AT&T 555-630-140
August 1994

# MERLIN LEGEND® Communications System Release 3.0

## Programming Summary

**AT&T 555-630-140**
**August 1994**

## Notice

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

See Appendix A, “Customer Support Information,” for important information.

## Security of Your System: Preventing Toll Fraud

As a customer of a new telephone system, you should be aware that there exists an increasing problem of telephone toll fraud. Telephone toll fraud can occur in many forms, despite the numerous efforts of telephone companies and telephone equipment manufacturers to control it. For important information regarding your system and toll fraud, see Appendix A, “Customer Support Information,”

## Federal Communications Commission Statement

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

## Canadian Department of Communications (DOC) Interference Information

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

Le Présent Appareil Numérique n’émet pas de bruits radioélectriques dépassant les limites applicable aux appareils numériques de la class A prescrites dans le Réglement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

## Trademarks

MERLIN, MERLIN LEGEND, ACCUNET, Multiquest and Magic On Hold are registered trademarks and AUDIX Voice Power, FAX Attendant System, HackerTracker, MERLIN MAIL and MLX-10 are trademarks of AT&T in the U.S. and other countries.

UNIX is a registered trademark of UNIX System Laboratories, Inc.

## Ordering Information

The ordering number for this document is 555-630-140. To order this document, call the AT&T Customer Information Center at 1-800-432-6600 (in Canada, 1-800-255-1242). For more information about AT&T documents, refer to the section entitled, “Related Documents” in “About This Book.” The Pocket Reference, listed in that section, provides full ordering information for replacement parts, accessories, and other compatible equipment; or, contact your AT&T representative.

## Support Telephone Number

In the continental US., 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 or using your system.

Outside the continental U. S., contact your local AT&T representative.

## Warranty

AT&T provides a limited warranty on this product. Refer to “Limited Warranty and Limitation of Liability” in Appendix A, “Customer Support Information.”

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

## IMPORTANT SAFETY INSTRUCTIONS

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

- Read and understand all instructions.
- Follow all warnings and instructions marked on or packed with the product.
- Never install telephone wiring during a lightning storm.
- Never install a telephone jack in a wet location unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone wiring has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Use only AT&T-manufactured MERLIN LEGEND Communications System circuit modules, carrier assemblies, and power units in the MERLIN LEGEND Communications System (511 A) control unit.
- Use only AT&T-recommended/approved MERLIN LEGEND Communications System accessories.
- If equipment connected to the analog station modules (008, 408, 408 GS/LS) or to the MLX telephone modules (008 MLX, 408 GS/LS-MLX) is to be used for in-range out-of-building (IROB) applications, IROB protectors are required.
- Do not install this product near water, for example, in a wet basement location.
- Do not overload wall outlets, as this can result in the risk of fire or electrical shock.

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

**WARNING:**

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

## SAVE THESE INSTRUCTIONS

# About This Book

The MERLIN LEGEND Communications System is an advanced digital switching system that integrates voice and data communications features. The system's power and versatility is due in part to its many options and features. This book is a reference, containing summaries of all the programming procedures you need to enable the system to function at peak efficiency. The material is presented in the order in which you would program a new system.

## Intended Audience

This book is intended for qualified service personnel and technicians. Additional information is available as follows:

- More detailed procedures for system programming, along with information on how to program on the system programming console and on a PC, can be found in *System Programming.*
- Complete instructions on using SPM can be found in *System Programming and Maintenance (SPM).*
- Detailed information about all of the features described here can be found in the *Feature Reference.*
- Detailed instructions on how to choose among the many options provided for each feature can be found in *System Planning.*

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

**In the U.S.A. only,** AT&T provides a toll-free customer Helpline (1-800-628-2888) 24 hours a day. Call the Helpline, or your AT&T representative, if you need assistance when installing, programming, or using your system.

# Terms and Conventions Used

In this document, the terms in the following list are used in preference to other, equally acceptable terms for describing communications systems.

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

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

| | |
|---|---|
| trunk module | line/trunk module |
| trunk jack | line/trunk jack |
| station | extension |
| station jack | extension jack |

| | |
|---|---|
| analog data station | modem data station |
| digital data station | 7500B data station |
| analog voice and analog data station | analog voice and modem data |
| digital voice and analog data station | MLX voice and modem data |
| analog data only station | modem data only station |
| digital data only station | 7500B data only station |
| digital voice and digital data station | MLX voice and 7500B data station |

## Typographical Conventions

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

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

### Product Safety Labels

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

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

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

## Security

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

Nondisplaying authorization codes and telephone numbers provide another layer of security. For more information, see Appendix A, “Customer Support Information.”

## Related Documents

In addition to this book, the documents listed below are part of the documentation set. Within the continental United States, these documents can be ordered from the AT&T Customer Information Center by calling 1-800-432-6600.

| Document No. | Title |
|---|---|
| | **System Documents** |
| 555-630-117 | *Introduction* |
| 555-630-118 | *System Manager's Guide* |
| 555-630-110 | *Feature Reference* |
| 555-630-115 | *Equipment and Operations Reference* |
| 555-630-116 | *Pocket Reference* |
| 555-630-111 | *System Programming* |
| 555-630-112 | *System Planning* |
| 555-630-113 | *System Planning Forms* |
| | **Telephone User Support** |
| 555-630-122 | *MLX-10D™, MLX-10DP™, MLX-28D™, and MLX-20L™ Display Telephones User's Guide* |
| 555-630-150 | *MLX-10D Display Telephone Tray Cards (5 cards)* |
| 555-630-153 | *MLX-28D and MLX-20L Telephone Tray Cards (5 cards)* |
| 555-630-124 | *MLX-10™ Nondisplay Telephone User's Guide* |
| 555-630-151 | *MLX-10 Nondisplay Telephone Tray Cards (6 cards)* |
| 555-630-120 | *Analog Multiline Telephones User's Guide* |
| 555-630-126 | *Single-Line Telephones User's Guide* |
| | **System Operator Support** |
| 555-630-134 | *MLX Direct-Line Consoles Operator's Guide* |
| 555-630-132 | *Analog Direct-Line Consoles Operator's Guide* |
| 555-630-136 | *MLX Queued Call Console Operator's Guide* |
| 555-630-138 | *MDC 9000 and MDW 900 Telephones User's Guide* |
| | **Miscellaneous User Support** |
| 555-630-130 | *Calling Group Supervisor's Guide* |
| 555-630-129 | *Data User's Guide* |
| | **Documentation for Qualified Technicians** |
| 555-630-140 | *Installation, Programming, & Maintenance (IP&M) Binder.* |

# How to Comment on This Document

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

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AT&T
211 Mount Airy Road
Room 2W226
Basking Ridge, NJ 07920.

# Programming Basics

# 1

This chapter covers the information you need to know before you begin system programming.

