or MLC-model phone, pressing the switchhook disconnects you from the call. To access Centrex services when you are on a call, use the Recall feature to execute a timed switch hook flash (see page 6-12). You can program this feature onto a button on your telephone (see page 5-16). (Recall disconnects an intercom call.)

## Using the Handset, Speaker, and Microphone

---

Every MLS-model telephone has a speaker, which you can turn on by pressing [ *Spkr* ]. When the green light next to [ *Spkr* ] is on, the speaker is on.

MLS-34D, MLS-12D, and MLS-12 phones also have microphones. On these phones, pressing [ *Spkr* ] turns on *both* the speaker *and* the microphone. In addition, you can turn just the microphone on and off by pressing [ *Mic* ]. When the green light next to [ *Mic* ] is on, the microphone is on.

The call handling instructions in this chapter explain how to use the handset to make and answer calls. However, if you prefer to dial and conduct calls without lifting the handset, you can use the speaker and the microphone instead. Use the following techniques to make calls with the speaker and (if you have one) the microphone:

- To make a call without lifting the handset, press [ *Spkr* ] to get a dial tone; then dial the number, and you will hear the call ringing. If you have a microphone, it is turned on automatically when you press [ *Spkr* ] (if it is not on already); when the other party answers, you can talk without lifting the handset. On MLS-6 phones (which have no microphone), lift the handset to talk when the other party answers.
- To turn off the microphone when you are using the speaker, press [ *Mic* ]. This will *mute* your voice so that the other party cannot hear you.
- If you are already on a call (on an MLS-34D, MLS-12D, or MLS-12 phone), you can switch from the handset to the speaker and microphone by pressing [ *Spkr* ] and hanging up the handset. Conversely, if you are using the speaker and microphone and want to switch to the handset, lift the handset and the speaker and microphone will turn off.
- Use the Hands-Free Answer on Intercom (HFAI) feature (on an MLS-34D, MLS-12D, or MLS-12 phone), to answer voice paging calls without lifting the handset (see Appendix B).

---

## Speakerphone Performance Tips

The speaker and microphone on your MLS-34D, MLS-12D, or MLS-12 telephone is controlled by a sensitive sound-activated switch. Room acoustics and background noise can affect the proper operation of the speaker. To ensure that your speaker works effectively, follow these guidelines:

- Avoid placing your phone in areas with high background noise caused by loud voices, radios, printers, copiers, typewriters, other noisy office equipment, and heater and air conditioning fans.
- Avoid rustling papers near the microphone (lower right corner of your phone).
- Avoid talking before the other person is finished speaking. When you both talk at the same time, only one person's voice comes through.
- When talking, always face your phone and stay within two feet of it.
- Place your phone at least six inches away from the edge of your desk.
- If you have difficulty hearing the other party, increase the speaker volume. If the difficulty persists, lift your handset to continue the conversation.
- In conference rooms, a separate speakerphone (such as the AT&T S203 Speakerphone) is recommended, since the built-in speaker on an MLS- or MLC-model phone is designed for individual use.

## Standard Telephones

---

In addition to MLS- and MLC-model phones, you can connect industry-standard touch-tone or rotary phones to your equipment controller. (This includes some phones with programmable buttons or built-in calling features, called *feature phones*.) You can also combine standard phones on the same extension with an MLS- or MLC-model phone or other device without using expensive adapters or connectors.

At least one standard phone should be available for use in the event of a power failure (for more information, see "Power Failure Operation" on page 2-4), and you should use a standard phone for a Hotline phone (see page 2-5). If you use a standard phone, keep these guidelines in mind:

- **Power Failure Backups.** In the event of a power failure, standard phones at extension jacks 10, 16, 22, and 28 can place and answer calls on lines at line jacks 01, 07, 13, and 19, respectively. MLS- and MLC-model phones, which require electrical power, will not work. You can connect a standard phone in combination with an MLS- or MLC-model phone at power failure extensions, or you can simply keep spare standard phones at those extensions to serve as replacements in case of a power failure.
- **Placing calls.** To dial an outside call, just lift the handset and make the call; precede the phone number with your Centrex dial-out code if you have one. To dial an inside call to another extension, dial the Centrex extension number. Standard telephones can access Centrex services, but not equipment features.

- 
- **Ringing Patterns.** Your Centrex system determines the ringing pattern you will generally hear when calls ring at your phone. (For example, there may be different ringing patterns for inside and outside calls.) If someone makes an intercom call to your phone, you will hear a repeated pattern of two rings, one long and one short (*RING ring . . . RING ring . . . RING ring . . .*).

## **Switchhook**

---

When you are on a call, pressing the switchhook connects you with Centrex, so you can access Centrex services. Pressing the switchhook down for 1/4 to 1 second sends Centrex a signal called a “switchhook flash.” If you press the switchhook quickly and nothing happens, try again, pressing a *little* longer. (If you are on an intercom call made to you from an MLS- or MLC-model phone, pressing the switchhook disconnects the call.)

## **Limitations**

---

Because some standard phones do not have line buttons, feature buttons, or dedicated function buttons, call handling is different than for MLS- or MLC-model phones. The actions below cannot be performed from those standard phones using equipment features. However, comparable Centrex features may be available for use by those standard phones.

- Because there are no line buttons, you can make calls only on your own Centrex line.
- You cannot make intercom calls.
- You cannot make a voice-paging call *from* a standard phone. If you use an MLS- or MLC-model phone to make a voice-paging call *to* a standard phone, the standard phone rings.
- You cannot enter program mode.
- If the standard phone has a message light, it will not work.
- You cannot use the equipment features (see pages 6-10 and 6-11) or Speed Dial Numbers that are available for MLS- and MLC-model phones.

## **Feature Phones**

---

A *feature phone* is a standard telephone that has feature buttons in addition to the regular 12-key dial pad. For example, there are feature phones that have built-in speakerphones, programmable auto dial buttons, last number redial buttons, hold buttons, and other dedicated feature buttons. Some of the features on these phones will work with your equipment controller, but many of the limitations above apply to feature phones as well.

Some feature phones include a “Recall” or “Flash” button that executes a switchhook flash. You can use this button to send a switchhook flash (described above) when you want to access Centrex services.

---

Here are some points to remember in using your feature phone with the equipment controller:

- You will not be able to use System Speed Dial Numbers, although you may be able to program outside phone numbers onto your phone's feature buttons.
- The feature phone's last number redial button may not work.
- The capabilities of a feature phone are *in the phone itself*. For example, if you store a number on a feature phone's auto dial button, that number is stored *in* the feature phone. (This is different from storing a number on a MLS- or MLC-model phone's Auto Dial button. When you program a button on an MLS- or MLC-model phone, the number is actually stored in the equipment controller.)
- The feature phone's hold button does work, but the call is held at the phone itself. Other phones connected to the equipment controller will not be signalled that your line is on hold (it appears as a busy line).

## **Combination Extensions**

---

A *combination extension* is an extension with two devices connected—either two standard devices, or an MLS- or MLC-model phone and a standard device (but *not* two MLS- or MLC-model phones). For instructions on how to install a combination extension, see Figure 2-2 on page 2-5.

The following are examples of useful combination extensions:

- MLS- or MLC-model phone plus standard telephone, for power failure backup on extension jacks 10, 16, 22, and 28
- MLS- or MLC-model phone plus answering machine
- MLS- or MLC-model phone plus fax machine
- MLS- or MLC-model phone plus tip-ring headset
- MLS- or MLC-model phone plus an external alert (such as a bell or chime).

Using the telephones in a combination extension is fairly simple. The main thing to understand is that the two telephones share a single extension in the same way several home telephones share a single number. An MLS- or MLC-model telephone works like it always does and a standard telephone works like it always does when connected to the equipment controller. *Only one phone or device can be used at a time*, unless you want to join the two on a single call (the same way two people can pick up the same call on different telephones at home). For example:

- Both phones share the same primary line.
- Both phones share the same Centrex extension number.
- Both phones share the same *voicepath*; that is, when either one is busy, the extension is busy.
- The lights on the MLS- or MLC-model phone show what the standard telephone is doing as well as what the MLS- or MLC-model phone is doing. For an explanation of light patterns, see "Lights" on page 6-3.

- Calls ring at both phones.
- You can handle a call on the standard phone by pressing buttons on the MLS- or MLC-model telephone. For example, you can use the MLS or MLC-model phone to select a specific Centrex line, and conduct the call on the standard phone. Or, if someone is on a call using the standard phone, someone else can put that call on hold by pressing [ *Hold* ] on the MLS- or MLC-model phone. To do this, it is not necessary to lift the handset of the MLS- or MLC-model phone. Calls held in this way do not ring back to a standard phone at a combination extension.
- If you make a voice paging call to a combination extension with an MLS- or MLC-model phone, only the MLS- or MLC-model phone signals.



## Equipment Features

Your equipment controller provides equipment features that you can use to supplement the services you have available through Centrex. The equipment features are listed in the table below, and like your Centrex services, can be used in one of two ways:



- Dial the code manually. For example, to use Last Number Redial on an MLS- or MLC-model phone, dial [ *Feature* ] [ 0 ] [ 5 ].
- Put the feature onto a programmable button on an MLS- or MLC-model phone, so that you can use it with a single touch.

### NOTES:

1. Do Not Disturb and Privacy cannot be dialed manually. They must be programmed onto a lighted button.
2. Equipment features are not available on standard phones.

Equipment Feature	To Use Manually	To Use Programmed on a Button
<p><b>Do Not Disturb</b></p> <p>Prevents your phone from ringing. Outside and inside callers hear ringing; intercom callers hear a busy signal.</p>	Not available	 Press the button to turn Do Not Disturb on; press it again to turn it off. Use the button like a switch—when the light is on, Do Not Disturb is on
<p><b>Exclusive Hold</b></p> <p>Prevents a person at any other extension from picking up your held call.</p>	Dial [ <i>Feature</i> ] [ 0 ] [ 2 ] to put the call on hold. To retrieve it, press the line button on which the call is held	Press the button to put the call on hold. To retrieve it, press the line button on which the call is held
<p><b>Recall</b></p> <p>While on a call, use this feature in place of a switchhook flash to access Centrex services. Recall disconnects an intercom call.</p>	Dial [ <i>Feature</i> ] [ 0 ] [ 3 ]	Press the button
<p><b>Save Number Redial</b></p> <p>Saves a telephone number (maximum 20 digits per phone number). After it is saved, the number can be redialed until you save a different number.</p>	Dial [ <i>Feature</i> ] [ 0 ] [ 4 ] before hanging up. To redial later, dial [ <i>Feature</i> ] [ 0 ] [ 4 ] again	Press the button before hanging up. To redial later, press the button again
 = Must be programmed onto a button with a light (see page 5-16 ). You cannot dial these features manually.		





<b>Equipment Feature</b>	<b>To Use Manually</b>	<b>To Use Programmed on a Button</b>
<p><b>Last Number Redial</b></p> <p>Redials the last telephone number dialed (maximum 20 digits per phone number). Useful for redialing a busy number.</p>	Dial [ <i>Feature</i> ] [ 0 ] [ 5 ]	Press the button
<p><b>Privacy</b></p> <p>Prevents people at other extensions from joining a call on your phone.</p> <p>If Automatic Extension Privacy—System Programming procedure #304—is programmed for your extension, your extension will normally be private. However, if you will sometimes need to have co-workers join your conversations, you can program Privacy on a button with lights so you can turn it on and off.</p>	Not available	 Press the button to turn Privacy on; press it again to turn it off. Use the button like a switch—when the light is on, Privacy is on
<p><b>Touch-Tone Enable</b></p> <p>Sends touch-tone signals over a rotary line. Allows you to use phone services such as “Bank-by-Phone” that require dialing touch-tone digits. Use this feature at the point in the call when you need touch-tone signals. The rest of the numbers you dial during the call will be touch-tone digits.</p>	Dial [ <i>Feature</i> ] [ 0 ] [ 8 ] when you need to enter touch-tone digits	Press the button when you need to enter touch-tone digits
<p><b>Group Pickup</b></p> <p>Picks up an call (except an intercom call) ringing at any extension in a Pickup Group.</p>	Dial [ <i>Intercom</i> ] [ 6 ] [ 6 ] + group number (1-4)	Press the button
<p><b>Group Calling</b></p> <p>Simultaneously rings all extensions in a Calling Group.</p>	Dial [ <i>Intercom</i> ] [ 7 ] + group number (1-4)	Press the button
<p><b>Group Paging</b></p> <p>Simultaneously pages all extensions in a Calling Group.</p>	Dial [ <i>Intercom</i> ] [ * ] [ 7 ] + group number (1-4)	Press the button
<p><b>Loudspeaker Paging</b></p> <p>Connects you to the (optional) loudspeaker paging system. See page 6-17 for additional instructions on using a loudspeaker paging system.</p>	Dial [ <i>Intercom</i> ] [ 7 ] [ 0 ] to make your announcement	Press the button, then make your announcement
 = Must be programmed onto a button with a light (see page 5-16 ). You cannot dial these features manually.		

## Using Your Telephone

The charts below explain how to handle calls with MLS- and MLC-model phones and standard phones. When prior programming is required for MLS- or MLC-model phones, the page number for instructions is shown in the left column.



### Accessing a Centrex Service

	On an MLS- or MLC Model Phone* 	On a Standard Phone 
<b>To access a Centrex service</b>	<p><i>While the phone is idle...</i></p> <ol style="list-style-type: none"> <li>Lift the handset.</li> <li>Dial the Centrex feature code. <i>If the feature code is programmed on a button, press the button instead.</i></li> </ol> <p><i>While active on a call...</i></p> <ol style="list-style-type: none"> <li>Press a button programmed with Recall or dial [ <i>Feature</i> ] [ 2 ] [ 3 ].</li> <li>Dial the Centrex feature code. <i>If the feature code is programmed on a button, press the button instead.</i></li> </ol>	<p><i>While the phone is idle...</i></p> <ol style="list-style-type: none"> <li>Lift the handset.</li> <li>Dial the Centrex feature code. <i>You can press the programmed button if you are using a feature phone.</i></li> </ol> <p><i>While active on a call...</i></p> <ol style="list-style-type: none"> <li>Press the switchhook.</li> <li>Dial the Centrex feature code. <i>You can press the programmed button if you are using a feature phone.</i></li> </ol>



\* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see *AT&T MLC-6 Cordless Telephone Quick Reference: Display and Controls*



### Placing a Call

You can place a call by dialing a phone number or Centrex extension number. (See the Centrex documentation provided by your local telephone company for dialing instructions.) (In some instances, you can also place intercom calls. For information on placing intercom calls, see Appendix B.) There are also several ways to *speed dial* a number that has been stored in your telephone or in the equipment controller. Note that Centrex may provide dialing restrictions for limiting access to certain calls on each Centrex line. In addition to these restrictions, your equipment controller can be programmed to further control telephone use at specific extensions. (For example, the user at an extension may not be allowed to dial 900 numbers.) If a System Password has been programmed, you can enter the password to override equipment dialing restrictions (see page 6-18).



	On an MLS- or MLC Model Phone* 	On a Standard Phone 
<b>To make an outside call on your primary line</b>	<ol style="list-style-type: none"> <li>Lift the handset or press [ <i>Spkr</i> ]. <i>You hear the Centrex dial tone. The line button light is steady green.</i></li> <li>Dial the number according to your Centrex instructions. <i>On MLS display phones, the dialed number is shown, and the call timer begins.</i></li> </ol>	<ol style="list-style-type: none"> <li>Lift the handset. <i>You hear the Centrex dial tone.</i></li> <li>Dial the number according to your Centrex instructions.</li> </ol>

\* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see *AT&T MLC-6 Cordless Telephone Quick Reference: Display and Controls*.