It describes the following:

- How to use the system programming console, buttons, and overlay
- Types of programming
- Programming summary contents
- Programming basics
- Programming menu options
- What system components require idle states for programming

# System Programming Console

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

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

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

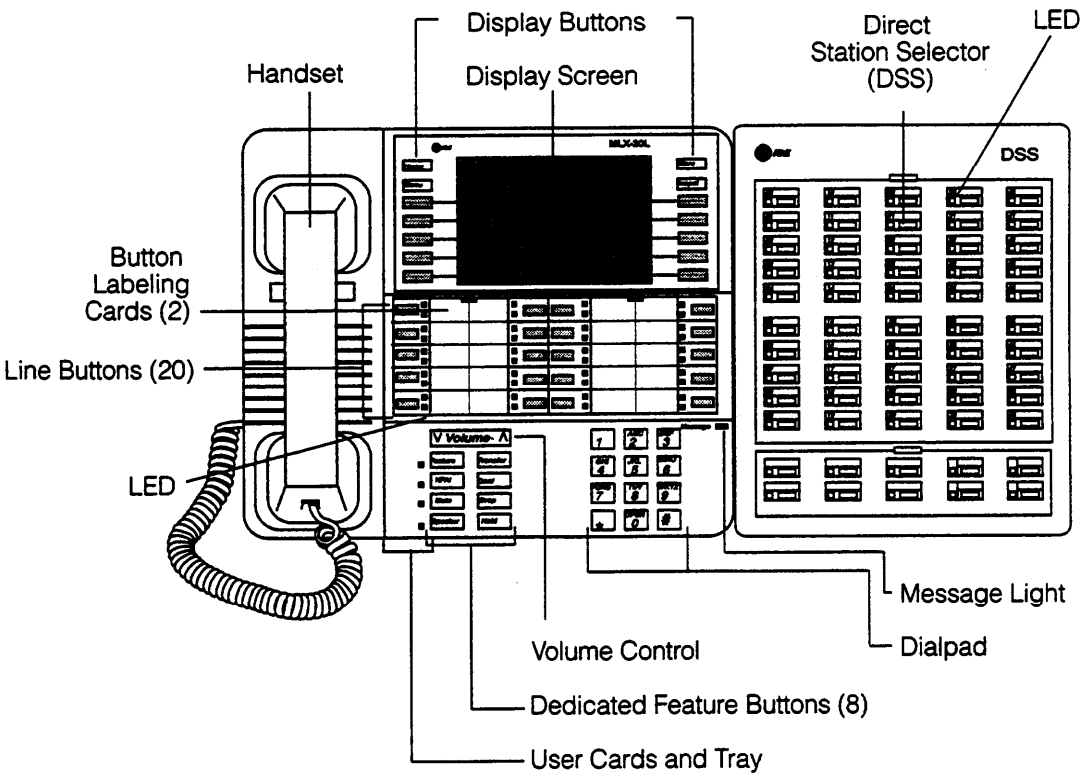



**Figure 1-1. MLX-20L Telephone with Direct Station Selector (DSS)**

## Console Buttons

System programming is performed using the console's 14 display-area buttons. These buttons are arranged in two columns of seven buttons. The top two buttons in each column have the same labels and functions regardless of the screen display. This type of button is called a *fixed display button.* Table 1-1 describes the functions of the fixed display buttons.

**Table 1-1. Fixed Display Buttons**

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

## Console Overlay

The programmable line buttons are on the main part of the console. There are actually 20 line buttons on the console, but you can use the console overlay to program up to 34 lines buttons through centralized telephone programming. Select **Page 1** to access line buttons 1 through 20 and **Page 2** to access line button 21 to 34. You can also use the dialpad for entering feature and programming codes.

Figure 1–2 illustrates the system console overlay.

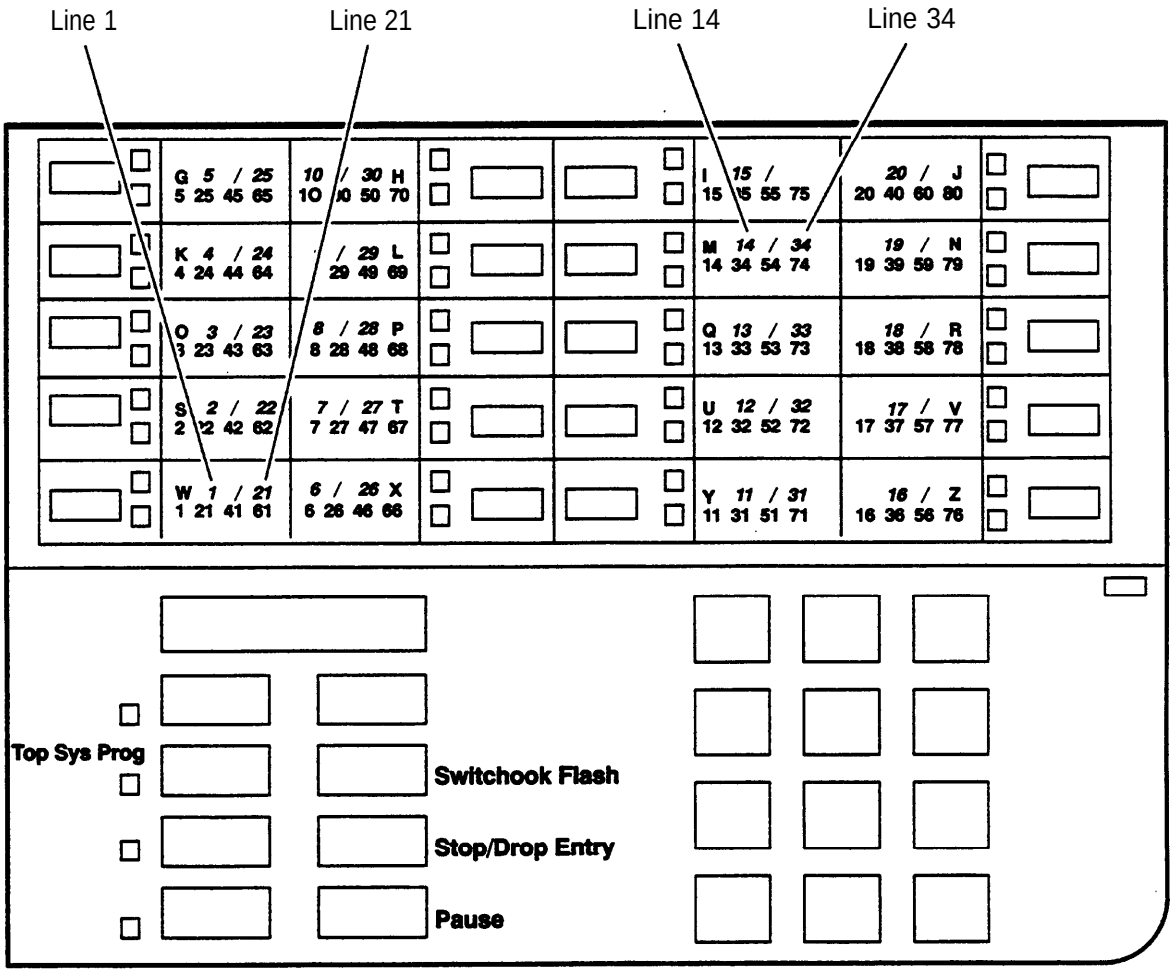



**Figure 1-2. Console Overlay**

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

# Programming Information

This section covers basic system programming information. See *System Programming* for more information.

## Types of Programming

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

- **System Programming.** This type of programming enables the system manager to program features that affect all or most system users, and requires one of the following:
  - — An MLX-20L™ telephone connected to one of the first five jacks of the first MLX module in the control unit.
  - — A PC with System Programming and Maintenance (SPM) software. SPM emulates a system programming console on your PC. The PC should be connected to the lower port (labeled ADMIN) on the processor module. A PC with a modem can perform system programming remotely through the public network or by connecting to a tip/ring extension jack (012 or 008 OPT module) on the communications system. A built-in modem in the processor allows the PC and the communications system to communicate.
- **Extension Programming.** This type of programming enables individual telephone users and system operators (except for QCC operators) to change their telephone features to meet individual needs. For details about extension programming, see the appropriate user and operator guides.

- **Centralized Telephone Programming.** This type of programming enables the system manager to program any feature that can be programmed by individual telephone users or system operators. Some features can be programmed only in centralized telephone programming. Centralized telephone programming can be done on the programming console or on a PC with the SPM software. See Chapter 5 in *System Programming.*

**NOTE:**
If your system has the AT&T Integrated Solution II or AT&T Integrated Solution III (IS II/III) UNIX® application, see Chapter 2 in *System Programming* for more information.

## Procedure Summary Contents

Each programming summary contains a general description of the feature and provides the following programming information.

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

## Programming Basics

To begin programming, do the following:

| | |
|---|---|
| On the console | Select **Menu** → **Sys Program** → **Exit:**<br>The System Programming menu is displayed. |
| On the PC | Type ***SPM*** → [Enter] → Press any key → [F1] → [F5]:<br>The System Programming menu is displayed. |

In most cases, to exit from a screen without making any changes, press **Exit** or [F5]. Exceptions are noted as part of a procedure.

Ordinarily you complete a procedure by pressing **Enter** ( [F10] ) to save the information you have programmed. Occasionally you press **Exit** ( [F5] ) and go back to the previous screen.

If you are programming sequentially numbered extensions or trunks, you may have the option of pressing **Next** ( [F8] ) to save your entry and automatically provide the number of the next extension or trunk in the sequence, thus saving you a couple of steps.

When you have completed a procedure, pressing **Exit** ( [F5] ) takes you up one screen in the menu hierarchy.

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

In a few cases, pressing **Exit** brings you back to the System Programming menu where you can select another option to program or exit from system programming.

**Table 1-2. Programming Menu Options**

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

### Exiting System Programming

Use the information in Table 1–3 to return to the System Programming menu, the main menu (Menu Mode screen), or to the Home screen from within a programming screen.

**Table 1-3. Exiting System Programming**

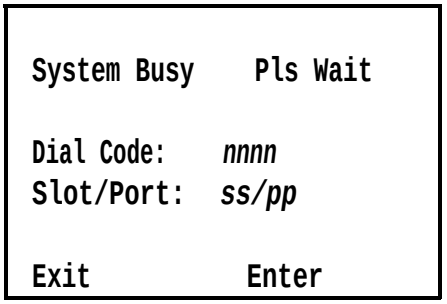
| To return to ... | On the console press: | On the PC press: |
|---|---|---|
| Previous menu | **Exit** | [F5] |
| Main Menu | **Menu** | [End] |
| Normal call handling | **Home** | [Home] |

# Idle States

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

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

If a procedure requires that the system be idle and the system is busy when you begin, you see the screen shown in Figure 1-3.




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

**Figure 1-3. System Busy Screen**

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

## System Forced Idle

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

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

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

## Line or Trunk Idle

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

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

## Extension Forced Idle

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

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

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

## 100D Module Idle

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

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

## Forced Idle Reminder Tones

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

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

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

# Basic System Operating Conditions

# 2

The procedures in this section are all related to the system rather than to the operation of telephones, operator positions, lines, or trunks. These are operating conditions that must be set only once, when the system is new, or when you reset the system defaults.

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

# System Restart

**CAUTION:**
*This procedure is for qualified support personnel only.*

Use this procedure to perform a System Restart (cold start). All calls are dropped when you perform this procedure. System programming is saved. Telephones with the Extension Status feature may lose toll restrictions as a result of a System Restart.

## Summary: System Restart

| | |
|---|---|
| Programmable by | Qualified support personnel |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Not applicable |
| Factory Setting | None |
| Valid Entries | None |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **System** → **Restart** → **Yes** |
| PC Procedure | [F1] → [F1] → [F1] |

# System Programming Position Assignment

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

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

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

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

## Summary: System Programming Position Assignment

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 1, System Planning |
| Factory Setting | First extension jack on the first MLX module (also set as an operator position) |
| Valid Entries | Extension number of one of the first five extension jacks on the first MLX module |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **System** → **SProg Port** → **Drop** → Dial ext. no. → **Enter** → **Exit** |
| PC Procedure | [F1] → [F2] → [Alt] + [P] → Type ext. no. → [F10] → [F5] |

# System Language

Your communications system offers you a choice of three languages (English, French, and Spanish) for the following options:

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

Use this procedure to set the system language. See the sections listed above to set a different language for an MLX display telephone, SMDR reports and printer reports.

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

## Summary: System Language

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 1, System Planning |
| Factory Setting | English |
| Valid Entries | English, French, Spanish |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **More** → **Language** → **SystemLang** → **Yes** → Select a language → **Enter** |
| PC Procedure | [PgUp] → [F6] → [F1] → [F3] → Select a language → [F10] |

# Board Renumbering

**CAUTION:**
*This procedure is to be performed by qualified support personnel only.*

Use this procedure to renumber boards that have already been installed. This procedure restarts the system (system programming is not lost). Note that this is not the same procedure used with the Boards option, which is available to qualified service personnel with SPM only.

## Summary: Board Renumbering

| | |
|---|---|
| Programmable by | Qualified support personnel only |
| Mode | All |
| Idle Condition | System idle |
| Planning Form | Not applicable |
| Factory Setting | None |
| Valid Entries | Not applicable |
| Inspect | Not applicable |
| Copy Option | Not applicable |
| Console Procedure | **System** → **Board Renum** → **Yes** |
| PC Procedure | [F1] → [F4] → [F2] |

# Mode of Operation

The system mode—Key, Behind Switch, or Hybrid/PBX—determines how the system operates and directly affects the following operations:

- How lines and/or trunks are provided to users
- Types of operator consoles allowed
- Features available

Changing this option causes a system restart and terminates the programming session. You must enter system programming again to program other features.

**NOTE:**
The Hybrid/PBX option is not available if the control unit processor module has been modified to operate in Permanent Key mode only. See the *Equipment and Operations Reference.*

The following options cannot be programmed for Behind Switch or Key mode systems:

- Automatic Route Selection (ARS)
- Pools
- Queued Call Consoles (QCCs) and associated features
- Direct Inward Dialing (DID) Trunks
- System Access buttons
- Dial Plan Routing (PRI)
- Call by Call Services

The Ground-Start trunks option cannot be programmed if the processor module has been modified for Permanent Key mode operation only.

## Summary: Mode of Operation

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | System idle |
| Planning Form | Form 1, System Planning |
| Factory Setting | Hybrid/PBX |
| Valid Entries | Key, Behind Switch, Hybrid/PBX |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **System** → **Mode** → Select mode → **Enter** |
| PC Procedure | [F1] → [F3] → Select mode → [F10] |

# Automatic Maintenance Busy

Automatic Maintenance Busy allows the system to take a malfunctioning trunk out of service for outgoing calls (incoming calls are never blocked). This prevents faulty outside facilities from causing disruptions in outgoing calling patterns.