	<b>On an MLS- or MLC-Model Phone*</b> 	<b>On a Standard Phone</b> 
<b>To make an outside call on a secondary call</b>  <i>The secondary line may be someone's primary line; you may not be allowed to make outgoing calls.</i>	<ol style="list-style-type: none"> <li>1. Press an unlit line button.</li> <li>2. Lift the handset.</li> <li>3. Dial the number according to your Centrex instructions.</li> </ol>	This equipment feature is not available on a standard phone, but may be available from Centrex.
<b>To Auto Dial a number</b>  <i>You can use an Auto Dial button to dial a number—for example, an account number for an automatic banking service—while on an outside call.</i>	<ol style="list-style-type: none"> <li>1. Lift the handset or press [ <i>Spkr</i> ].</li> <li>2. Press the Auto Dial button on which the number is programmed. <i>The equipment controller selects your primary line, turns on the speaker if the handset is on hook, and dials. (The number being dialed shows on MLS display phones.)</i></li> </ol>	This equipment feature is not available on a standard phone. Some feature phones have programmable buttons that can store phone numbers for auto dialing.
<b>To dial a System or Personal Speed Dial Number</b>  <i>See pages 5-14 and 5-15 for programming instructions for MLS- and MLC-model phones.</i>  <i>Ask your System Manager for a copy of the form showing your company's System Speed Dial numbers.</i>	<ol style="list-style-type: none"> <li>1. Lift the handset or press [ <i>Spkr</i> ].</li> <li>2. Press [ <i>Feature</i> ].</li> <li>3. Dial the two-digit Speed Dial code (20–79 for a System Speed Dial number; 80–99 for a Personal Speed Dial number.) <i>The system turns on the speaker if the handset is on the hook, and dials the Speed Dial number. (The dialed number shows on MLS display phones unless it is Marked.)</i></li> </ol>	This equipment feature is not available on a standard phone, but may be available from Centrex. Some feature phones can be programmed with speed dial numbers.
<b>To ring another extension on your system</b>  <i>To ring an extension using the intercom on MLS- or MLC-model phones, see Appendix B.</i>	<ol style="list-style-type: none"> <li>1. Lift the handset or press [ <i>Spkr</i> ].</li> <li>2. Dial the Centrex extension number.</li> </ol>	<ol style="list-style-type: none"> <li>1. Lift the handset. <i>You hear the Centrex dial tone.</i></li> <li>2. Dial the Centrex extension number.</li> </ol>
<b>To voice page another extension on your system</b>  <i>You can voice page MLS-model phones only</i>  <i>To use this feature if the extension number is not programmed on a button, see Appendix B.</i>	<ol style="list-style-type: none"> <li>1. Lift the handset.</li> <li>2. Press the button programmed with the Centrex extension number you want to call.</li> <li>3. After the beep, start talking. <i>Your voice is heard on the speaker at the paged MLS-model phone.</i></li> </ol>	This equipment feature is not available on a standard phone.
<b>To ring all extensions in a Calling Group</b>  <i>See page 5-13 for instructions on setting up a Calling Group. See page 5-16 for instructions on programming Group Calling onto a button on MLS- or MLC-model phones.</i>	Press the button programmed with this feature or follow Steps 1 through 3 below: <ol style="list-style-type: none"> <li>1. Lift the handset.</li> <li>2. Press [ <i>Intercom</i> ]. <i>You hear the intercom dial tone.</i></li> <li>3. Dial [ <i>z</i> ] and a group number (1-4). <i>All non-busy extensions in the group ring.</i></li> </ol>	This equipment feature is not available on a standard phone, but your Centrex system may allow you to ring Centrex calling groups.
<p>* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see <i>AT&amp;T MLC-6 Cordless Telephone Quick Reference: Display and Controls</i>.</p>		

	On an MLS- or MLC-Model Phone* 	On a Standard Phone 
<p><b>To group page all extensions in a Calling Group</b></p> <p>See page 5-13 for instructions on setting up a Calling Group. See page 5-16 for instructions on programming Group Paging onto a button on MLS- or MLC-model phones.</p>	<p>Press the button programmed with this feature or follow Steps 1 through 3 below:</p> <ol style="list-style-type: none"> <li>1. Lift the handset.</li> <li>2. Press [ <i>Intercom</i> ]. <i>You hear the intercom dial tone.</i></li> <li>3. Dial [ : ] [ z ] and a group number (1–4). After the beep, start talking. <i>Your voice is heard on the speakers at all non-busy MLS-model phones in the group.</i></li> </ol>	<p>This equipment feature is not available on a standard phone, but your Centrex system may allow you to page Centrex calling groups.</p>
<p>* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see <i>AT&amp;T MLC-6 Cordless Telephone Quick Reference: Display and Controls</i>.</p>		

## Answering a Call



	On an MLS- or MLC-Model Phone* 	On a Standard Phone 
<p><b>To answer a call that is ringing</b></p> <p>To answer a call on a line not assigned to your MLS- or MLC-model phone, see Appendix B.</p>	<p>When the telephone is ringing... Lift the handset. <i>You are connected to the incoming call.</i> If more than one line is ringing, you are connected to the line ringing longest. If the call is an intercom call and you have a display phone, the caller's extension jack number briefly appears on your display.</p>	<p>When the telephone is ringing... Lift the handset. <i>You are connected to the incoming call.</i></p>
<p><b>To answer a voice paging call</b></p>	<p>When the telephone beeps... If the microphone is on, you can speak after the beep. If the microphone is not on, press [ <i>Mic</i> ] (if available) or lift the handset.</p>	<p>When the telephone is ringing... Lift the handset. <i>You are connected to the person who paged you.</i></p>
<p><b>To answer a call on a specific line</b></p> <p>To answer a call on a line not assigned to your MLS- or MLC-model phone, see Appendix B.</p>	<p>Press the line button and lift the handset. <i>You are connected to the incoming call. If a line has been programmed for "delayed ring" or "no ring," or if the Do Not Disturb feature is turned on, a call on the line appears as a flashing red light, but does not ring.</i></p>	<p>This equipment feature is not available on a standard phone, but may be available from Centrex.</p>
<p><b>To answer a call when you are already on a call</b></p>	<ol style="list-style-type: none"> <li>1. Press [ <i>Hold</i> ]. <i>The call you are on is placed on hold.</i></li> <li>2. Press the line button for the new call and lift the handset. <i>You are connected to the incoming call.</i></li> </ol> <p>To return to the first call... Put the second call on hold and press the line button for the first call.</p>	<p>This equipment feature is not available on a standard phone, but may be available from Centrex.</p>
<p>* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see <i>AT&amp;T MLC-6 Cordless Telephone Quick Reference: Display and Controls</i>.</p>		

## Putting a Call on Hold

	On an MLS- or MLC-Model Phone* 	On a Standard Phone 
<p><b>To put a call on hold (anyone with the line can retrieve it)</b></p> <p><i>This feature lets you place a call on another line or hang up. To make another call on your primary line, use your Centrex hold.</i></p>	<p>Press [ <i>Hold</i> ].</p> <p><i>You can make and receive calls on other lines while a call is on hold if a call is left on hold for longer than one minute, the extension at which the call is held generates a short Hold Reminder Tone. The reminder tone sounds once every minute until the held call is retrieved, or until the caller hangs up.</i></p>	<p>This equipment feature is not available on a standard phone, but may be available from Centrex. Some feature phones may allow you to put a call on hold.</p>
<p><b>To put an outside or inside call on Exclusive Hold (only you can retrieve it)</b></p> <p><i>See page 5-16 for instructions on programming Exclusive Hold onto a programmable button on an MLS- or MLC-model phone.</i></p>	<p>Press the button programmed with this feature</p> <p>or</p> <p>press [ <i>Feature</i> ] [ <i>2</i> ] [ <i>2</i> ].</p> <p><i>The green light next to the line button flutters.</i></p>	<p>This equipment feature is not available on a standard phone, but may be available from Centrex.</p>
<p><b>To retrieve a held call</b></p>	<ol style="list-style-type: none"> <li>1. Press the line button on which the call is held. <i>(For a call on Exclusive Hold, you must be at your own phone.) The light next to the line button changes from winking or fluttering to steady green.</i></li> <li>2. Lift the handset. <i>You are reconnected to the held call.</i></li> </ol>	<p>Follow your Centrex instructions for retrieving a call held at your extension.</p>



\* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see *AT&T MLC-6 Cordless Telephone Quick Reference: Display and Controls*.

## Transferring a Call

	On an MLS- or MLC-Model Phone* 	On a Standard Phone 
<p><b>To transfer a call</b></p>	<ol style="list-style-type: none"> <li>1. While on a call, press [ <i>Transfer</i> ] (in place of a switchhook flash in your Centrex instructions).</li> <li>2. Follow your Centrex instructions for transferring a call.</li> </ol>	<ol style="list-style-type: none"> <li>1. While active on an outside or inside call, press the switchhook down once rapidly.</li> <li>2. Follow your Centrex instructions for transferring a call.</li> </ol>



\* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see *AT&T MLC-6 Cordless Telephone Quick Reference: Display and Controls*.

## Making a Conference Call

	On an MLS- or MLC-Model Phone* 	On a Standard Phone 
<p><b>To set up a conference call</b></p> <p>Your Centrex system determines the number of parties you can connect on a conference call.</p>	<ol style="list-style-type: none"> <li>1. Set up the call to the first party. (You can call the party, pick up the call from hold, or answer an incoming call.)</li> <li>2. Press [ <i>Cont</i> ] (in place of a switchhook flash in your Centrex instructions).</li> <li>3. Follow your Centrex instructions for conferencing.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set up the call to the first party. (You can call the party, pick up the call from hold, or answer an incoming call.)</li> <li>2. Press the switchhook down once rapidly.</li> <li>3. Follow your Centrex instructions for conferencing.</li> </ol>
<p>* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see <i>AT&amp;T MLC-6 Cordless Telephone Quick Reference: Display and Controls</i>.</p>		

## Joining a Call



Joining is adding yourself to a call in progress, the same way you do on a home telephone by picking up an extension phone (unlike conferencing, where the originator “pulls you into” the call).

	On an MLS- or MLC-Model Phone* 	On a Standard Phone 
<p><b>To join an outside call</b></p> <p>You can program Privacy on-to an MLS- or MLC-model phone to keep users at other extensions from joining a call on your phone (see page 5-16). Also, Automatic Extension Privacy (page 5-11) can be centrally programmed for an extension to prevent other extensions from joining calls. You cannot put a joined call on hold.</p> <p>To join a call on a line that is not assigned to your MLS- or MLC-model phone, see Appendix B.</p>	<ol style="list-style-type: none"> <li>1. Press the button of the line on which the call is being conducted. A steady red light at a line button indicates a call in progress.</li> <li>2. Lift the handset to speak. The red and green lights alternately flash. You are now joined with the call.</li> </ol> <p>You can tell when someone has joined your call because the lights next to the line button change to alternately flashing red and green.</p>	<p>You can join a call only on your primary line. To join a call in progress:</p> <p>Lift the handset to speak. You are now joined with a call on your primary line.</p> <p>If an MLS- or MLC-model phone, joins a call on a standard phone, there is a momentary “break” in the call on the standard phone.</p>
<p>* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see <i>AT&amp;T MLC-6 Cordless Telephone Quick Reference: Display and Controls</i>.</p>		

## Forwarding a Call

For instructions on forwarding a call from an MLS- or MLC-model phone, see Appendix B, “Using Intercom Features.”

## Loudspeaker Paging

	<b>On an MLS- or MLC- Model Phone*</b> 	<b>On a Standard Phone</b> 
<p><b>To make an announcement over a loudspeaker paging system</b></p> <p><i>You can use any AT&amp;T paging system.</i></p> <p><i>If you have a paging system other than a PagePac6 or PagePac6 Plus, follow the manufacturer's instructions.</i></p>	<p><i>If your phone has a programmed button for loudspeaker paging...</i></p> <ol style="list-style-type: none"> <li>1. Lift the handset.</li> <li>2. Press the programmed button.</li> <li>3. If you have a PagePac6, speak into the handset.</li> <li>4. If you have a PagePac6 Plus:               <ol style="list-style-type: none"> <li>a. Press [ 1 ] to make an announcement in zone 1; press [ 2 ] for zone 2; press [ 3 ] for zone 3; press [ 4 ] for zones 2 and 3; press [ 5 ] for zones 1 and 3; press [ 6 ] for zones 1 and 2; press [ 7 ] for all zones.</li> <li>b. Speak into the handset.</li> </ol> </li> </ol> <p><i>If your phone does not have loudspeaker paging programmed on a button...</i></p> <ol style="list-style-type: none"> <li>1. Lift the handset.</li> <li>2. Press [ <i>Intercom</i> ].</li> <li>3. Dial [ 7 ] [ 0 ].</li> <li>4. If you have a PagePac6, speak into the handset.</li> <li>5. If you have a PagePac6 Plus:               <ol style="list-style-type: none"> <li>a. Press [ 1 ] to make an announcement in zone 1; press [ 2 ] for zone 2; press [ 3 ] for zone 3; press [ 4 ] for zones 2 and 3; press [ 5 ] for zones 1 and 3; press [ 6 ] for zones 1 and 2; press [ 7 ] for all zones.</li> <li>b. Speak into the handset.</li> </ol> </li> </ol>	<p>This equipment feature is not available on a standard phone, unless the standard phone is designated as a Hotline phone with the paging system as the alert extension.</p>



\* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see *AT&T MLC-6 Cordless Telephone Quick Reference: Display and Controls*.

## Using the Message Light

For instructions on turning the message light on and off at specified extensions on MLS- and MLC-model phones, see Appendix B, "Using Intercom Features."

## Using Night Service

If your premises equipment uses Night Service with a System Password, users can enter the password when Night Service is on, to override equipment calling restrictions for the duration of a call.

	On an MLS-Model Phone 	On a Standard Phone 
<p><b>To turn on Night Service</b></p> <p><i>Before using this feature, you must program a Night Service Button (#503) for the phone connected to extension jack 10 and assign extensions to the Night Service Group (#504); see page 5-13 for directions.</i></p> <p><i>Night Service can be turned on and off only from the MLS display phone at extension jack 10.</i></p>	<ol style="list-style-type: none"> <li>1. Press the Night Service button on the phone at extension jack 10. <i>If a System Password is programmed, the light next to the button flashes green; you must go to Step 2. If no System Password is programmed, the light is steady green and Night Service is on.</i></li> <li>2. Enter the System Password. <i>The light is steady green. Night Service is on.</i></li> </ol>	<p>This equipment feature is not available on a standard phone, but may be available from Centrex.</p>
<p><b>To turn off Night Service</b></p> <p><i>This equipment feature is available only at the MLS display phone at extension jack 10.</i></p>	<ol style="list-style-type: none"> <li>1. Press the Night Service button on the phone at extension jack 10. <i>If a System Password is programmed, the light next to the button flashes green; you must go to Step 2. If no System Password is programmed, the light goes off and Night Service is off.</i></li> <li>2. Enter the System Password. <i>The flashing green light goes off. Night Service is off.</i></li> </ol>	<p>This equipment feature is not available on a standard phone, but may be available from Centrex.</p>
<p><b>To enter a System Password to override equipment dialing restrictions</b></p> <p><i>See page 5-12 for programming instructions for MLS- and MLC-model phones.</i></p> <p><i>You cannot use a System Password on an MLC-6 phone.</i></p>	<p><i>Before lifting the handset or turning on the speaker...</i></p> <ol style="list-style-type: none"> <li>1. Press [ <i>Hold</i> ].</li> <li>2. Enter the System Password. <i>The password overrides all equipment dialing restrictions but not Line Access Restriction (#302). (The System Password will not appear on display phones.) The password is in effect until you hang up.</i></li> </ol>	<p>This equipment feature is not available on a standard phone, but a password may be available from Centrex.</p>



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# Using Auxiliary Equipment

# 7

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*There are many ways to set up auxiliary equipment—the setup you choose depends upon your needs and the number of devices you have. This chapter presents the most common setups.*

*This chapter does not cover how to physically connect the equipment or how to perform each programming procedure. See Chapter 2 for installation instructions and Chapter 5 for programming instructions.*

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# Using Auxiliary Equipment

# 7

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## Terminology

The following terms are used in this chapter. In addition, you may wish to review the "Terminology" section of "About This Guide," which defines basic terms used throughout this guide, or the Glossary, which defines all terms.