For optimal performance, enable Automatic Maintenance Busy for Hybrid/PBX systems with pooled trunks.

**NOTE:**
No more than 50 percent of the trunks in a trunk pool are allowed to be placed in the maintenance busy state at one time unless: the central office has failed to disconnect a trunk (which prevents anyone from using that trunk); or an entire trunk module is manually taken out of use (a maintenance-busy state deliberately caused by the user).

## Summary: Automatic Maintenance Busy

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 1, System Planning |
| Factory Setting | Disabled |
| Valid Entries | Enabled, Disabled |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To disable Automatic Maintenance Busy:<br>**System → MaintenBusy → Disable → Enter → Exit**<br>To enable Automatic Maintenance Busy excluding tie trunks:<br>**System → MaintenBusy → Enable → Enter → Exit**<br>To enable/disable with tie trunks:<br>**System → MaintenBusy → Enable → Enter →**<br>**Enable** or **Disable → Enter → Exit** |
| PC Procedure | To disable Automatic Maintenance Busy:<br>[F1] → [F6] → [F2] → [F10] → [F5]<br>To enable Automatic Maintenance Busy excluding tie trunks:<br>[F1] → [F6] → [F1] → [F10] → [F5]<br>To enable/disable with tie trunks:<br>[F1] → [F6] → [F1] → [F10] → [F1] or [F2] → [F10] → [F5] |

# Set System Date

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

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

### Summary: Set System Date

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 1, System Planning |
| Factory Setting | 01-01-00 |
| Valid Entries | Month: 01 to 12<br>Day: 01 to 31<br>Year: 00 to 99 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **System** → **Date** → **Drop** → Dial current date → **Enter** → **Exit** |
| PC Procedure | [F1] → [F7] → [Alt] + [P] → Type current date → [F10] → [F5] |

# Set System Time

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

**NOTE:**
If you are planning to use the SMDR feature, make sure the system time is set accurately. If you change the system time while the system is in Night Service mode, Night Service is deactivated and must be manually reactivated. If you have installed applications such as Call Management System (CMS) or AUDIX Voice Power®, you may need to set the time in the applications software whenever you reset the system time.

## Summary: Set System Time

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not Required |
| Planning Form | Form 1, System Planning |
| Factory Setting | 0000 |
| Valid Entries | 0000 to 2359 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **System** → **Time** → **Drop** → Dial current time → **Enter** → **Exit** |
| PC Procedure | [F1] → [F8] → [Alt] + [P] → Type current time → [F10] → [F5] |

# System Renumbering

# 3

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

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

Do not attempt to assign a numbering plan without Planning Forms 2a, System Numbering: Extension Jacks; 2b, System Numbering: Digital Adjuncts; and 2d, System Numbering: Special Renumbers. Form 6a, Optional Operator Features, is needed to assign a DSS **Page** button.

This section contains the following programming procedures:

- Select System Numbering Plan
- Single Renumbering
- Block Renumbering
- Direct Station Selector (DSS) **Page** Button Assignment

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

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

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

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

# Select System Numbering Plan

**WARNING:**
*To avoid possible loss of system programming information, renumber the system before you program the rest of the options described in this chapter.*

The three available system numbering plans listed below appear on System Planning Form 2a.

- **2-Digit.** This plan is for systems with fewer than 50 extensions and no plans to exceed that number in the foreseeable future. Each of the first 58 extension jacks is assigned a 2-digit extension number, beginning with 10 and ending with 67. Any remaining extensions are assigned 4-digit numbers, starting with 6800 and ending with 6885.
- **3-Digit.** This plan is for systems with 50 or more extensions or plans to grow to that number in the foreseeable future. All extensions are assigned a 3-digit number, starting with 100 and ending with 243.
- **Set Up Space.** This plan is for systems with a need to customize extension numbers or use extension numbers of varying lengths (one to four digits). All extensions are assigned 4-digit numbers in the 7000 range. Extension numbers 1000 through 6999 are also available for use when you renumber.

In all three numbering plans, the system assigns 3-digit extension numbers to pools (Hybrid/PBX only), calling groups, paging groups, remote access codes, the Listed Directory Number, park codes, and Idle Line Access (Key and Behind Switch modes). In addition, the system assigns 9 for Automatic Route Selection (Hybrid/PBX only) and Idle Line Access (Key and Behind Switch modes only). Zero (0) represents a special extension number—actually a fixed dial code—for the primary operator or QCC queue. Any extension number except 0 can be renumbered.

Extension numbers can be composed of any combination of digits; however, no number can begin with 0. Trunk numbers (801 to 880) are considered to . be extensions and can be renumbered.

The system does not provide a message to indicate a successful renumber when either the 2-digit or 3-digit numbering plan is selected. For the Set Up Space numbering plan, the system provides a message indicating that all extensions are in the 7000 range.

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

## Summary: Select System Numbering Plan

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | System idle |
| Planning Form | Form 2a, System Numbering: Extension Jacks |
| Factory Setting | 2-digit |
| Valid Entries | 2-digit, 3-digit, Set Up Space |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **SysRenumber** → **Default Numbering** → Select numbering plan → **Exit** → **Exit** |
| PC Procedure | [F2] → [F1] → Select numbering plan → [F5] → [F5] |

# Single Renumbering

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

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

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

## Summary: Single Renumbering

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | System idle |
| Planning Form | Form 2a, System Numbering: Extension Jacks<br>Form 2b, System Numbering: Digital Adjuncts<br>Form 2d, System Numbering: Special Renumbers |
| Factory Setting | Not applicable |
| Valid Entries | Old and new extension numbers |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **SysRenumber** → **Single** → Select item → Dial old ext. no. → **Enter** → Dial new ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F2] → [F2] → Select item → Type old ext. no. → [F10] → Type new ext. no. → [F10] → [F5] → [F5] |

# Block Renumbering

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

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

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

## Summary: Block Renumbering

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | System idle |
| Planning Form | Form 2a, System Numbering: Extension Jacks<br>Form 2b, System Numbering: Digital Adjuncts<br>Form 2d, System Numbering: Special Renumbers |
| Factory Setting | Not applicable |
| Valid Entries | Old and new extension numbers |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | **SysRenumber** → **Block** → Select type of group → Dial no. of first group member → **Enter** → Dial no. of last group member → **Enter** → Dial new beginning no. → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F2] → [F3] → Select type of group → Type no. of first group member → [F10] → Type no. of last group member → [F10] → Type new beginning no. → [F10] → [F5] → [F5] → [F5] |

# Direct Station Selector (DSS) Page Buttons

Use this procedure to set the three **Page** buttons on the DSS to correspond to the system numbering plan. This procedure assigns extension numbers to DSS buttons. You cannot program individual buttons on a DSS; this is the only method for programming DSS buttons.

**Page** button assignment should be sequential. If only one DSS is attached, each **Page** button assignment sets the console for a range of 50 extension numbers: Page 1: 0 to 49; Page 2: 50 to 99; Page 3: 100 to 149.