<b>Call record</b>	A line of information on a call report that includes data fields such as call type, date, time, called number, and call duration. <i>See also</i> Call report.
<b>Call report</b>	A page of information that begins with a header and lists incoming and outgoing calls to and from your business on a line-by-line basis. <i>See also</i> Call record.
<b>Call reporting</b>	A feature that provides records of call activity. Call reporting is also known as Station Message Detail Recording (SMDR).
<b>Fax Management button</b>	An MLS- or MLC-model phone button with a light that is programmed with the extension jack number of a fax machine. A user can monitor the light next to this button to determine when the fax machine is in use, available, or not answering.
<b>Premises equipment</b>	The AT&T equipment controller and MLS- and MLC-model telephones that you purchased as part of your system, plus all other telecommunications devices that are connected to your equipment controller. For purposes of this guide, premises equipment does <i>not</i> include any equipment that connects directly to Centrex lines without going through the equipment controller.

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## Fax Machines

This section presents several ways that you can set up fax machines to work with your equipment controller. It includes instructions for programming and

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using a Fax Management button (in order to check the status of a fax machine) and transferring calls to a fax machine extension.

## Using Fax Machines

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### Fax Management Feature

On an MLS- or MLC-model phone, you can program a button with a light to serve as a Fax Management button. The light next to this button can tell you when the fax machine is in use, when it is available, or when it is not answering (for example, when it is out of paper).

### Programming for Fax Management

To program a Fax Management button, first identify the fax machine extension jack using the **Fax Machine Extensions (#601)** procedure (see page 5-13). Then you can program an Intercom Calling button with the extension jack number where the fax machine extension is connected to the equipment controller using the instructions for One-Touch Intercom Calling on page 5-15.

### Using the Fax Management Button

The light next to the Fax Management button shows what is happening at the fax machine (see Table 7-1).

**Table 7-1. Fax Management Button Light Patterns**

Light Pattern	Indicates...
Off	<b>Fax idle.</b>
Red broken flutter	<b>Fax trouble.</b> The fax machine is not answering. If broken flutter occurs because the fax machine is out of paper, refill the paper. The light clears the next time the fax machine transmits or receives a call. If the machine takes longer than four rings to answer, the light shows <b>fax trouble</b> ; when the fax machine does answer, the light changes to <b>fax busy</b> (steady red).
Red Steady	<b>Fax busy.</b> The fax machine is busy making or answering a call.
Green flash	<b>Fax calling.</b> The green flash indicates that the fax machine extension is calling you.

### Transferring a Call to the Fax Machine

In order to transfer calls to a fax machine, first make sure it is set up as a Centrex extension with its own primary line. There are two situations where you would want to transfer a call to your fax machine:

- You might answer an outside call and hear a fax machine signaling. (A fax signal is a single beep sequence— *beep . . . beep . . . beep*). If you hear this, you should transfer the call immediately to the fax machine extension, using the fax machine's Centrex extension number.

- 
- You might be on a call where the person to whom you are speaking has a fax machine connected to his or her phone and wants to fax you something. You can receive the fax by transferring the call to the fax extension. Tell the other party to wait until he or she hears the fax tone before pressing the [ *Start* ] button on the fax machine.

To transfer the call to the fax extension press [ *Transfer* ] (or, on a standard phone, rapidly press and release the switchhook to access your Centrex services) and follow the instructions for transferring a call in the Centrex documentation provided by your local telephone company, using the fax machine's Centrex extension number. (You cannot transfer a call using the intercom.) When the fax machine answers, hang up.

### **Using the Fax Machine's Notify Feature**

Some AT&T fax machines (for example, models 5300, 5350, 9025 Plus, and 9035 Plus) have a feature called *Notify*. After one of these machines receives a fax call, it automatically dials a number and plays a recorded message, such as, "You have just received a fax." If you need to know exactly when a fax comes in, or if your fax machine is located in an isolated part of your building, you can program the fax machine to call a Centrex extension number or a Centrex group.

### **Setting Up Fax Machines**

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There are many ways to set up fax machines. The following configurations are basic and easy to use:

- **Single fax machine.** Good for light or moderate fax traffic. This basic setup uses a published fax number.
- **Send and receive fax machines.** Good for high volume fax traffic. One machine sends, the other receives.

You can install both a telephone and a fax machine on the same extension using an AT&T 267F2 bridging adapter (see Figure 2-2 on page 2-5). This lets you receive both voice and fax calls on the same Centrex line (but not at the same time). If you pick up the phone and hear a fax signal, push the [ *Start* ] button on your fax machine and then hang up.

### **Restricting Dialing from a Fax Machine**

You can use Centrex dialing restrictions to restrict calling activity on a fax machine. (For more information on Centrex dialing restrictions, see the Centrex documentation provided by your local telephone company.)

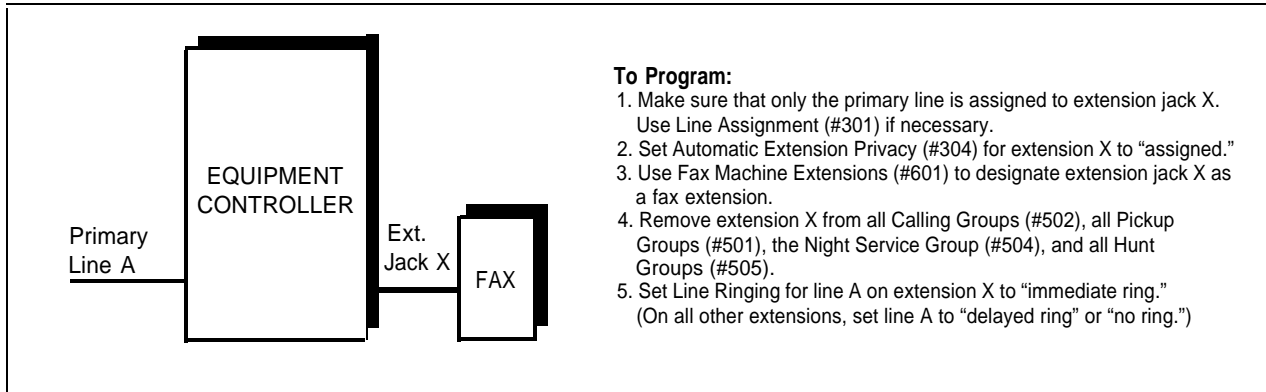
In addition, you can use equipment dialing restrictions to restrict calling activity on a fax machine. You can, for example, use the Outgoing Call Restriction (#401) procedure to restrict the fax machine to local and inside calls only. (For a more detailed discussion of equipment dialing restrictions, see page 4-15.)

### **Single Fax Machine**

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The single fax machine setup (shown in Figure 7-1) is good for light to moderate traffic. The fax machine has Line A as its primary line; the number is published as the fax number. The fax machine is connected to extension jack X.

The fax machine automatically answers all calls that come in on the fax line. If a call comes in on another line, you can transfer the call to the fax extension (see “Transferring a Call to the Fax Machine” on page 7-2). If you have programmed a Fax Management button, you can monitor the status of the fax machine (see “Fax Management Feature” on page 7-2).

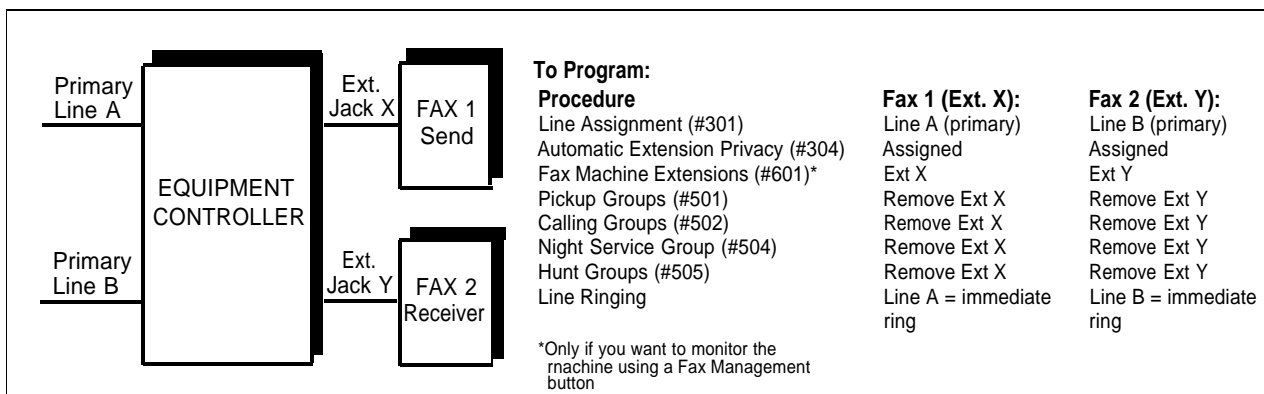


**Figure 7-1. Single Fax Machine**

## Send and Receive Fax Machines

If your business has high-volume fax traffic, you can set up two fax machines, one that only sends and the other that only receives. For example, in Figure 7-2 there are two fax machines. Fax 1 is the *send* machine; fax 2 is the *receive* machine. The number for primary line B is published as the fax number.

When you want to send a fax, just lift the handset of fax 1. Incoming fax calls on the fax line are answered automatically by fax 2. If a fax comes in on a line other than line B, you can transfer the call to fax 2 (see “Transferring a Call to the Fax Machine” on page 7-2). If you have programmed a Fax Management button, you can monitor the status of the fax machine (see “Fax Management Feature” on page 7-2).



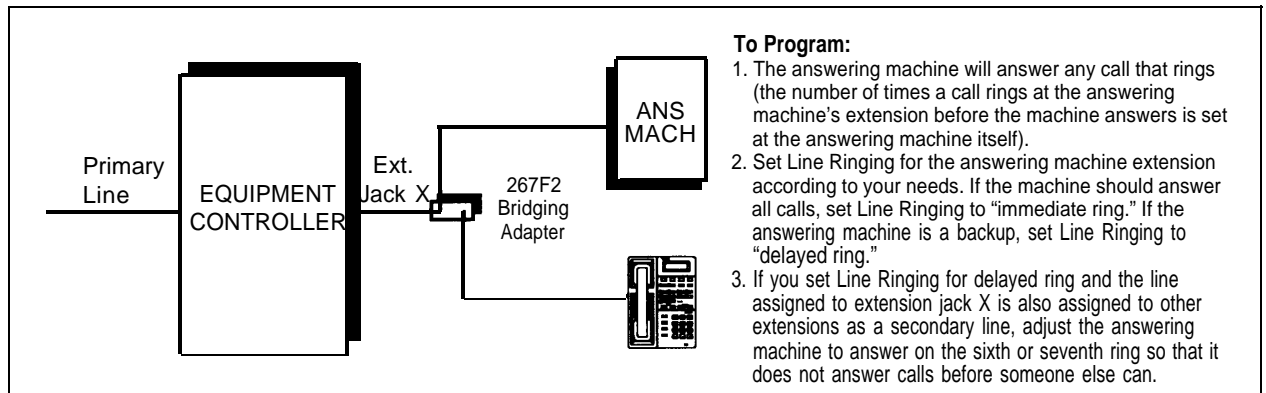
**Figure 7-2. Send and Receive Fax Machines**

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## Answering Machines

You can use an answering machine to answer calls at night when you are not there, or during business hours when you cannot get to the phone. An answering machine can share an extension with a phone (via a bridging adapter) to answer calls to the extension. Figure 7-3 shows an answering machine set up for personal use at an extension.

If you own an AT&T answering machine with the Call Intercept feature, you can pick up a call that has been answered by the answering machine by joining the call from any MLS- or MLC-model phone. When you do so, the equipment controller sends the answering machine a signal that causes it to hang up.



**Figure 7-3. Personal Answering Machine**

## Modems

There are two ways to use modems with your premises equipment, as described below. Modems can connect directly to an extension jack without an adapter.

### Modem for Placing Calls Only

A modem and a terminal allow you to dial out and connect to computer bulletin boards and other data services. This setup, which lets you dial out but not receive calls, is shown in Figure 7-4. Note that the 267F2 bridging adapter and telephone are optional and can be used if you want the terminal to share an extension with a phone.

To use the modem, follow the modem manufacturer's instructions.

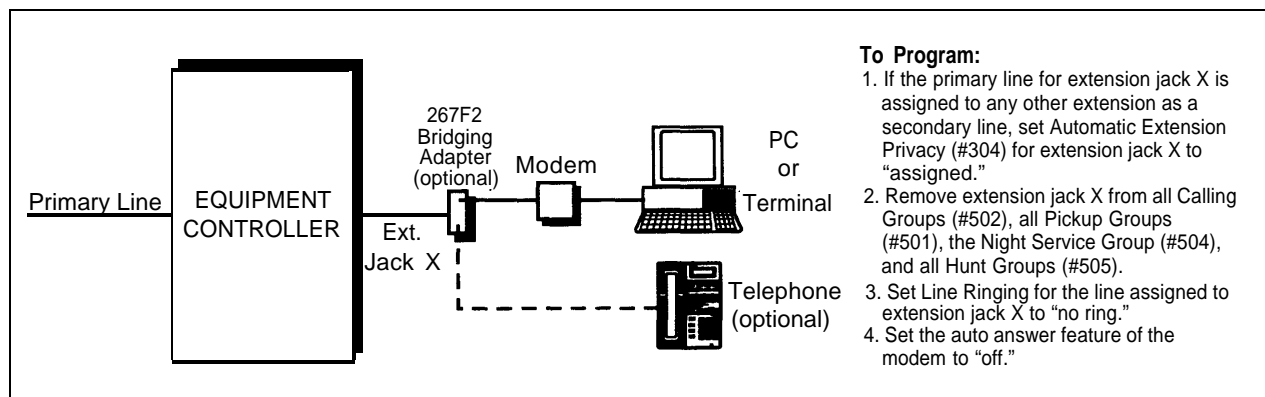


Figure 7-4. Modem for Placing Calls Only

### Send and Receive Modem

If you need to place and receive calls with the modem, use the setup shown in Figure 7-5.

Calls to the modem line ring only at the device(s) connected to extension jack X. To use the modem, follow the modem manufacturer's instructions.