If two DSSs are attached, each **Page** button assignment sets the console for a range of 100 extension numbers. If two DSSs are attached to the console, change the factory setting so that the difference between extension numbers assigned to the range is at least 100. For example, assign Page 1 to begin with extension 10, Page 2 to begin with extension 110, and Page 3 to begin with extension 210.

Operator Park Zone codes must be included in the extension number range specified for one of the **Page** buttons.

**CAUTION:**
*Select* **`Exit`** *on the console or* [F5] *on the PC when you have finished this procedure. If you press* **Home,** *extensions may remain in the forced idle condition (the LED next to each DSS button is on), and the system may have to be restarted.*

## Summary: Assign Direct Station Selector Page Buttons

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | Page 1=0; Page 2=50; Page 3=100 |
| Valid Entries | 1, 2, 3 |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **SysRenumber** → **Single** → **More** → **DSS Buttons** → Dial page no. → **Enter** → Dial first ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F2] → [F2] → [PgUp] → [F1] → Type page no. → [F10] → Type first ext. no. → [F10] → [F5] → [F5] |

# System Operator Positions

# 4

A system operator position, for a Queued Call Console (QCC) operator or a Direct-Line Console (DLC) operator, should be programmed before you program lines or trunks.

The Queued Call Console (QCC) operator position is available only for Hybrid/PBX systems. The Direct-Line Console (DLC) operator position is available in any mode and must be programmed if you have Call Management Systems connected to any operator extension jacks.

Table 4-1 shows the maximum number of operator positions allowed for any one system.

**Table 4-1. Maximum Number of Operator Positions**

| Position Type | Type of Telephone | Maximum Positions |
|---|---|---|
| QCC | MLX-20L | 4 |
| DLC | MLX-20L | 8 |
| | MLX-28D | |
| | Analog multiline telephones | |
| | MERLIN II Display Consoles | |
| Total QCC + DLC | | 8 |

Any combination of operator positions can be assigned as long as no more than four operator positions are QCCs and the total number of operator positions does not exceed eight.

If you want to designate a new operator position and the system already has the maximum number of operator positions, you must change an existing operator position to a nonoperator position before you designate a new operator position.

**NOTE:**
When you change an extension to an operator position, or vice versa, the system returns the port (extension jack) type of that extension to the factory setting. You must reprogram lines and any features for that telephone or console. You may also need to change any attached accessory equipment and optional features.

## Primary Operator Positions

The primary operator position is the extension to which your call is directed when 0 is dialed on a System Access button. The first extension jack on the first MLX module in your system is assigned as the primary operator position. If your system has QCC operator positions, this position must be changed from the factory setting (DLC) to a QCC operator position. (The primary operator extension cannot be changed from the first extension on the first MLX module.)

## QCC Operator Position

The QCC operator position is available only for Hybrid/PBX systems. The DLC operator position is available in any mode and must be programmed if you have Call Management Systems connected to any operator extension jacks. QCC System Operator Positions.

This procedure applies to Hybrid/PBX systems only.

**IMPORTANT:**
*If you want to add or remove QCC operator positions, the following conditions apply:*

- *If other QCC positions remain in your system, the primary QCC operator position cannot be removed.*
- *When QCC operator positions are added, the primary QCC operator position should be the first one added.*
- *If QCC operator positions are being removed, the primary QCC operator position must be the last one removed.*

## Summary: QCC Operator Positions

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | System idle |
| Planning Form | Form 2a, System Numbering: Extension Jacks |
| Factory Setting | Type: DLC |
| Valid Entries | First or fifth extension jack on MLX module (maximum: two per module; maximum: four QCCs per system) |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Operator** → **Positions** → **Queued Call** → Dial ext.no. → **Enter** → **Store All** |
| PC Procedure | [F3] → [F1] → [F2] → Type ext. no. → [F10] → [F3] |

# DLC Operator Positions

DLC operator positions can be assigned to the first and fifth extension jacks on the first modules with digital or analog multiline extension jacks. A maximum of eight DLC operator positions can be assigned. Any combination of operator positions can be assigned as long as there are no more than four QCC operator positions and no more than a total of eight operator positions.

Use this procedure to specify extensions that serve as central answering positions for all incoming calls, for Call Management Systems (CMSs) connected to operator extension jacks, or as calling group supervisor extensions. (You do not need to use this procedure in a Key or Behind Switch system unless you have more than one DLC position.) For a new system, remove the factory-set DLC operator position assignment for any telephone not used as an operator position.

Lines and trunks are assigned on individual buttons.

The system programming console can have several incoming calls ringing simultaneously.

Each CMS requires two DLC operator positions to connect the equipment and one position to serve as CMS supervisor.

## Summary: Identify or Remove DLC Operator Positions

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | System idle |
| Planning Form | Form 2a, System Numbering: Extension Jacks |
| Factory Setting | Type: DLC |
| Valid Entries | First or fifth extension jack on MLX module (maximum: two per module; maximum: eight DLCs per system) |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Operator** → **Positions** → **Direct Line** → Dial ext. no. → **Enter** → **Store All** |
| PC Procedure | [F3] → [F1] → [F1] → Type ext. no. → [F10] → [F3] |

# Lines and Trunks

# 5

The procedures in this section are used to assign optional features to individual lines and trunks. The following optional features can be assigned:

- Type of Trunk
- Outmode Signaling for Loop- or Ground-Start Trunks
- Rotary Trunk Digit Transfer
- Disconnect Signaling Reliability
- Toll Type
- Hold Disconnect Interval
- Principal User for Personal Line
- QCC Queue Priority
- QCC Operator to Receive Calls
- Incoming Call Line Identification Delay
- Trunks to Pools Assignment

The Copy Options feature (described at the end of this section) allows you to copy several optional features from an idle trunk. This option eliminates the need to individually enter each feature.

Separate sections cover “DS1 Facilities,” “Tie Trunks,” “DID Trunks,” and “PRI Facilities.”

A slot is the physical location of the individual module on the control unit. There is a maximum of 17 slots which are numbered as follows:

- Basic carrier: slots 1 through 5
- First expansion carrier: slots 6 through 11
- Second expansion carrier: slots 12 through 17

A port is a line or trunk jack on the module. Individual modules support different numbers of ports. On any module, port 1 is the lowest physical jack position. Lines connect equipment to the switch and trunks connect a switch to a switch. Lines and trunks have logical IDs, a unique numeric identifier for each extension and trunk jack in the communications system control unit. Lines are numbered from 1 to 144, while trunks are numbered from 801 to 880. An MLX extension port has 2 logical IDs per 1 physical jack.

# Type of Trunk

Use this procedure to specify the type of trunk, loop-start (LS) or ground-start (GS), for each outside trunk connected to one of the following modules:

- 400 GS/LS
- 408 GS/LS
- 800 GS/LS
- 408 GS/LS-MLX
- 800 GS/LS-ID (loop-start trunks only)

Any combination of trunk types (all loop-start, all ground-start, or some of each) is permissible.

This procedure is not used for a system registered with a KF registration number (Key or Behind Switch). Ground-start trunks are allowed only for systems with an MF (Hybrid) or PF (PBX) registration number.