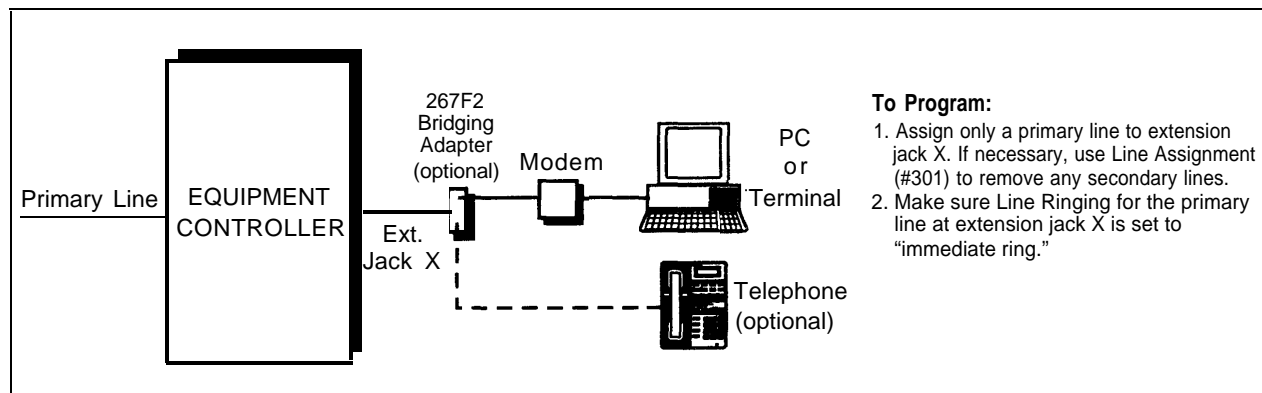


Figure 7-5. Send and Receive Modem



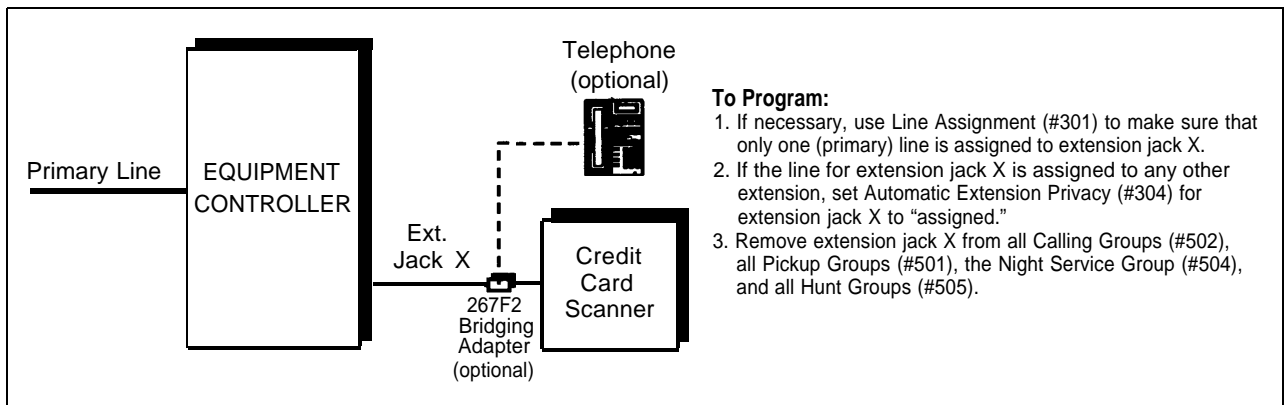
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## Credit Card Scanners

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Many retail businesses and restaurants use credit card scanners to get instant approval of credit card purchases. You can install the credit card scanner on an extension by itself, or combine it with an MLS- or MLC-model phone or a standard phone on the same extension.

When you make a call on the credit card scanner, its primary line is automatically selected.



**Figure 7-6. Credit Card Scanner**

## Call Reporting Devices (SMDR)

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You may receive a call reporting service from your Centrex provider. However, if you do not subscribe to this service from your Centrex provider, the equipment controller's *SMDR* (*Station Message Detail Recording*) feature, which is a *call reporting* feature, can provide you with records of call activity. (This equipment feature requires a printer or call accounting device on your premises. Also, note that the SMDR device connected to your equipment controller records activity using extension jack number and line jack numbers rather than Centrex numbers.)

Call reporting information gives you the ability to:

- Detect unauthorized calls
- Bill clients or projects
- Reduce telephone costs by identifying the need to change communications services (for example, identifying frequent calls to a particular area code)

Call reporting information is recorded as calls occur. The equipment controller sends the information via a 1200-baud serial interface to either a serial printer or a call accounting device.

The device connects directly to the SMDR jack on the primary processor module. The equipment controller records information for each call that lasts at least 10 seconds. For outgoing calls, the timing begins when you get a dial tone. For incoming calls, the timing begins when you answer the call. Timing stops when the call is disconnected.

## Call Reports

A *call report* is a page of information that begins with a header. The header includes field names that describe the information in each *call record*. The call record is a line of information that includes the fields shown in Figure 7-7.

	DATE	TIME	CALLED NUMBER	DUR.	LINE	STN.
C	02/17/91	14:02	912125551212	00:02:37	02	11
C	02/17/91	14:34	912015558014	00:04:28	08	17
I	02/17/91	14:36	IN	00:02:12	01	10

**Figure 7-7. Sample Call Report**

Each call report includes up to 59 records. The report has the following fields:

- **Call Type.** "C" indicates outgoing voice calls; "I" indicates incoming calls. (System Programming procedure #608 defines whether or not incoming calls are reported.)
- **Date.** The date of the call is shown in mm/dd/yy format, where mm is the month, dd is the day, and yy is the year. The equipment controller uses the date set with the System Programming procedure **System Date (#101)**.
- **Time.** The time of the connection is shown in hh:mm format, where hh is the hour and mm is the minute. The equipment controller uses the time set with the System Programming procedure **System Time (#103)** and is shown in 24-hour (military) time.
- **Called Number.** For an outgoing call, this is the dialed number (first 15 digits only) or the speed dial code of a Marked System Speed Dial Number (preceded by an "F"). For an incoming call, "IN" appears in this field. Centrex inside and outside calls are reported.  
  
A "\*" character prints as the last digit of a dialed number if the called party hangs up before the originator, or a "?" prints if the number of digits dialed exceeds the 15 digits that the Called Number field can hold.
- **Duration.** The duration of the call is shown in hh:mm:ss format; where hh is the hour, mm is the minutes, and ss is the seconds.
- **Line Number.** This is the line jack number of the line that was used to make or receive the call.
- **Station (Extension).** In general, this is the extension jack number of the extension that answered or placed the call. For calls forwarded using the equipment Call Forwarding feature (see Appendix B), the extension jack number identifies the extension that answered the forwarded call.

### Considerations

- The System Date (#101) and System Time (#103) must be set correctly to ensure accurate SMDR call reports. (See page 5-10.)
- If a report cannot print because the printer is jammed or out of paper, the equipment controller will store up to 45 records in its memory until they can be printed. Additional calls will not be recorded.

- 
- In the event of a power failure, any calls in progress are lost; call records for those calls are also lost.
  - Intercom calls are not recorded, but inside calls made using the Centrex extension number are.
  - If you place a call on hold and the caller hangs up, the call is considered complete and the record is sent to the call reporting device.

## **Serial Printers**

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A 355AF adapter lets you connect a serial printer, such as AT&T's 572 Serial Printer, to the primary processor module. If you connect a printer, make sure the printer's switches are set as follows (refer to the printer's instructions if you need help):

- 1200 baud
- No parity
- 8 data bits
- 2 stop bits.

The call reporting feature also supports XON/XOFF protocol, carriage returns, and line feeds.

## **Call Accounting Devices**

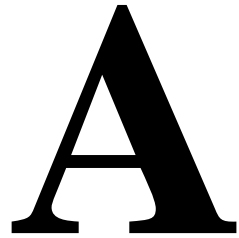
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You can send call information to a call accounting device if you want to further analyze call activity. The device stores rate table information and processes the call information it receives into meaningful reports that can help you optimize your communications system. For example, you can use it to determine the best combination of local and long distance lines.

The call accounting device connects directly to the SMDR jack on the primary processor module and can also print out daily reports that include summaries by hour, facility, and extension jack number. Refer to the manual provided with the call accounting device for instructions on connecting it to your equipment controller.

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## User Forms



This appendix contains two forms: a “Speed Dial Numbers” form to be photocopied and handed out to users and a “Centrex Extension Numbers” form to be filled out and saved for reference when programming. (Depending on your particular configuration, you may want to share the “Centrex Extension Numbers” form with some users who may need to know extension jack numbers and line jack numbers.)

The “Speed Dial Numbers” form provides space on which to write System and Personal Speed Dial numbers. For instructions on programming System Speed Dial numbers, see page 5-14 in this guide.

The “Centrex Extension Numbers” form provides the default line jack numbers and default extension jack numbers. In addition, it provides space in which to record changes to default numbers, Centrex extension numbers, Centrex phone numbers, and a name or description of the person or equipment assigned to each extension.

We suggest you fill in a *photocopy* of the forms, leaving blank originals in this appendix, in case you need to distribute revisions in the future.



# Form A: Speed Dial Numbers

To Dial System or Personal Speed Dial numbers: On MLS- or MLC-model telephone, press [ *Feature* ] + 2-digit Code.

## System Speed Dial Numbers

Code	Name/Company	*	Telephone Number	Code	Name/Company	*	Telephone Number	Code	Name/Company	*	Telephone Number
20				40				60			
21				41				61			
22				42				62			
23				43				63			
24				44				64			
25				45				65			
26				46				66			
27				47				67			
28				48				68			
29				49				69			
30				50				70			
31				51				71			
32				52				72			
33				53				73			
34				54				74			
35				55				75			
36				56				76			
37				57				77			
38				58				78			
39				59				79			

\* You can dial System Speed Dial codes with a (\*) at any time, regardless of equipment dialing restrictions placed on your extension. System Speed Dial numbers are programmed by the System Manager (report problems and suggested revisions to your System Manager).

## Personal Speed Dial Numbers

Code	Name/Company	Telephone Number	Code	Name/Company	Telephone Number
80			90		
81			91		
82			92		
83			93		
84			94		
85			95		
86			96		
87			97		
88			98		
89			99		

To program Personal Speed Dial numbers, see the *Quick Reference* card.



**Form B: Centrex Extension Numbers**

Name/Description	Centrex Extension No.	Centrex Phone No.	Line Jack* Number	Extension Jack* Number
			01	10
			02	11
			03	12
			04	13
			05	14
			06	15
			07	16
			08	17
			09	18
			10	19
			11	20
			12	21
			13	22
			14	23
			15	24
			16	25
			17	26
			18	27
			19	28
			20	29
			21	30
			22	31
			23	32
			24	33

\* Indicate any changes to default line jack numbers or extension jack numbers in the space provided in these columns, if applicable

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## Using Intercom Features

# B

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### Using the Intercom on MLS- and MLC-Model Telephones

As an alternative to placing inside calls with *Centrex extension numbers*, users can place inside calls to other extensions in the system using an [ *Intercom* ] button on MLS-and MLC-model phones. Using an [ *Intercom* ] button in this way enables users to keep their primary lines free for calls. This means while a user is waiting for an important call on his or her primary line, the user can make calls to others in the system. Consider the following issues before you decide to use intercom calling:

- People who make intercom calls must know the extension jack numbers for the extensions they call, *in addition* to the *Centrex* extension numbers they use normally. (Some equipment features also require extension jack numbers or line jack numbers.)
- People using standard phones normally cannot make intercom calls, although they can receive them. (If, however, no lines are assigned to the standard phone, it defaults to “intercom only.” In that case, it can be used to place and receive intercom calls, but it cannot access *Centrex* lines and will be restricted to calling extensions within your system.)
- Users cannot access *Centrex* services (including Transferor Conference) while on an intercom call.
- Recall disconnects an intercom call.

If you choose to make intercom calling available to the people in your company, you may wish to use programmable buttons (see page 4-10 or page 5-15), so that people do not have to remember extension jack numbers to use these features. If you do not have any programmable buttons available, you can distribute Form B in Appendix A, which lists *Centrex* extension numbers and corresponding extension jack numbers, to those people who will use intercom calling.

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## **Intercom Ringing Patterns and Dial Tones**

If you have an MLS- or MLC-model phone and someone makes an intercom call to your phone, you will hear a ring and a beep (*ring BEEP. . . ring BEEP. . . ring BEEP . . .*). If you have a standard phone, you will hear a repeated pattern of two rings (*RING ring . . . RING ring . . . RING ring. . .*).

When you press [ *Intercom* ] to make an intercom call, you hear the intercom dial tone that is generated when you use an internal line.

## **Hands-Free Answer on Intercom (HFAI)**

*Hands-Free Answer on Intercom* is a feature that lets you answer voice-paged calls without lifting the handset or turning on the microphone. HFAI is available on MLS-34D, MLS-12D, and MLS-12 phones; it is not available on MLS-6 or MLC-6 phones because they do not have microphones.

When someone pages your phone, it beeps to indicate that your phone's speaker has been turned on automatically, and you hear the caller's voice over your speaker. To use HFAI, leave your phone's microphone on all the time. Then, you can simply start talking when you hear a caller, to respond without lifting the handset.

### **NOTES:**

1. The HFAI feature can be turned on or off only when your phone is idle. Muting your voice while you are on a call turns off the microphone only for the duration of the call.
2. If you are speaking on a call, you will not hear any other pages to your extension.



## Using Intercom Calling Features

### Placing a Call

	On an MLS- or MLC-Model Phone*
<b>To ring another extension</b>	<ol style="list-style-type: none"> <li>1. Press [ <i>Intercom</i> ]. <i>You hear the intercom dial tone.</i></li> <li>2. Lift the handset if desired.</li> <li>3. Dial the extension jack number.</li> </ol>
<b>To voice page another extension</b>	<ol style="list-style-type: none"> <li>1. Press [ <i>Intercom</i> ]. <i>You hear the intercom dial tone.</i></li> <li>2. Lift the handset if desired.</li> <li>3. Dial [ : ] and an extension jack number After the beep, start talking. <i>Your voice is heard on the speaker at the paged MLS-model phone.</i></li> </ol>
<p>* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see <i>AT&amp;T MLC-6 Cordless Telephone Quick Reference: Display and Controls</i>.</p>	

### Answering a Call

	On an MLS- or MLC-Model Phone*
<b>To answer a ringing call using Direct Line Pickup</b>	<ol style="list-style-type: none"> <li>1. Lift the handset.</li> <li>2. Press [ <i>Intercom</i> ].</li> <li>3. Dial [ 6 ] [ 6 ] plus the two-digit line jack number of the ringing line.</li> </ol>
<b>To answer a call ringing at another extension</b>  <i>See page 5-16 for instructions on programming a Pickup Group.</i>	<ol style="list-style-type: none"> <li>1. Lift the handset.</li> <li>2. Press [ <i>Intercom</i> ].</li> <li>3. Dial [ 6 ] plus the two-digit extension jack number of the ringing extension.</li> </ol>
<p>* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see <i>AT&amp;T MLC-6 Cordless Telephone Quick Reference: Display and Controls</i>.</p>	

## Joining a Call

	On an MLS- or MLC-Model Phone*
<p><b>To join an outside call using Direct Line Pickup</b></p> <p><i>You can program Privacy onto an MLS- or MLC-model phone to keep users at other extensions from joining a call on your phone (see page 5-16). Also, Automatic Extension Privacy (page 5-11) can be centrally programmed for an extension to prevent users at other extensions from joining calls. You cannot put a joined call on hold.</i></p>	<ol style="list-style-type: none"> <li>1. Dial [ <i>Intercom</i> ] [ <i>g</i> ] [ <i>g</i> ] and the two-digit line jack number. <i>The line you are joining need not be assigned to your phone. If it is, a steady red light at the line button indicates a call in progress.</i></li> <li>2. Lift the handset to speak. <i>You are now joined with the call. You can tell when someone has joined your call because the lights next to the line button change to alternately flashing red and green.</i></li> </ol>
<p>* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see <i>AT&amp;T MLC-6 Cordless Telephone Quick Reference: Display and Controls</i>.</p>	

## Forwarding a Call

	On an MLC- or MLC-Model Phone*
<p><b>To forward a call</b></p> <p><i>See page 5-16 for instructions on programming this feature onto a button of an MLS- or MLC-model phone.</i></p> <p><i>Forwards any intercom, inside, or outside calls from your extension to a destination extension. You can use this feature from your extension or from the destination extension.</i></p> <p><i>If a call comes in on a destination extension and the corresponding line is not assigned to the phone, the call will come in on the intercom.</i></p>	<ol style="list-style-type: none"> <li>1. Press the button programmed with the Call Forwarding feature.</li> <li>2. Enter your extension jack number.</li> <li>3. Enter the destination extension jack number.</li> </ol> <p>To cancel call forwarding, enter your own extension jack number as the destination.</p>
<p>* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see <i>AT&amp;T MLC-6 Cordless Telephone Quick Reference: Display and Controls</i>.</p>	

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## Using the Message Light

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	On an MLS- or MLC-Model Phone*
<p><b>To turn on the message light</b></p> <p><i>See page 5-16 for instructions on programming this feature onto a button of an MLS- or MLC-model phone.</i></p> <p><i>Turns on the message light on another MLS- or MLC-model phone. Although anyone can use this feature, it is typically used by a receptionist to let someone know a message is waiting.</i></p>	<ol style="list-style-type: none"><li>1. Press the button programmed with the Message Light On feature.</li><li>2. Dial the extension jack number.</li></ol>
<p><b>To turn off the message light</b></p> <p><i>See page 5-16 for instructions on programming this feature onto a button of an MLS- or MLC-model phone.</i></p> <p><i>Turns off the message light on another MLS- or MLC-model phone.</i></p>	<ol style="list-style-type: none"><li>1. Press the button programmed with the Message Light Off feature.</li><li>2. Dial the extension jack number.</li></ol>
<p>* If you are using an MLC-6 cordless phone, make sure the handset is on before following these instructions. For more information on using the MLC-6 phone, see <i>AT&amp;T MLC-6 Cordless Telephone Quick Reference: Display and Controls</i>.</p>	

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# Maintenance and Customer Support

# C

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## Maintenance

Your equipment controller and MLS- and MLC-model phones are designed to provide trouble-free performance without any special maintenance procedures. To reduce the risk of accidental damage:

- Keep the equipment modules in an area free of dust, smoke, and moisture, and do not block the air vents by placing objects on top of the controller.
- Do not place telephones near a heating duct, radiator, or other heat source, and do not drop or expose them to excessive shock or vibration.
- Unplug the telephone if its cord is damaged, if liquid is spilled into it, or if its housing becomes cracked or otherwise damaged.
- To clean your telephone, wipe the outside housing with a soft, dust-free cloth. If absolutely necessary, you may use a cloth *slightly* dampened with a mild soap and water solution. Dry quickly with a soft cloth.



**CAUTION:**

*Your telephone contains sensitive electronic parts. Never submerge it in any kind of liquid, and never use detergents, alcohols, solvents, abrasive cleaners, or an excessive amount of water when cleaning the housing and faceplate. To do so could result in irreparable damage.*

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## **In Case of Difficulty**

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If you should have a problem with your premises equipment, you may be able to solve it yourself by following the appropriate troubleshooting procedures described in this appendix. **In the U.S., AT&T provides a toll-free customer helpline 24 hours a day at 1 800 628-2888.**

For assistance in Canada, contact your local AT&T authorized dealer.

If you call, have the following information ready so that the representatives can better help you:

- The kind of equipment controller you have (for example, PARTNER II Centrex, Release 1)
- The number of lines and extensions in your system
- The model number of the problem phone, if applicable (located on the upper right-hand corner of the phone—MLS-34D, MLS-12D, MLS-12, MLS-6, or MLC-6).

If you followed a troubleshooting procedure and need more help, tell the representative what you did.

## **Power Failure Operation**

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When power to the equipment controller is cut off, the first line jack on each 206 module automatically connects to the first extension jack on the module. For example: line jack 01 connects to extension jack 10; line jack 07 connects to extension jack 16; line jack 13 connects to extension jack 22; and line jack 19 connects to extension jack 28. This allows the equipment controller to maintain telephone service during a power outage.

To make and answer calls during a power failure, *you must use a standard touch-tone or rotary telephone connected to extension jack 10, 16, 22, or 28.* For this reason, *it is strongly suggested* that you have a standard telephone connected—either directly or by a 267F2 bridging adapter—to the first extension jack of every 206 module (extension jacks 10, 16, 22, and 28). During a power failure, only standard phones can make and receive calls.

The equipment controller can stay programmed for approximately four days after it stops receiving power. After four days elapse, all of the equipment's programmed settings return to the factory settings.

## Troubleshooting

The charts on pages C-3 to C-8 describe various problems that can occur, possible causes for each problem, and procedures you can follow to try to solve the problem yourself.

Problem	Possible Cause	Do This	If...	Then...
<b>1. All Phones Dead: No Dial Tone or Lights</b>	1. Equipment controller not receiving power.	Make sure the controller's power cord is plugged securely into the wall outlet. Also make sure all circuit breakers (plastic pop-up tabs shown in Figure 1-3 on page 1-7) are in the "ON" position (pushed down). To see circuit breakers, remove the controller's cover.	LEDs light, and the trouble is gone,  LEDs light, but the trouble remains,  LEDs do not light,  LEDs are flashing,	The problem is corrected.  Call the AT&T Helpline*.  Go to Possible Cause 2.  Call the AT&T Helpline*.
	2. The power outlet may be faulty.	Test the outlet by plugging in an appliance, like a lamp or radio.	The appliance does not work,    The appliance works,	The outlet is faulty. Plug the controller into a different outlet, check fuse box, or call an electrician.    Call the AT&T Helpline*.
<b>2. Multiple Phones Dead: No Dial Tone or Lights</b>	1. Equipment modules not installed in correct order—LEDs on several modules are out.	Make sure that the modules are paired so that a 206 module is installed before each 400 module. If the modules are not in the right order, reinstall them (see page 2-9).	LEDs light,  The problem remains,	Problem is solved.  Go to Possible Cause 2.
	2. Several modules are out.	If several LEDs are out, try reseating the leftmost module of the ones with the lights out (see page 2-9).	LEDs light,  The problem remains,	Problem is solved.  Go to Possible Cause 4.
	3. One module is out.	Check the LEDs on the front of the modules. If a single green LED is out, try reseating the module in the carrier (see page 2-9).	LEDs light.  The problem remains,	Problem is solved.  Call the AT&T Helpline*.
	4. Expansion cable not properly connected.	Check the connection. Make sure the cable is secure at both ends.	The LEDs light,  The problem remains,	Problem is solved.  Go to Possible Cause 5.
	5. Expansion carrier not receiving power.	Make sure the power cord is plugged into the wall outlet and all circuit breakers are in the "ON" position. Power up the expansion carrier first, then the primary carrier.	The LEDs light,  The problem remains,	Problem is solved.  Call the AT&T Helpline*.

\* In the U.S., help is available 24 hours a day at 1 800 628-2888. In Canada, call your local AT&T authorized dealer.

<b>Problem</b>	<b>Possible Cause</b>	<b>Do This</b>	<b>If...</b>	<b>Then...</b>
<b>3. Trouble Making Outside and Inside Calls</b>  <i>Trouble could be:</i>  <i>You hear a dial tone, but it continues as you try to dial.</i>  <i>You hear a dial tone and it cuts off when you dial, but the line does not ring.</i>  <i>You hear nothing.</i>	1. Someone changed your Outgoing Call Restriction.	Find out: were you able to make a call without any trouble before?	You were able to call on the phone before and no one changed your Outgoing Call Restriction,	Go to Possible Cause 2.
	2. Local phone company is not accurately receiving the dialing signals.	Isolate the problem. Use the telephone to make calls on different lines. Then, make calls on each line using different phones.	You cannot make calls from one phone on all lines,  You cannot make calls using different phones,	Follow the procedure for Problem 16 on page C-8.  Go to Possible Cause 3.
	3. Local phone company Centrex line is faulty.	One at a time, unplug each outside line from the 206 or 400 module inside the controller. Plug each line into a standard telephone and try to make a call.	The trouble appears on the standard phone,  The trouble does not appear on the standard phone,	Try connecting another line cord; if the trouble persists, report the problem to your Centrex provider.  The trouble is with your controller. Call the AT&T Helpline*.
<b>4. Using Recall Feature Has No Effect</b>	Recall Timer Duration is set too short.	Increase the Recall Timer Duration (#107) by 100 milliseconds. See page 5-10.	The Recall feature works,  The Recall feature still disconnects calls,	The problem is solved.  Continue increasing the Recall Timer Duration (#107) by increments of 100 milliseconds until the problem is solved.
<b>5. Using Recall Feature Disconnects Call</b>	Recall Timer Duration is set too long.	Decrease the Recall Timer Duration (#107) by 100 milliseconds. See page 5-10.	The Recall feature works,  The Recall feature still disconnects calls,	The problem is solved,  Continue decreasing the Recall Timer Duration (#107) by increments of 100 milliseconds until the problem is solved.
<b>6. Calls are Answered Automatically</b>  <i>A call rings once on a line, and the line button light shows red steady as though it was answered.</i>	An optional device, such as a fax machine, answering machine, or modem answers when it should not.	Make sure the device is set to answer correctly. If the device answers before it should, adjust it to answer on a later ring. Either set the device itself to answer on a later ring (when Line Ringing for the device's line is set to "immediate ring") or set Line Ringing to "delayed ring." If the device should not answer calls, turn its auto-answer feature off. Refer to the device's manual for instructions on turning the device's auto-answer feature off.	The optional device was set improperly,  The optional device was set properly,	Reset the device. If the problem remains, call the AT&T Helpline*.  If the problem remains, call the AT&T Helpline*.

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In the U.S., help is available 24 hours a day at 1 800 628-2888. In Canada, call your local AT&T authorized dealer.

<b>Problem</b>	<b>Possible Cause</b>	<b>Do This</b>	<b>If...</b>	<b>Then...</b>
<b>7. Phone Does Not Ring</b>	1. Volume control is set too low (MLS- or MLC-model phone) or turned off (standard phone).	Press the volume control button to increase ringer volume, or turn ringer on.	Phone rings increasingly louder,  Phone still does not ring,	Problem is solved.  Go to Possible Cause 2.
	2. Do not disturb, call forwarding, or a similar Centrex feature is turned on.	Turn off any Centrex features.	Phone rings,  Centrex feature is not on,	Problem is solved.  Go to Possible Cause 3.
	3. Equipment feature Do Not Disturb or Call Forwarding is turned on.	Check to see if Do Not Disturb or Call Forwarding is turned on.	Feature is on,  Feature is off,	Turn feature off (press programmed button or dial feature code).  Go to Possible Cause 4.
	4. Phone's Line Ringing option may be programmed for "no ring" or "delayed ring."	Check to see if the phone's Line Ringing option is programmed for "no ring" or "delayed ring." Refer to page 5-15.	Line Ringing is set for "no ring" or "delayed ring,"  Line Ringing is set for "immediate ring,"	Change programming if necessary.  Phone may be faulty. Follow Procedure for Problem 16, page C-8.
	5. Local phone company Centrex service may be the problem.	Connect a standard telephone to the network interface jack for the line assigned to the extension and make a call to it to test ringing.	Standard phone does not ring,  Standard phone rings,	Contact your local telephone company.  MLS- or MLC-model phone may be faulty. Follow procedure for Problem 16, page C-8.
<b>8. Trouble Hearing Called Party</b>	1. If you are using an MLS- or MLC-model phone, there may be a problem with the handset.	Remove the handset and cord and substitute a handset and cord from an MLS- or MLC-model phone that you have tested.	The problem is solved,  The problem is not solved,	Call the AT&T Helpline* to order a replacement.  Go to Possible Cause 2.
	2. If you are using a speakerphone, there may be environmental factors that affect the performance of the speaker or microphone (for example, background noise).	See "Speakerphone Performance Tips" on page 6-7 for suggestions on the proper use of the speakerphone.	The problem is not solved,	Go to Possible Cause 3.
	3. If the system is set for rotary dialing, the Rotary Dialing Timeout interval is too long. (If equipment is set for touch-tone dialing, you may have a faulty phone or cord. See Problem 16, page C-8.)	Reset the Rotary Dialing Timeout (#108) interval. Refer to page 5-12.	You can hear the called party answer,  The problem is not solved,	The problem is solved.  Call the AT&T Helpline*.

\* In the U.S., help is available 24 hours a day at 1 800 628-2888. In Canada call your local AT&T authorized dealer.



<b>Problem</b>	<b>Possible Cause</b>	<b>Do This</b>	<b>If...</b>	<b>Then...</b>
<b>9. Calls on Hold Are Disconnected</b>	Hold Disconnect Time is programmed incorrectly—too short.	Change the Hold Disconnect Time (#203) from "short" to "long." See page 5-11.	Calls on hold are not disconnected,  Calls on hold are still disconnected, or Hold Disconnect Time was already set to "long,"	The problem is solved,  Call the AT&T Helpline*.
<b>10. Call on Hold Hangs Up, but Line Does Not Disconnect</b>	1. Hold Disconnect Time is programmed incorrectly—too long.	Change the Hold Disconnect Time (#203) from "long" to "short." See page 5-11.	Abandoned calls on hold disconnected,  Abandoned calls on hold still do not get disconnected, or Hold Disconnect Time was already "short."	The problem is solved.  Go to Possible Cause 2.
	2. Telephone company does not send hold release signal.	Call your telephone company to find out whether they send a hold release signal.	If they do not, or if they do but the problems still exists.	You must monitor all calls on hold and disconnect them manually.
<b>11. Phone Display Does Not Work</b>	Date, day, and time do not display properly.	Re-enter the date, day, and time using System Programming (#101, #102, and #103) on page 5-10).	The display works,  The display still does not work,	Problem is solved.  See Problem 16, on page C-8.
<b>12. MLS or MLC-Model Phone in Combination Extension Doesn't Work</b>	1. MLS- or MLC-model phone is plugged into wrong jack of bridging adapter.	Plug into the correct jack (see page 2-5).	The MLS- or MLC-model phone works properly,  The problem remains,	Problem is solved.  Go to Possible Cause 2.
	2. Wrong cord and wrong bridging adapter used to connect standard phone.	Unplug the bridging adapter from the wall jack; then unplug the MLS- or MLC-model phone from the adapter; plug it into the wall jack.	The MLS- or MLC-model phone works properly,  The problem remains,	Replace either cord or adapter. Use only AT&T 267F2 bridging adapter.) Call the AT&T Helpline* for details.  Call the AT&T Helpline*.

\* In the U.S., help is available 24 hours a day at 1 800 628-2888. In Canada, call your local AT&T authorized dealer.

<b>Problem</b>	<b>Possible Cause</b>	<b>Do This</b>	<b>If..</b>	<b>Then...</b>
<b>13. Combination Extension Problem: Phone Does Not Ring Properly</b>	1. Ringer equivalents are too high for the extension.	If this is a combination extension, be sure the total of the devices' REN (Ringer Equivalence Number, see page 2-5) does not exceed 2.0. If it does, unplug one.	The ringer functions properly,  Trouble still appears,	Problem is in optional device. The equipment is okay.  Go to Possible Cause 2.
	2. Optional device (fax, answering machine, etc.) is faulty.	Remove the device from the extension and plug in an optional device that you know rings properly.	The ringer functions properly,  Trouble still appears,	Problem is in optional device; the equipment is okay.  Go to Possible Cause 3.
	3. Bad adapter or combination device.	First, make sure the standard device in the combination is plugged into the correct slot on the 267F2 bridging adapter (see page 2-5). If the extension still does not work, unplug the adapter from the wall jack. Unplug the phone cord from the adapter and plug it into the wall jack.	The phone works,    The phone does not work,	Problem is with the other device or bridging adapter. Replace other device. If the problem persists, call the AT&T Helpline.  Call the AT&T Helpline*.
<b>14. New Line or Extension Does Not Work</b>	Hotline phone or doorphone was previously assigned to extension; so no line is assigned.	Use Line Assignment (#301) to assign line to new extension.	The problem remains,	Call the AT&T Helpline*.
<b>15. Hotline or Doorphone Does Not Work</b>	1. Line is assigned to Hotline or doorphone extension.	Use Line Assignment (#301) to remove the line assignment for the Hotline or doorphone extension.	The problem remains,	Go to Possible Cause 2.
	2. Hotline or doorphone not programmed correctly.	Use Hotline (#603), Doorphone Extension (#604/#605), and Doorphone Alert Extensions (#606) to program extension assignments.	The problem remains,	Call the AT&T Helpline*.

\* In the U.S., help is available 24 hours a day at 1 800 628-2888. In Canada, call your local AT&T authorized dealer.