## Summary: Type of Trunk

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | All loop-start |
| Valid Entries | All Ground, All Loop, Ground-Start, Loop-Start |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | **LinesTrunks** → **LS/GS/DS1** → Dial slot no. → **Enter** → Select trunk type → Dial port no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F1] → Type slot no. → [F10] → Select trunk type → Type port no. → [F10] → [F5] → [F5] |

# Outmode Signaling for Loop- or Ground-Start Trunks

Use this procedure to identify either touch-tone signaling or rotary-dial signaling for outgoing calls placed by using the specified loop- or ground-start trunk.

**NOTE:**
Since the factory setting is touch-tone, this procedure is not required if your system has only touch-tone lines/trunks.

## Summary: Outmode Signaling for Loop- or Ground-Start Trunks

| | |
|---|---|
| Programmable by | System manager |
| Mode | Loop-Start: All; Ground-Start: Hybrid/PBX only: |
| Idle Condition | Not required |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | Touch-tone |
| Valid Entries | Touch-tone, Rotary |
| Inspect | No |
| Copy Option | Yes |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **TT/LS Disc** → **Outmode** → Select entry mode → Dial no. of the line/trunk → **Enter** → **Exit** → **Exit** → **Exit**<br><br>To program a block of lines/trunks:<br>**LinesTrunks** → **TT/LS Disc** → **OutMode** → Select block of lines/trunks → Toggle LED On/Off → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F4] → [F3] → [F1] → [F6] → Type no. of the line/trunk → [F10] → [F5] → [F5] → [F5]<br><br>To program a block of lines/trunks:<br>[F4] → [F3] → [F1] → Select block of lines/trunks → Toggle letter **G** On/Off → [F10] → [F5] → [F5] → [F5] |

# Rotary Trunk Digit Transfer

Use this procedure to designate whether dialed digits on rotary dial lines/trunks are sent one by one as they are dialed (no delay), or are stored and sent when dialing is completed (delay). Contact your service provider for more information about the appropriate setting.

### Summary: Rotary Trunk Digit Transfer

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | No Delay |
| Valid Entries | Delay, No Delay |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **More** → **Rotary** → Select option → **Enter** → **Exit** |
| PC Procedure | [F7] → [PgUp] → [F4] → Select option → [F10] → [F5] |

# Disconnect Signaling Reliability

Use this procedure to classify the disconnect signal sent by the central office on loop-start trunks as one of the following:

- **Reliable.** Signal sent within a short time.
- **Unreliable.** Signal may not be provided.

The setting selected applies to all trunks in the system because trunks cannot be programmed individually. The reliable/unreliable setting does not apply to loop-start trunks emulated on a T1 facility. If you specify a reliable disconnect for trunks programmed with a short hold disconnect interval (see "Hold Disconnect Interval"), active calls as well as trunks on hold maybe disconnected. For more information about reliable and unreliable disconnect and its implications, see the *Feature Reference.*

**NOTE:**
Certain features (Remote Call Forwarding and Transfer to outside numbers) and applications (CMS, AUDIX Voice Power, and MERLIN MAIL®) are not recommended with loop-start trunks. See "Hold Disconnect Interval."

## Summary: Disconnect Signaling Reliability

| | |
|---|---|
| Programmable by | System manager, Integrated Administration |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | Unreliable |
| Valid Entries | Unreliable, Reliable |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **TT/LS Disc** → **LS Disconnect** → **Yes** or **No** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F3] → [F2] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Toll Type

Use this procedure to specify whether users have to dial a toll prefix (1 or 0) before dialing an area code and telephone number. (Your local telephone company should verify toll prefix requirements for each line/trunk.)

This setting is used by the system to classify calls as local or long distance so that appropriate toll restrictions can be applied.

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

## Summary: Toll Type

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | Toll prefix required |
| Valid Entries | Required, Not required |
| Inspect | No |
| Copy Option | Yes |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **Toll Type** → Select entry mode → Dial no. of the line/trunk → **Enter** → **Exit** → **Exit** → **Exit**<br>To program a block of lines/trunks:<br>**LinesTrunks** → **Toll Type** → Select block of lines/trunks → Toggle LED On/Off → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F4] → [F10] → [F6] → Type no. of the line/trunk → [F10] → [F5] → [F5] → [F5]<br>To program a block of lines/trunks:<br>[F4] → [F10] → Select block of lines/trunk → Toggle letter **G** On/Off → [F10] → [F5] → [F5] → [F5] |

# Hold Disconnect Interval

Use this procedure to specify the number of milliseconds before a loop-start line/trunk is released when a caller on hold hangs up and abandons the call. This can be specified as either a long interval (450 ms) or a short interval (50 ms). The hold disconnect interval applies to loop-start trunks connected to 400, 408, or 800 modules; it does not apply to emulated loop-start trunks (T1 facility).

**NOTES**

1. If the disconnect interval is longer than the telephone company setting, the line is not released when a caller on hold hangs up.
2. Do not program a short interval unless the local telephone company's central office is the crossbar type.
3. Do not program a reliable disconnect for lines/trunks with a short hold disconnect interval. This can cause active calls as well as the lines/trunks on hold to be disconnected. See "Disconnect Signaling Reliability."

For more information on Hold Interval Disconnect and Reliable and Unreliable Disconnect, see the *Feature Reference.*

## Summary: Hold Disconnect Interval

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | Long interval (450 ms) |
| Valid Entries | Long interval, Short interval |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **More** → **HoldDiscnct** → Select entry mode → Dial no. of the line/trunk → **Enter** → **Exit** → **Exit**<br>To program a block of lines/trunks:<br>**LinesTrunks** → **More** → **HoldDiscnct** → Select block of lines/trunks → Toggle LED On/Off → **Enter** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F4] → [PgUp] → [F1] → [F6] → Type no. of the line/trunk → [F10] → [F5] → [F5]<br>To program a block of lines/trunks:<br>[F4] → [PgUp] → [F1] → Select block of lines/trunks → Toggle letter **G** On/Off → [F10] → [F5] → [F5] |

# Principal User for Personal Line

Use this procedure to assign or remove one telephone as principal user for a personal line. When a telephone with Remote Call Forwarding activated is assigned as principal user, calls received on the personal line are forwarded to an outside telephone number. In addition, calls received on that line are sent to that telephone's individual and/or Group Coverage receivers unless the personal line button is set to No Ring.

The principal user assignment must be removed before the trunk can be removed from a button on the telephone.

When no principal user is assigned for a personal line, calls received on the personal line are not forwarded to outside telephone numbers; calls received on the personal line follow the coverage patterns for all users who share the line.

## Summary: Principal User for Personal Line

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 4d, MLX Telephone<br>Form 4e, MFM Adjunct: MLX telephone<br>Form 4f, Tip/Ring Equipment<br>Form 5a, Direct-Line Console (DLC): Analog<br>Form 5b, Direct-Line Console (DLC): Digital<br>Form 5c, MFM Adjunct: DLC |
| Factory Setting | No principal user |
| Valid Entries | Not applicable |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **More** → **PrncipalUsr** → Dial line/trunk no. → **Enter** → Dial ext. no. → **Enter Õ Exit** → **Exit** |
| PC Procedure | [F4] → [PgUp] → [F2] → Type line/trunk no. → [F10] → Type ext. no. → [F10] → [F5] → [F5] |

# QCC Queue Priority Level

Use this procedure to assign QCC queue priority level values (1 to 7) to each loop-start, ground-start, and automatic-in tie trunk in your system. The value assigned determines the order in which calls are sent to the QCC operator positions. Call priority 1 is the highest priority, and 7 is the lowest priority.