<b>Problem</b>	<b>Possible Cause</b>	<b>Do This</b>	<b>If..</b>	<b>Then...</b>
<b>16. Other Problems with Phones</b>	1. Possible faulty telephone.	Unplug the cord from the base of the problem phone and plug it into a phone of the same type that works.	The other phone works,  The other phone does not work,	Old phone was faulty. Call the AT&T Helpline* for a replacement.  Go to Possible Cause 2.
	2. Defective telephone cord.	Unplug the cord from the base of the phone and the wall jack. Replace it with a cord that works.	If the phone works,  If the phone does not work and is part of a combination extension,  If the phone does not work and is not part of a combination extension,	Cord is faulty. Call the AT&T Helpline* for a replacement.  See Problem 13, Possible Cause 3 on page C-7.  Call the AT&T Helpline*.
<b>17. Other Problems with the System</b>	1. System needs a hardware reset.	Use System Reset (#728) to reset the system (see page 5-10). NOTE: This procedure disconnects all calls in progress.	The problem is not solved,	Go to Possible Cause 2.
	2. Filters on expansion cable need to be repositioned.	Place the filters just below the base of the backplanes (see page 2-9).	The problem is not solved,	Call the AT&T Helpline*.

\* In the U.S., help is available 24 hours a day at 1 800 628-2888. In Canada, call your local AT&T authorized dealer.

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## **Repair Information**

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### **In-Warranty Repairs**

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If you purchased or leased the equipment controller and MLS- and MLC-model phones directly from AT&T, AT&T will repair them free of charge during the one-year warranty period. Simply call the Helpline and ask for service.

Business-Day service is standard during the warranty period for both the equipment controller and MLS- and MLC-model phones, hereafter referred to as "the product." Business-Day service is performed during normal business hours. However, if you need 24-hour service protection during the warranty period on the equipment controller in case there is a major equipment failure, you can purchase an Around-the-Clock service contract from your local AT&T sales office (1 800 247-7000 in the U.S. only). (Around-the-Clock service is not available for phones.)

If you purchased or leased the product through an AT&T-authorized dealer, contact your dealer for repairs.

### **Post-Warranty Repairs**

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If you purchased the product from AT&T and you have a post-warranty service contract, AT&T service is provided under the terms of that contract. Both Business-Day and Around-the-Clock coverages of varying lengths are available. To order a post-warranty service contract, call 1 800 247-7000 (in the U.S. only).

If you leased the product from AT&T, Business-Day service is included in your lease. To upgrade to Around-the-Clock service, call 1 800-247-7000 (in the U.S. only).

If you purchased or leased the product through an AT&T-authorized dealer, contact your dealer for repairs.

## **AT&T Limited Warranty and Limitation of Liability**

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AT&T warrants to you, the customer, that the product will be in good working order on the date AT&T or its authorized reseller delivers or installs the product, whichever is later ("Warranty Date"). If you notify AT&T or its authorized reseller within one year of the Warranty Date that the product is not in good working order, AT&T will without charge to you repair or replace, at its option, the 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 AT&T determines that the product cannot be repaired or replaced, AT&T will remove the product and, at your option, refund the purchase price of the product or apply the purchase price towards the purchase of another AT&T product.

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If you purchased the product directly from AT&T, AT&T will perform warranty repair in accordance with the terms and conditions of the specific type of AT&T maintenance coverage you selected. A written explanation of AT&T's types of maintenance coverage can be obtained from AT&T by calling 1 800 247-7000 (in the U.S. only). If you purchased the product from an AT&T-authorized reseller, contact your reseller for the details of the maintenance plan applicable to the product.

AT&T will not be responsible under this limited warranty for damages resulting from:

- Failure to follow AT&T's installation, operation, or maintenance instructions;
- Unauthorized equipment modification, movement, or alteration;
- Unauthorized use of common carrier communication services accessed through the system;
- Abuse, misuse, or negligent acts or omissions of the customer and persons under the customer's control; or
- Acts of third parties and acts of God.

*AT&T's obligation to repair, replace, or refund, as set forth above, is your exclusive remedy.*

*Except as specifically set forth above, AT&T, its affiliates, suppliers, and dealers make no warranties, express or implied, and specifically disclaim any warranties of merchantability or fitness for a particular purpose.*

### **Limitation of Liability**

*Except for personal injury caused by AT&T's negligence, the liability of AT&T, its affiliates, suppliers, and authorized resellers for any claims, losses, damages, or expenses from any cause whatsoever (including acts of omissions of third parties), regardless of the form of action, whether in contract, tort, or otherwise, shall not exceed an amount equal to the lesser of the direct damages proven or the purchase price of the product. In no event shall AT&T or its affiliates, suppliers, or authorized resellers be liable for incidental, reliance, consequential, or any other indirect loss or damage (including lost profits or revenues) incurred in connection with the product. This limitation of liability shall survive failure of the exclusive remedy set forth in the limited warranty above.*

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## **Product Ordering Information**

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Ordering additional telephones and modules, accessories, and replacement parts for your system is convenient. Table C-1 (on the next page) shows where you can buy components in the United States.

*To take full advantage of your premises equipment, the sources shown below can also provide you with the optional equipment you might want for your system, such as AT&T fax machines, answering machines, standard phones, modems, paging systems, doorphones, headsets, bells, lights, strobes, music-on-hold systems, and printers.*

You can obtain most items from more than one source, either directly from AT&T or from authorized dealers. Sources in the United States are:

- **AT&T Catalog Sales.** This source is AT&T's national phone/mail sales center in Cincinnati. A Catalog Associate will place your order, including AT&T installation if you need it. Or you can charge your order on a major credit card. The Catalog Associate can also give you sales advice and mail you AT&T's "Sourcebook" catalog of systems, telephones, and accessories. Call 1 800 451-2100.
- **AT&T Sales Offices.** Sales offices to serve the small business customer are located throughout the country. To contact the office closest to you, call 1 800 247-7000. A representative will place your order, including AT&T installation if you need it.
- **AT&T Authorized Dealers.** You can also buy most items from one of AT&T's authorized dealers. To find the dealer nearest you, call 1 800 247-1212.
- **AT&T PhoneCenter Stores.** Your local PhoneCenter Store carries most items. To locate the nearest store, call 1 800 222-3111 or see your local white pages under "AT&T PhoneCenter Store."
- **AT&T National Parts Sales Center.** This national sales center, located in Denver, stocks replacement parts for the equipment controller and telephones. Telephone orders can be placed by calling 1 800 222-PART.

In Canada, order these items from AT&T Canada:

Eastern Canada and Ottawa:	1 514 335-7200
Ontario:	1 416 756-5236
Central and Western Canada:	1 800 561-5165

To use Table C-1, first locate the item you want. A triangle ( ▲ ) indicates where you can obtain it.

	SOURCE (U.S.)				
	AT&T Catalog Sales (Sourcebook) (800) 451-2100	AT&T Sales Office (800) 247-7000	AT&T PhoneCenter Store *	AT&T Authorized Dealer **	AT&T National Parts Sales Center (800) 222-PART
<b>Equipment Modules and Wiring:</b>					
Primary Processor module				▲	▲
Expansion Processor module				▲	▲
Line/Extension module (206) Includes 206 module, two 7-ft. line cords, two 267F2 bridging adapters, and installation instructions	▲	▲	▲	▲	▲
Line module (400) Includes 400 module, four 7-ft. line cords, and instructions	▲	▲	▲	▲	▲
Backplane				▲	▲
System cover				▲	▲
AC power cord				▲	▲
Line cord (D2R) Connects 206/400 modules to network interface (clear color) Specify length: 7 (standard length), 14, or 25 ft.	▲			▲	▲
267F2 bridging adapter Connects two devices to one extension	▲		▲	▲	▲
In-Range Out-of-Building (IROB) protector (503A1 or 504A1) Required when installing extensions in another building from the equipment controller (two required per MLS-model telephone, one per standard phone or device)		▲	▲	▲	▲
Z300A Electromagnetic Interference (EMI) Filter Includes filter, 7-ft. line cord, and installation instructions		▲		▲	▲
360 VA Uninterruptible Power Supply	▲				▲
267C line adapter Splits two outside lines from an RJ14 network interface jack, so that each line has its own modular plug (do not use at extension jacks)	▲		▲	▲	
355A/355AF adapter Provides modular connection for call reporting device		▲		▲	
Telephone cord (D8W) Connects primary processor module to 355A/355AF adapter for call reporting device. Specify length: 7, 14, or 25 ft.	▲		▲	▲	▲
<b>MLS- and MLC-Model Telephones and Accessories:</b>					
MLS-34D corded telephone, black or white	▲	▲	▲	▲	
MLS-12D corded telephone, black or white	▲	▲	▲	▲	
MLS-12 corded telephone, black or white	▲	▲	▲	▲	
MLS-6 corded telephone, black or white	▲	▲	▲	▲	
MLC-6 cordless telephone, black or white	▲	▲	▲	▲	
Telephone stand, black or white				▲	▲
Button label package (specify telephone model)	▲			▲	▲
Handset (K2S1), black or white Standard for MLS-model phones	▲			▲	▲
Amplified handset (K6S), black or white Optional for hard-of-hearing users with MLS-model phones	▲	▲		▲	▲
Handset cord, 9 ft., black or white, coiled Connects handset to telephone	▲		▲	▲	▲
Telephone mounting cord (D4BU) Connects phone to wall jack, jack panel, or 206 module ext. jack. Specify length 2, 7, or 14 ft.	▲		▲	▲	▲
Modular telephone extension cord—8-connector Extends D4BU cords Specify length: 14, 25, 50, 75, or 100 ft.	▲			▲	
* To locate the AT&T PhoneCenter Store nearest you, see the listing in your local telephone directory's white pages (under AT&T), or call 1 800 222-3111 (in the U.S. only).					
** To locate the nearest AT&T Authorized Dealer, call 1 800 247-1212 (in the U.S. only).					

**Table C-1. Sources of Additional Equipment and Replacement Parts (U.S.)**

**C-12 Maintenance and Customer Support**

# Specifications

# D

<b>Capacities</b>	<b>Premises Equipment</b> <ul style="list-style-type: none"> <li>■ 24 Centrex lines via line jacks on four 206 and four 400 modules</li> <li>■ 24 extensions via extension jacks on four 206 modules</li> <li>■ 1 loudspeaker paging system via PAGE jack on primary processor module</li> <li>■ 1 audio source via Music-on-Hold jack on primary processor module (RCA phono plug required)</li> <li>■ 1 call reporting device via SMDR jack on primary processor module (355A/F adapter required)</li> <li>■ 2 doorphones (2 extension jacks)</li> </ul>	<b>206 Module</b> <ul style="list-style-type: none"> <li>■ 2 Centrex lines</li> <li>■ 6 extensions</li> </ul> <b>400 Module</b> <ul style="list-style-type: none"> <li>■ 4 Centrex lines</li> </ul>	<b>Extension Jack</b> <ul style="list-style-type: none"> <li>■ Maximum 2 devices per extension jack, total REN on jack not to exceed 2.0* 2 devices require AT&amp;T 267F2 bridging adapter. MLS- or MLC-model phone REN: 0 (zero)</li> <li>■ No more than one MLS- or MLC-model phone per jack</li> </ul> <p><i>For programming, an MLS display phone must be connected to extension jack 10 or 11.</i></p>																													
<b>Dimensions and Weights (approx.)</b>	<table border="0"> <tr> <td>■ Primary Proc. Mod.</td> <td>11"(D) x 17"(H) x 1.5"(W) or 27.9 x 43.2 x 3.8 cm</td> <td>4.0 lbs or 1.8 kgs</td> </tr> <tr> <td>■ Exp. Proc. Mod.</td> <td>11"(D) x 17"(H) x 1.5"(W) or 27.9 x 43.2 x 3.8 cm</td> <td>4.0 lbs or 1.8 kgs</td> </tr> <tr> <td>■ 206 module</td> <td>11"(D) x 17"(H) x 1.5"(W) or 27.9 x 43.2 x 3.8cm</td> <td>4.5 lbs or 2.0 kgs</td> </tr> <tr> <td>■ 400 module</td> <td>11"(D) x 17"(H) x 1.5"(W) or 27.9 x 43.2 x 3.8 cm</td> <td>4.0 lbs or 1.8 kgs</td> </tr> <tr> <td>■ Backplane &amp; cover</td> <td>12"(D) x 19"(H) x 11"(W) or 30.5 x 48.3 x 27.9 cm</td> <td>5.5 lbs or 2.5 kgs</td> </tr> <tr> <td>■ MLS-34D phone</td> <td>9.7"(D) x 5.3"(H) x 10"(W) or 24.6 x 13.5 x 25.4 cm</td> <td>2.9 lbs or 1.3 kgs</td> </tr> <tr> <td>■ MLS-12D phone</td> <td>9.5"(D) x 5"(H) x 6.75"(W) or 24.1 x 12.7 x 17.1 cm</td> <td>1.8 lbs or 0.8 kgs</td> </tr> <tr> <td>■ MLS-12 phone</td> <td>9.5"(D) x 5"(H) x 6.75"(W) or 24.1 x 12.7 x 17.1 cm</td> <td>2.0 lbs or 0.9 kgs</td> </tr> <tr> <td>■ MLS-6 phone</td> <td>9.5"(D) x 5"(H) x 6.75"(W) or 24.1 x 12.7 x 17.1 cm</td> <td>2.1 lbs or 1.0 kgs</td> </tr> <tr> <td>■ MLC-6 phone</td> <td>9.4"(D) x 3.4"(H) x 7"(W) or 23.9 x 8.6 x 17.8 cm</td> <td>2.6 lbs or 1.2 kgs</td> </tr> </table>	■ Primary Proc. Mod.	11"(D) x 17"(H) x 1.5"(W) or 27.9 x 43.2 x 3.8 cm	4.0 lbs or 1.8 kgs	■ Exp. Proc. Mod.	11"(D) x 17"(H) x 1.5"(W) or 27.9 x 43.2 x 3.8 cm	4.0 lbs or 1.8 kgs	■ 206 module	11"(D) x 17"(H) x 1.5"(W) or 27.9 x 43.2 x 3.8cm	4.5 lbs or 2.0 kgs	■ 400 module	11"(D) x 17"(H) x 1.5"(W) or 27.9 x 43.2 x 3.8 cm	4.0 lbs or 1.8 kgs	■ Backplane & cover	12"(D) x 19"(H) x 11"(W) or 30.5 x 48.3 x 27.9 cm	5.5 lbs or 2.5 kgs	■ MLS-34D phone	9.7"(D) x 5.3"(H) x 10"(W) or 24.6 x 13.5 x 25.4 cm	2.9 lbs or 1.3 kgs	■ MLS-12D phone	9.5"(D) x 5"(H) x 6.75"(W) or 24.1 x 12.7 x 17.1 cm	1.8 lbs or 0.8 kgs	■ MLS-12 phone	9.5"(D) x 5"(H) x 6.75"(W) or 24.1 x 12.7 x 17.1 cm	2.0 lbs or 0.9 kgs	■ MLS-6 phone	9.5"(D) x 5"(H) x 6.75"(W) or 24.1 x 12.7 x 17.1 cm	2.1 lbs or 1.0 kgs	■ MLC-6 phone	9.4"(D) x 3.4"(H) x 7"(W) or 23.9 x 8.6 x 17.8 cm	2.6 lbs or 1.2 kgs	
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<b>Switch Fabric</b>	<ul style="list-style-type: none"> <li>■ Full digital, nonblocking</li> </ul>																															
<b>Local Phone Company Information</b>	<ul style="list-style-type: none"> <li>■ FCC registration number (U.S): AS5 USA-61630-KF-E</li> <li>■ DOC registration number (Canada): 230 3756</li> <li>■ REN (outside line jack): 0.9A per line jack</li> <li>■ Jack type: RJ11C</li> <li>■ Loop start lines</li> </ul>																															
<b>Extension Jack</b>	<ul style="list-style-type: none"> <li>■ Ringing voltage: +5VDC, -140 VDC peak to peak; trapezoidal wave shaping</li> <li>■ 35- to 38-Volt talk battery</li> <li>■ Ringing frequency: 20 Hz</li> </ul>																															

\*The two devices combined on an extension jack can be an MLS- or MLC-model phone with a standard device, or two standard devices; DO NOT connect two MLS- or MLC-model phones to the same extension jack. If a device lists two RENs, use the higher number when adding up RENs.