**NOTE:**
This procedure applies to Hybrid/PBX mode only in a system that includes QCC operator positions.

## Summary: QCC Queue Priority Level

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | 4 |
| Valid Entries | 1 to 7 |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **More** → **QCC Prior** → Dial priority level → **Enter** → Select entry mode → Dial trunk no. → **Enter** → **Exit** → **Exit**<br>To program a block of lines/trunks:<br>**LinesTrunks** → **More** → **QCC Prior** → Dial priority level → **Enter** → Select block of lines → Toggle LED On/Off → **Enter** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F4] → [PgUp] → [F3] → Type priority level → Select entry mode → Type trunk no. → [F10] → [F5] → [F5]<br>To program a block of lines/trunks:<br>[F4] → [PgUp] → [F3] → Type priority level → [F10] → Select block of lines → Toggle letter **G** On/Off → [F10] → [F5] → [F5] |

# QCC Operator to Receive Calls

Use this procedure to specify whether or not incoming calls on each line/trunk ring into the QCC queue, and to identify the QCC system operator positions that receive incoming calls on each line/trunk.

**NOTES:**

1. This procedure applies to Hybrid/PBX mode only in a system that includes QCC operator positions.
2. Each ground-start, loop-start, or automatic-in tie trunk programmed to ring into the QCC queue can be associated with one or more QCC operator positions.
3. If a trunk assigned to ring into the QCC queue is also used for shared remote access, see “Remote Access Trunk Assignment.” You must assign remote access before you assign a QCC system operator to receive calls (see “QCC Operator to Receive Call Types.”)
4. Do not change the factory setting of a QCC Operator Assigned to Receive Calls for trunks dedicated to incoming calls for calling groups, trunks used as personal lines, DID trunks, unequipped DS1 trunks, or dial-in tie trunks.

## Summary: QCC Operator to Receive Calls

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | No QCC operator is assigned to receive calls. |
| Valid Entries | Extension number of first or fifth extension jack |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **More** → **QCC Oper** → Dial ext. no. → **Enter** → Select entry mode → Dial line/trunk no. → **Enter** → **Enter** → **Enter**<br>To program a block of lines/trunks:<br>**LinesTrunks** → **More** → **QCC Oper** → Dial ext. no. → **Enter** → Select block of lines/trunks → Toggle LED On/Off → **Enter** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F4] → [PgUp] → [F4] → Type ext. no. → [F10] → [F6] → Type line/trunk no. → [F10] → [F5] → [F5]<br>To program a block of lines/trunks:<br>[F4] → [PgUp] → [F4] → Type ext. no. → [F10] → Select block of lines/trunks → Toggle letter **G** On/Off → [F10] → [F5] → [F5] |

# Incoming Call Line Identification (ICLID) Delay

Use this procedure to delay the alerting (ringing) of LS-ID calls to all extensions until approximately six seconds have elapsed since the port module informed the system software that the line was ringing, or the system software has been informed that ICLID information is available, whichever comes first.

This option can be programmed on a per trunk basis. It gives the appearance to the users that the ICLID information is available the moment the call arrives at the extension, and prevents applications or adjuncts from answering the call too soon.

The LS-ID Delay option appears on the Ground-Start/Loop-Start Trunk Information report.

Any extension or adjunct that answers an incoming CO line on the first ring causes the ICLID information associated with the call to be lost. The adjunct . must be programmed to either answer the call on the second (or later) ring, or the call must be delayed. The call can be delayed by setting the ring option on the buttons associated with the adjunct or by using the LS-ID Delay option.

**NOTE:**
Caller ID is available only on loop-start lines/trunks.

## Summary: Incoming Call Line Identification (ICLID) Delay

| | |
|---|---|
| Programmable by | System manager |
| Mode | AH |
| Idle Condition | Not required |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | No delay |
| Valid Entries | Trunk numbers |
| Inspect | Yes |
| Copy Option | Yes, but only to the same trunk type |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **More** → **LS-ID Delay** → Select entry mode → Dial no. of the line/trunk → **Enter** → **Exit** → **Exit**<br>To program a block of lines/trunks:<br>**LinesTrunks** → **More** → **LS-ID Delay** → Select block of lines/trunks → Toggle LED On/Off → **Enter** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F4] → [PgUp] → [F6] → Type no. of the line/trunk → [F10] → [F5] → [F5]<br>To program a block of lines/trunks:<br>[F4] → [PgUp] → [F6] → Select block of lines/trunks → Toggle letter **G** On/Off → [F10] → [F5] → [F5] |

# Trunks to Pools Assignment

Use this procedure to create trunk pools (groups of outside lines/trunks connected to the system). Trunk pools are used to specify preferred routes for Automatic Route Selection (ARS). In addition, trunk pools enable users to select a line/trunk by dialing a pool dial-out code or by pressing a single button on the telephone. (A separate button for each line/trunk is not needed.) Each pool should contain trunks of the same type (for example, loop- or ground-start or WATS); however, ground- and loop-start trunks of the same type can be included in the same pool. Ground-start trunks must be manually assigned. A maximum of 11 trunk pools are allowed. A trunk can be assigned to only one pool.

Do not mix different service areas of WATS (Wide Area Telecommunications Service) trunks or FX (Foreign Exchange) lines to different cities. Do not include both incoming only and outgoing only lines/trunks in a pool.

If you want to reassign a line/trunk to a different pool, you must remove it from the current pool before you assign it to the new pool. Once you assign a line/trunk to a pool, it can be assigned to a button only on a direct-line console operator position; individual lines intended for personal use on telephones other than the DLC console should not be assigned to pools.

DID trunks cannot be grouped in pools. Loop-start are automatically placed in pools and must be removed manually if used for paging loudspeakers, Music on Hold, or maintenance alarms.

Dial-in tie trunks should not be grouped in pools if you intend to assign **Pool** buttons on telephones.

If you are using Automatic Route Selection, the main pool (factory-set dial-out code 70) must contain loop- or ground-start trunks.

The system provides an error tone when a line/trunk is in use or if a loudspeaker paging system, Music on Hold, or maintenance alarm is already assigned; however, the system does not indicate the reason for the error tone.