<b>PAGE Jack</b>	<ul style="list-style-type: none"> <li>■ Draws current on inner wire pair</li> <li>■ Provides contact closure on outer wire pair</li> <li>■ 600 ohm impedance</li> </ul>
<b>SMDR Jack</b>	<ul style="list-style-type: none"> <li>■ 1200 baud</li> <li>■ 8 data bits, 2 stop bits</li> <li>■ No parity</li> <li>■ 355A or 355AF adapter required</li> </ul>
<b>Environmental Requirements— Equipment Controller</b>	<ul style="list-style-type: none"> <li>■ Mount on a wall at least 2 feet (0.6 meters) from the floor (wall mounting required)</li> <li>■ Locate within 5 feet (1.5 meters) of the network interface jacks and an electrical outlet not controlled by a switch, using supplied 7-foot (2.1-meter) cords</li> <li>■ Mount the Expansion Carrier at least 6" and not more than 24" away from the Primary Carrier</li> <li>■ Operating temperature 32° to +104°F (0° to +40°C), not in direct sunlight</li> <li>■ Humidity 15%–90%, noncondensing</li> <li>■ For proper ventilation and easy replacement of modules, provide at least 6" (2.34cm) clearance at the top and sides, and 2 feet (0.6 meters) at the front and bottom of the control unit.</li> <li>■ Locate in an area free of excess moisture, corrosive gases, dust, and chemicals</li> </ul>
<b>Electrical Specifications</b>	<ul style="list-style-type: none"> <li>■ 10 Watts (35 BTUs/hour) per 400 module, normal and peak power consumption</li> <li>■ 65 Watts (225 BTUs/hour) per 206 module during normal operation</li> <li>■ 100 Watts (350 BTUs/hour) per 206 module during peak power consumption</li> <li>■ 4 Amps peak current at full controller capacity (processor modules and four 206 modules)</li> <li>■ 4-day memory backup (96 hours)</li> </ul>
<b>Electrical Requirements</b>	<ul style="list-style-type: none"> <li>■ 90–130 VAC, 50–60 Hz, 3-prong outlet separate ground, separately fused at 15 Amps</li> <li>■ Outlet must not be controlled by an on/off switch</li> <li>■ Grounding to comply with Underwriters Laboratories (UL) 1459: <ul style="list-style-type: none"> <li>A. An insulated rounding conductor that is not smaller in size and equivalent in insulation material and thickness to the grounded and ungrounded branch circuit supply conductors, except that it is green with or without one or more yellow stripes, is to be installed as part of the circuit that supplies the premises equipment.</li> <li>B. The grounding conductor mentioned in item A is to be connected to ground at the service equipment.</li> <li>C. The attachment-plug receptacles in the vicinity of the premises equipment are all to be of a grounding type, and the grounding conductors serving these receptacles are to be connected to earth ground at the service equipment.</li> </ul> </li> </ul>
<b>Requirements for Out-of-Building Extensions</b>	<p>Installation of a telephone or other standard (tip/ring) device in another building requires the following In-Range Out-of-Building (IROB) protectors to protect the controller and device from electrical surges:</p> <ul style="list-style-type: none"> <li>■ MLS-model telephone: two AT&amp;T 503A1 or 504A1 protectors</li> <li>■ Standard device: one AT&amp;T 503A1 or 504A1 protector plus one carbon block protector</li> </ul>
<b>Wiring</b>	<ul style="list-style-type: none"> <li>■ MLS-model phones: AT&amp;T SYSTIMAX™ or at least 2-pair (4-wire) star ("home run" not "loop")</li> <li>■ Other standard telecommunications equipment (single-line phones, fax machines, answering machines, etc.): 1-pair (2-wire) mounting cords (AT&amp;T D2R mounting cords recommended)</li> <li>■ Bridging adapter: AT&amp;T 267F2</li> <li>■ Range: 1,000 feet (305 meters) for MLS phones; 3,000 feet (915 meters) for standard devices</li> </ul>
<b>Primary Processor Module</b>	<ul style="list-style-type: none"> <li>■ 68000 microprocessor, 64K RAM, 256K ROM</li> </ul>
<b>Expansion Processor Module</b>	<ul style="list-style-type: none"> <li>■ 12 megahertz, 128K RAM, 64K ROM</li> </ul>

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## FCC Information



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### Federal Communications Commission (FCC) Interference 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 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 have to correct the interference at his or her own expense.

### FCC Notification and Repair Information

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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 to the telephone network shall be through a standard network interface jack USOC RJ11C. These USOCs must be ordered from your local telephone company.

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 right hand side of the primary carrier.

- 
- The facility interface code, which is O2LS2.

You must also notify your local telephone company if and when this equipment is permanently disconnected from the line(s).

- **Repair Instructions:** If you experience trouble because your equipment is malfunctioning, the FCC requires that you disconnect the equipment from the network and not use it until the problem has been corrected. Repairs to this equipment can only be made by the manufacturer, its authorized agents, or by others who may be authorized by the FCC. In the event repairs are needed on this equipment, please contact the AT&T National Service Assistance Center (NSAC) at 1 800 628-2888. For warranty information, see Appendix C.
- **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 advised of your right to file a complaint with the FCC.

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 telephones for this system are compatible with inductively coupled hearing aids as prescribed by the FCC.



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# Glossary

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## A

### Auto Dial button

A programmable telephone button that lets you dial a series of digits simply by pressing that button. An Auto Dial button can be used to store a Centrex feature code or a telephone number so that it can be dialed with one touch. *See also* Equipment feature button and Programmable button.

### Auxiliary equipment

Telecommunications equipment (other than MLS- and MLC-model telephones) that can be connected to the equipment controller. Auxiliary equipment includes industry-standard devices that can connect directly to the public telephone network (such as standard phones or fax machines) as well as devices that require the interface provided by the equipment controller (such as a loudspeaker paging system).

---

## B

### Backplane

The bottom and rear portion of the plastic housing that makes up a carrier. The backplane distributes power to the premises equipment, and has slots where the modules are installed.

### Backup programming extension

A second extension from which you can program premises equipment, using the phone connected to extension jack 11 on your equipment controller. *See also* Primary programming extension.

### Button-Down Mode

A system-wide setting that causes incoming calls on secondary lines to flash, but not ring. A user must press the line button down to pick up the call. This feature enables the equipment to imitate the way lines ring at extensions on key telephone systems like the 1A Key System.

---

## C

### Call coverage

An arrangement that lets a receptionist or a person at another extension answer a call when the dialed extension is busy or not answered. Call coverage may be provided centrally by a receptionist (using default equipment settings), locally by a person at another extension (requiring secondary line assignments), or using Centrex coverage services (such as call forwarding or voice mail). In addition, answering machines may be installed at key extensions to take messages when a person is not available to take calls.

### Call record

A line of information on a call report that includes data fields such as call type, date, time, called number, and call duration. *See also* Call report.

### Call report

A page of information that begins with a header and lists incoming and outgoing calls to and from your business on a line-by-line basis. *See also* Call record.

### Call reporting

A feature that provides records of call activity. Call reporting is also referred to as Station Message Detail Recording (SMDR).

### Call Viewing

An equipment feature that allows users to monitor call activity at system extensions by observing the lights on a one-touch Intercom Calling button. *See also* Intercom Calling button.

### Calling restriction

A feature available from your Centrex system or from the equipment controller that lets you control telephone use at specific extensions.

### Carrier

Molded plastic housing, made up of a backplane and cover, which holds equipment controller modules. Your configuration consists of at least the primary carrier and can be expanded to include the expansion carrier.

### Centralized Telephone Programming

A method of telephone programming that lets you program individual extensions in the system from an MLS-34D or MLS-12D phone at extension jack 10 or extension jack 11. Centralized Telephone Programming is an alternative to Extension Programming.

---

**Centrex**

Telephone services that your local telephone company provides from a Central Office (CO) located outside your business premises, including Centrex lines connected to the equipment controller and the features available on those Centrex lines. (Your telephone company may call Centrex by another name.)

**Centrex extension number**

A short code (or "Centrex extension ID") that can be used to dial another extension within the Centrex system. Typically, this is the last digits of the Centrex telephone number.

**Centrex system**

The total block of Centrex lines you subscribe to—all or some of which may be connected to the equipment controller for your system—together with the Centrex services associated with those lines. *See also* Premises equipment and System.

**Centrex telephone number**

The phone number that outside callers dial to reach an extension within the Centrex system.

**Combination extension**

An extension that has two devices connected to it using a special connector called a bridging adapter. Combination extensions can connect two industry-standard devices or an industry-standard device and an MLS- or MLC-model phone, but not two MLS- or MLC-model phones.

**Controller**

*See* Equipment controller.

---

**D****Doorphone**

An AT&T proprietary phone that can be wall mounted outside your office or in a lobby to allow visitors to alert up to five system extensions by pressing a button. The doorphone includes a speaker and microphone, to allow two-way conversation between the doorphone and the phone that answers.

---

**E****Equipment controller**

The AT&T product that you purchased as part of your system. This product consists of a group of modules that connect Centrex lines coming into your building to the extensions in your system. The equipment controller also provides equipment features.

**Equipment feature**

A feature provided by your equipment controller (as opposed to a service provided by Centrex).

**Equipment feature button**

A programmable telephone button on an MLS- or MLC-model telephone that enables you to access an equipment feature with one touch, simply by pressing the button. *See also* Auto Dial button and Programmable button.

**Expansion carrier**

The optional component of the AT&T equipment controller that can be connected to the primary carrier to expand your system's line and extension capacity. *See also* Primary carrier.

**Expansion processor module**

The main module of the expansion carrier, which must be installed in the center slot of the expansion carrier. This AT&T module extends the primary carrier's management capabilities to the 206 and 400 modules installed in the expansion carrier. *See also* Primary processor module.

**Extension**

A destination in the system that can be dialed.

**Extension jack**

The location on 206 modules that allows you to connect phones (or other telecommunications devices) to the equipment controller.

**Extension jack number**

The number assigned to each extension jack on a 206 module. Extension jack numbers run consecutively from 10 through 33 (for a two-carrier configuration).

**Extension Programming**

A method of telephone programming that lets users program their own extensions from their MLS- or MLC-model phones. Extension Programming is an alternative to Centralized Telephone Programming.

---

## F

### **Fax Management button**

An MLS- or MLC-model phone button with a light that is programmed with the extension jack number of a fax machine. A user can monitor the light next to this button to determine when the fax machine is in use, available, or not answering.

### **Feature phone**

An industry-standard phone that includes programmable buttons or other built-in features.

### **400 module**

The AT&T equipment component that contains jacks for connecting up to four Centrex lines to the equipment controller.

---

## H

### **Hotline phone**

A standard phone that rings another extension automatically when the handset is lifted.

---

## I

### **Industry-standard device**

A telephone or other telecommunications device that can be connected directly to the public telephone network. See *also* Standard phone and Proprietary device.

### **Inside call**

A call made from an extension inside the Centrex system to another extension inside the Centrex system, using the Centrex extension number.

### **Intercom call**

A call that is made using the [ *Intercom* ] button on an MLS- or MLC-model telephone, to call another system extension without tying up primary Centrex lines.

### **Intercom Calling button**

A programmable button on which an extension jack number is stored, to enable one-touch dialing of a system extension without tying up primary lines. See *also* Call Viewing and System.

---

## L

### **Line jack**

The location on 206 and 400 modules that allows you to connect Centrex lines to the equipment controller.

### **Line jack number**

The number assigned to each line jack on a 206 or 400 module. Line jack numbers run consecutively from 01 through 24 (for a two-carrier configuration).

### **Loudspeaker paging system**

Equipment that lets you make announcements from a central location. Any AT&T paging system can be connected to the PAGE jack on the primary processor module in the equipment controller.

---

## M

### **MLS- and MLC-Model telephones**

The AT&T telephones that you purchased as part of your system. These telephones are specifically designed for use with the equipment controller. Models include the MLS-34D, MLS-12D, MLS-12, MLS-6, and MLC-6 phones.

### **Music-on-hold system**

Equipment that lets you play recorded music to callers who are placed on hold. A music-on-hold audio source can be connected to an RCA jack on the primary processor module in the equipment controller.

---

## N

### **Network interface jack**

A jack, generally located in your equipment room, that provides access to a Centrex line coming into your building from your local telephone company. A telephone cord from the network interface jack to a line jack on a 206 or 400 module connects the Centrex line to your system.

### **Night Service**

A feature that lets you redirect calls received after hours or when a receptionist is not available to answer calls.

---

## O

### **One-touch Intercom Calling button**

See Intercom Calling button.

### **Outside call**

A call made from outside the Centrex system to an extension within the Centrex system, or from inside the Centrex system to a number outside the Centrex system. If your Centrex system uses a dial-out code (usually a "9"), you must dial it before you dial an outside telephone number.

---

## P

### **Premises equipment**

The AT&T equipment controller and MLS- and MLC-model telephones that you purchased as part of your system, plus all other telecommunications devices that are connected to your equipment controller. For purposes of this guide, premises equipment does *not* include any equipment that connects directly to Centrex lines without going through the equipment controller. See *also* System and Centrex system.

### **Primary carrier**

The required component of the AT&T equipment controller that contains the primary processor module and up to two 206 modules and two 400 modules. The primary carrier provides for connection of up to 12 lines and 12 extensions. See *also* Expansion carrier.

### **Primary line**

The main Centrex line assigned to an extension, generally used to place and receive all calls for that extension. When a caller dials a phone number, the call rings immediately at the extension where the line is assigned as a primary line (unless line ringing is changed to let another extension screen calls on the line). See *also* Secondary line and Primary line button.

### **Primary line button**

The bottom leftmost line button on an MLS- or MLC-model phone. See *also* Primary line.

### **Primary processor module**

This AT&T module, which is always installed in the center slot of the primary carrier, manages the components of your premises equipment. See *also* Expansion processor module.

### **Primary programming extension**

The main extension from which you program premises equipment, using the phone connected to extension jack 10 on your equipment controller. See *also* Backup programming extension.

### **Programmable button**

A telephone button that can be set up to access a feature. On MLS- and MLC-model phones, programmable buttons can be used as Auto Dial buttons (for one-touch dialing of Centrex feature codes or telephone numbers) or equipment feature buttons.

### **Proprietary device**

A telephone or other device that is designed to work with a specific system, and requires a special interface to connect to the public telephone network. For example, MLS- and MLC-model telephones are proprietary devices that can only be used with the equipment controller described in this guide. See *also* Industry-standard device.

---

## R

### **Recall**

An equipment feature that sends a timed switchhook flash to let you access a Centrex service. (Use Recall only on an outside or inside call; using Recall on an intercom call disconnects the call.)

### **Ringer Equivalence Number (REN)**

A measure of the power it takes to ring a phone or other telecommunications device, usually shown on a label on the bottom of the device.

---

## S

### **Secondary line**

A line assigned to an extension for call coverage purposes, generally with delayed or no ringing. When a call comes in on the line, it rings first at the extension where it is assigned as the primary line; only if there is no answer does it ring at the extension where it is a secondary line. See *also* Primary line.

### **SMDR (Station Message Detail Recoding)**

See Call reporting.

### **Speed dialing**

A feature that lets a user dial a telephone number quickly by dialing a short code.



---

**Standard phone**

An industry-standard touch-tone or rotary phone such as you might have in your home. Some standard phones include special feature buttons for frequently-used calling functions.

**Station Message Detail Recording (SMDR)**

See Call reporting.

**System**

Your premises equipment, in combination with the Centrex lines that are connected to your equipment controller and the Centrex services that are available on those lines. See *also* Centrex system and Premises equipment.

**System manager**

The person in your business who is responsible for managing your system, including equipment programming.

**System Programming**

Designates the way the premises equipment works for your business on a system-wide basis. System Programming requires an MLS-34D or MLS-12D phone and must be done from extension jack 10 or extension jack 11.

---

**T****Telephone Programming**

Customizes ringing or adds special dialing features for extensions, to meet the needs of individual users. Telephone Programming can be done either centrally or from the user's own extension.

**206 module**

The AT&T equipment component that contains jacks for connecting up to two Centrex lines and up to six extensions to the equipment controller.

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## Centralized Telephone Programming Quick Reference

**Place the Programming Overlay on the dial pad of the MLS display phone at extension jack 10 or 11**

### TO ENTER PROGRAM MODE

PRESS [ *Feature* ] [ *Q* ] [ *Q* ]

PRESS [ *System Program* ]

PRESS [ *System Program* ]

PRESS [ *Central Tel Program* ]

DIAL the extension jack number to be programmed

*Buttons on which lines are assigned for the extension light up to show the current Line Ringing setting; remaining buttons can be programmed with Auto Dial numbers or features*

### TO PROGRAM ANOTHER FEATURE AT THE SAME EXTENSION

After you finish changing a setting, simply continue with the instructions in the box shown for the new feature on this page

### TO CHANGE SETTING FOR ANOTHER EXTENSION

PRESS [ *Central Tel Program* ]

DIAL the new extension's jack number

### TO ERASE A FEATURE OR AUTO DIAL BUTTON

PRESS the programmed button

PRESS [ *Mic* ]

### TO LEAVE PROGRAM MODE

PRESS [ *Feature* ] [ *Q* ] [ *Q* ]

#### LINE RINGING (p. 5-15)

PRESS each line button until the desired ringing option appears in the display

- Immediate ring (*green steady*)
- Delayed ring—starts ringing after 20 seconds (*green slow flashing*)
- No ring (*green fast flutter*)

#### PERSONAL SPEED DIAL NUMBERS (p. 5-15)

PRESS [ *Feature* ]

DIAL a 2-digit code (80–99)

DIAL the phone number, including a dial-out code and area code if needed—up to 20 digits and special characters (see page 5-14)

#### AUTO DIALING (p. 5-15)

PRESS a programmable button

##### To program a phone number:

DIAL the complete number exactly as you would dial it manually, including a dial-out code and area code if needed—up to 20 digits and special characters (see page 5-14)

##### To program a Centrex feature code:

DIAL the feature code (to use the Centrex feature while on a call, a Recall signal can be included as the first character stored on the button)

#### ONE-TOUCH INTERCOM CALLING (p. 5-15)

PRESS a programmable button

PRESS left [ *Intercom* ]

DIAL the extension jack number to ring the extension when the button is pressed or [ *★* ] plus the extension jack number to voice page the extension when the button is pressed

#### DO NOT DISTURB (p. 5-16)

PRESS a programmable button with lights

PRESS [ *Feature* ] [ *Q* ] [ *1* ]

#### EXCLUSIVE HOLD (p. 5-16)

PRESS a programmable button

PRESS [ *Feature* ] [ *Q* ] [ *2* ]

#### RECALL (p. 5-16)

PRESS a programmable button

PRESS [ *Feature* ] [ *Q* ] [ *3* ]

#### SAVE NUMBER REDIAL (p. 5-16)

PRESS a programmable button

PRESS [ *Feature* ] [ *Q* ] [ *4* ]

#### LAST NUMBER REDIAL (p. 5-16)

PRESS a programmable button

PRESS [ *Feature* ] [ *Q* ] [ *5* ]

#### PRIVACY (p. 5-16)

PRESS a programmable button with lights

PRESS [ *Feature* ] [ *Q* ] [ *Z* ]

#### TOUCH-TONE ENABLE (p. 5-16)

PRESS a programmable button

PRESS [ *Feature* ] [ *Q* ] [ *6* ]

#### MESSAGE LIGHT ON (p. 5-16)

PRESS a programmable button

PRESS [ *Feature* ] [ *Q* ] [ *Q* ]

#### MESSAGE LIGHT OFF (p. 5-16)

PRESS a programmable button

PRESS [ *Feature* ] [ *1* ] [ *Q* ]

#### CALL FORWARDING (p. 5-16)

PRESS a programmable button

PRESS [ *Feature* ] [ *1* ] [ *1* ]

#### CALL PICKUP (p. 5-16)

PRESS a programmable button

PRESS left [ *Intercom* ] [ *6* ]

DIAL the extension jack number

#### GROUP PICKUP (p. 5-16)

PRESS a programmable button

PRESS left [ *Intercom* ] [ *6* ] [ *6* ]

DIAL a Pickup Group number (1–4)

#### LOUDSPEAKER PAGING (p. 5-16)

PRESS a programmable button

PRESS left [ *Intercom* ] [ *Z* ] [ *Q* ]

#### GROUP CALLING (p. 5-16)

PRESS a programmable button

PRESS left [ *Intercom* ] [ *Z* ]

DIAL a Calling Group number (1–4)

#### GROUP PAGING (p. 5-16)

PRESS a programmable button

PRESS left [ *Intercom* ] [ *★* ] [ *Z* ]

DIAL a Calling Group number (1–4)

#### EXTENSION HUNT GROUP (p. 5-16)

*For ringing the first available extension:*

PRESS a programmable button

PRESS left [ *Intercom* ] [ *Z* ] [ *Z* ]

DIAL a Hunt Group number (1–6)

*For paging the first available extension:*

PRESS a programmable button

PRESS left [ *Intercom* ] [ *★* ] [ *Z* ] [ *Z* ]

DIAL a Hunt Group number (1–6)

**NOTE:** This feature is not recommended for most systems. If Centrex Hunt Groups are available, use them instead.

#### DIRECT LINE PICKUP (p. 5-16)

PRESS a programmable button

DIAL left [ *Intercom* ] [ *6* ] [ *6* ]

## Extension Programming Quick Reference

Users can program features or store telephone numbers for their phones using Extension Programming. Line Ringing must be programmed from extension jack 10 or 11 (using Centralized Telephone Programming); all other features can be programmed on an MLS- or MLC- model phone at the user's extension.

### TO ENTER PROGRAM MODE

PRESS [ *Feature* ] [ *Q* ] [ *Q* ]

### TO CHANGE A SETTING

Follow the instructions shown in the boxes for each feature on this page.

### TO ERASE A FEATURE OR AUTO DIAL BUTTON

PRESS the programmed button

PRESS [ *Mic* ]

### TO LEAVE PROGRAM MODE

PRESS [ *Feature* ] [ *Q* ] [ *Q* ]

# System Programming Quick Reference

Place the Programming Overlay on the dial pad of the MLS display phone at Extension Jack 10 or 11

## TO START SYSTEM PROGRAMMING

PRESS [ *Feature* ] [ *Q* ] [ *Q* ]

PRESS [ *System Program* ]

PRESS [ *System Program* ]

## TO END SYSTEM PROGRAMMING


PRESS [ *Feature* ] [ *Q* ] [ *Q* ]

## TO USE A SPECIFIC PROCEDURE

DIAL [ # ] and 3-digit procedure code  
Example: [ # ] [ 1 ] [ *Q* ] [ 1 ] for System Date

## TO CYCLE THROUGH SYSTEM PROGRAMMING PROCEDURES

PRESS [ *Next Procedure* ] or [ *Prev Procedure* ]

**NOTE:** Procedures #399, #609, #722, #723, and #728—shown below in dashed boxes—are skipped when cycling. Troubleshooting procedures are shown with the  symbol.

## TO CYCLE THROUGH AVAILABLE SETTINGS

PRESS [ *Next Data* ] or [ *Prev Data* ]

## TO RETURN TO FACTORY SETTING

PRESS [ *Remove* ]

### System

#### SYSTEM DATE (p. 5-10)

DIAL #101

DIAL the date in MMDDYY form

#### SYSTEM DAY (p. 5-10)

DIAL #102

- 1 = Sunday ✓
- 2 = Monday
- 3 = Tuesday
- 4 = Wednesday
- 5 = Thursday
- 6 = Friday
- 7 = Saturday

#### SYSTEM TIME (p. 5-10)

DIAL #103

DIAL the time in HHMM form (military)

#### PBX DIAL-OUT CODE (p. 5-10)

DIAL #106

DIAL 0-9

✓ = 9

#### RECALL TIMER DURATION

(p. 5-10)

DIAL #107

DIAL two digits to set the length of a switch hook flash (01–80)

✓ = 18 (450 msec)

#### ROTARY DIALING TIMEOUT

(p. 5-10)

DIAL #108

- DIAL 1 = 4 seconds
- 2 = 8 seconds ✓
- 3 = 12 seconds

#### RESET LINE ASSIGNMENTS

(p. 5-10)

DIAL #722

#### BUTTON-DOWN MODE (p. 5-10)

DIAL #723

- DIAL 1 = Not Active ✓
- 2 = Active

### Lines

#### DIAL MODE (p. 5-11)

DIAL #201

DIAL a line jack number (01–24)

- DIAL 1 = Touch-Tone ✓
- 2 = Rotary

PRESS [ *Next Item* ] to program another line

#### HOLD DISCONNECT TIME

(p. 5-11)

DIAL #203

DIAL a line jack number (01–24)

- DIAL 1 = Long (450 msec) ✓
- 2 = Short (50 msec)

PRESS [ *Next Item* ] to program another line

#### LINE ASSIGNMENT (p. 5-11)

DIAL #301

DIAL an extension jack number (10–33)

To remove all existing line assignments, press [ *Remove* ] before selecting a line.

DIAL a line jack number (01–24)

DIAL 1 = Assigned

2 = Not Assigned

3 = Select Button and then press a line button to assign the line to that button

*If you use Option 3 after a line has been assigned, the line moves from the old button to the new button you select.*

PRESS [ *Next Item* ] to program another line for this extension.

#### To select another extension:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ], enter a new extension jack number, and repeat above steps

#### LINE ACCESS RESTRICTION (p. 5-11)

DIAL #302

DIAL an extension jack number (10–33)

DIAL a line jack number (01–24)

DIAL 1 = No Restriction ✓

2 = Outgoing Only

3 = Incoming Only

4 = No Access (line appears on button, but you can use line only to pick up a held call)

PRESS [ *Next Item* ] to program another line

#### To select another extension:

PRESS [ *Next Procedure* ] [ *Prev Procedure* ], enter a new extension jack number, and repeat above steps

### Extensions

#### DISPLAY LANGUAGE (p. 5-11)

DIAL #303

DIAL an extension jack number (10–33)

- DIAL 1 = English ✓
- 2 = Spanish
- 3 = French

PRESS [ *Next Item* ] to program another extension

#### AUTOMATIC EXTENSION PRIVACY (p. 5-11)

DIAL #304

DIAL an extension jack number (10–33)

- DIAL 1 = Assigned
- 2 = Not Assigned ✓

PRESS [ *Next Item* ] to program another extension

#### ABBREVIATED RINGING (p. 5-11)

DIAL #305

DIAL an extension jack number (10–33)

- DIAL 1 = Active (On—1 ring) ✓
- 2 = Not Active (Off—repeated ringing)

PRESS [ *Next Item* ] to program another extension

#### COPY SETTINGS (p. 5-11)

DIAL #399

DIAL a source extension jack number (10–33)

DIAL target extension jack number (10–33)

### System Speed Dial Numbers (p. 5-14)

PRESS [ *Feature* ] [ *Q* ] [ *Q* ] to enter System Programming mode

PRESS [ *Feature* ] followed by a 2-digit code (20–79)

DIAL the telephone number (including a dial-out code and area code if needed—up to 20 digits and special functions)

To include special functions in the telephone number

PRESS [ *Mic* ] for Stop Dialing

PRESS [ *Hold* ] for Pause

PRESS [ *Spkr* ] for Recall

PRESS [ *Transfer* ] for Touch-Tone Enable

To mark a number (which overrides dialing restrictions)

DIAL [ *±* ] before the telephone number

To remove the number

DIAL the 2-digit code

PRESS [ *Mic* ]

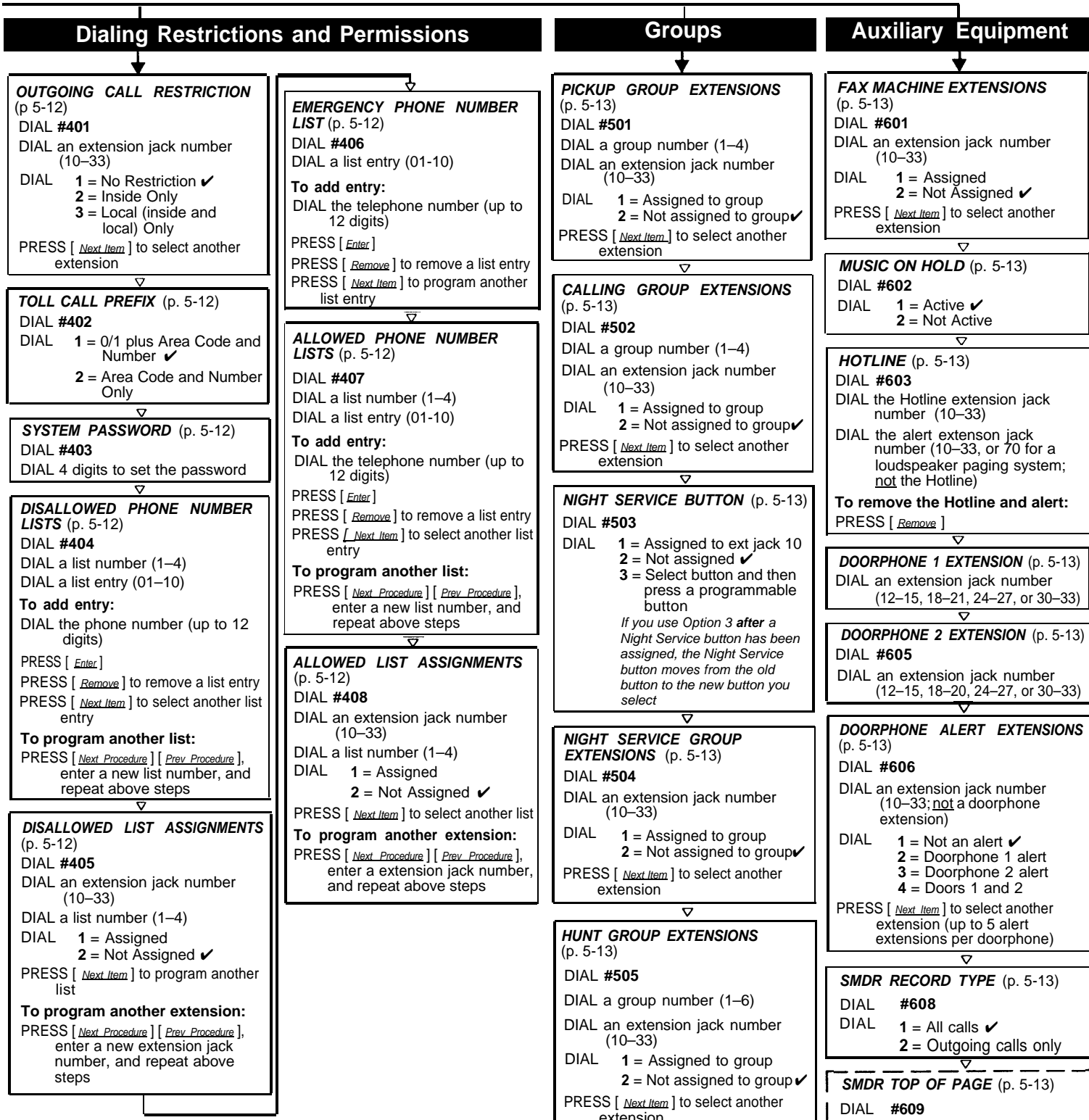
To leave programming mode

PRESS [ *Feature* ] [ *Q* ] [ *Q* ]



**IMPORTANT:** Using this procedure disconnects any active calls but retains equipment settings. Use it only if the equipment fails to function correctly after a power failure or down period.

DIAL #728



✓ = Factory Setting

518-455-330

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