**NOTE:**
This procedure applies to Hybrid/PBX mode only.

## Summary: Trunks to Pools Assignment

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Trunk idle |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | All loop-start trunks are assigned to the main trunk pool (factory-set extension number 70); all tie trunks are assigned to the trunk pool with the factory-set extension number 891; no factory-set extensions numbers are assigned to ground-start trunks. |
| Valid Entries | Line numbers |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **Pools** → Dial pool dial-out code → Select entry mode → Dial no. of the line/trunk → **Enter** → **Exit** → **Exit**<br><br>To program a block of lines/trunks:<br>**LinesTrunks** → **Pools** → Dial pool dial-out code → Select block of lines/trunks → Toggle LED On/Off → **Enter** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F4] → [F9] → Type pool dial-out code → [F10] → [F6] → Type no. of the line/trunk → [F10] → [F5] → [F5]<br><br>To program a block of lines/trunks:<br>[F4] → [F9] → Type pool dial-out code → [F10] → Select block of lines/trunks → Toggle letter **R** On/Off → [F10] → [F5] → [F5] |

# Copy Options for Lines/Trunks

Use this procedure to copy options assigned to loop-start or ground-start trunks, Tie trunks, or DID trunks. Note that many of these options apply to Hybrid/PBX systems only. The following information is copied for each line/trunk type:

- **Loop-Start or Ground-Start Trunks** (including those emulated on T1 facilities). Toll type, signaling type, and trunk pool assignment (Hybrid/PBX only.)
- **Tie Trunks.** Direction, Tie trunk type, E&M signal, dial mode, dial tone, answer supervision time, disconnect time, and trunk pool assignment (Hybrid/PBX only).
- **DID Trunks** (Hybrid/PBX only). Block assignment and disconnect time.

To find out whether there is an optional feature assigned that you would like to copy, use **Inspct** from the system programming console or [PgDn] on a PC.

**NOTES:**

1. You can copy options to a block of lines/trunks only if they are all the same type (loop-start, ground-start, Tie, or DID). If you attempt to copy assignments and there is mismatch in line/trunk type, information is copied to that point only. You receive no error message.
2. If you are copying options to a block of lines/trunks, they must be sequentially numbered.
3. If the block you are copying to includes an invalid line/trunk type, the copying process stops at the invalid type. Only the lines/trunks that were copied to before the invalid type was found are copied successfully.

4. If you are copying assignments to a block of lines/trunks and one of the lines or trunks is in use, you see the message **Trunk Busy - Pls wait** on your display. The copying for the rest of the lines/trunks in the block is delayed until the busy line/trunk becomes idle. If you exit without waiting for the copying to complete, the copying done up to that point is not canceled.

## Summary: Copy Options for Lines/Trunks

| | |
|---|---|
| Programmable by | System manager |
| Mode | All (but note differences) |
| Idle Condition | Not required |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks<br>Form 3c, Incoming Trunks: TIE<br>Form 3d, Incoming Trunks: DID |
| Factory Setting | Not applicable |
| Valid Entries | Not applicable |
| Inspect | No |
| Copy Option | Not applicable |
| Console Procedure | To copy individual lines/trunks:<br>**LinesTrunks** → **Copy** → **Single** → Dial copy from trunk no. → **Enter** → Dial copy to trunk no. → **Enter** → **Exit** → **Exit** → **Exit**<br><br>To copy blocks of lines/trunks:<br>**LinesTrunks** → **Copy** → **Block** → Dial copy from trunk no. → **Enter** → Dial first copy to trunk no. in block → **Enter** → Dial last copy to trunk no. in block → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | To copy individual lines/trunks:<br>[F4] → [F7] → [F1] → Type copy to trunk no. → [F10] → Type copy from trunk no. → [F10] → [F5] → [F5] → [F5]<br><br>To copy blocks of lines/trunks:<br>[F4] → [F7] → [F2] → Type copy from trunk no. → Type first copy to trunk no. in block → [F10] → [F5] → Type last copy to trunk no. in block → [F10] → [F5] → [F5] → [F5] |

# DS1 Facilities

# 6

Use the procedures in this section to program the following options for DS1 facilities (T1 or PRI) connected to a 100D (DS1) module:

- Type of DS1 facility
  - — T1
  - — PRI
- Frame Format
- Zero Code Suppression
- Signaling Mode
- Line Compensation
- Clock Synchronization
- Channel Service Unit

# Type of DS1 Facility

Use this procedure to specify the type of facility (T1 or PRI) connected to a 100D (DS1) module. If T1 type is programmed, and the channels are used for emulation and/or AT&T Switched Network (ASN), you must specify the type of channel emulation. If the type is T1 and the type of channel emulation is tie trunk, you must specify the transmit/receive loss parameter settings are also selected. The two valid settings are as follows:

- **TIE-PBX.** Select when emulated tie trunks are used to connect to another communications system (such as PBX or Centrex). The transmit/receive parameter is set to 0/4.
- **Toll.** Select when emulated tie trunks are used for ASN services (such as Megacom®, Megacom 800, or Software Defined Network). The transmit/receive parameter is set to 0/6.

If you select T1, channels can emulate ground-or loop-start trunks, tie trunks, or DID trunks in any combination. Note that unused channels must be specified as unequipped.

If either T1 or PRI is selected, channels can be used for ASN services. When T1 channels are used for ASN services, each channel must be programmed for tie trunk emulation.

If you select PRI, you must also perform additional procedures. At a minimum, the Framing Mode and Zero Code Suppression procedures must be performed. See “PRI Facilities” for more information.

## Summary: Type of DS1 Facility

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | 100D module idle |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks<br>Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | T1 |
| Valid Entries | T1, PRI |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | To select PRI:<br>**LinesTrunks** → **LS/GS/DS1** → Dial slot no. → **Enter** → **Type** → **PRI** → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**<br><br>To select T1: All Ground, All Loop, All DID, All Unequip:<br>**LinesTrunks** → **LS/GS/DS1** → Dial slot no. → **Enter** → **Type** → **T1** → **Enter** → **More** → Select type of emulation → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**<br><br>To select T1 - Tie:<br>**LinesTrunks** → **LS/GS/DS1** → Dial slot no. → **Enter** → **Type** → **T1** → **Enter** → **TIE-PBX** or **Toll** → **Enter** → Dial channel no. → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**<br><br>To select T1: Ground-Start, Loop-Start, All Tie, DID, or Unequip:<br>**LinesTrunks** → **LS/GS/DS1** → Dial slot no. → **Enter** → **Type** → **T1** → **Enter** → **More** → Select type of emulation → **Enter** → Dial channel no. → **Enter** → **Exit** → **Exit** → **Exit** → **Exit** |

PC Procedure

To select PRI:

[F4] → [F1] → Type slot no. → [F10] → [F1] → [F2] → [F10] → [F5] → [F5] → [F5] → [F5]

To select T1: All Ground, All Loop, All DID, All Unequip:

[F4] → [F1] → Type slot no. → [F10] → [F1] → [F1] Õ [F10] → [PgUp] → Select type of emulation → [F10] → [F5] → [F5] → [F5] → [F5]

To select T1 - Tie:

[F4] → [F1] → Type slot no. → [F10] → [F1] → [F1] → [F10] → Select facility → [F10] → Type channel no. → [F10] → [F5] → [F5] → [F5] → [F5]

To select T1: Ground-Start, Loop-Start, All Tie, DID or Unequip:

[F4] → [F10] → Type slot no. → [F10] → [F1] → [F1] → [F10] → [PgUp] → Select type of emulation → [F10] → Type channel no. → [F10] → [F5] → [F5] → [F5] → [F5]

# Frame Format

Use this procedure to specify the framing format for the 100D module as D4-compatible or Extended Superframe. Your selection must match the framing mode at the far end of the DS1 facility.

### Summary: Frame Format

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | 100D module idle |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | D4 compatible |
| Valid Entries | D4, ESF |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **LS/GS/DS1** → Dial slot no. → **Enter** → **FrameFormat** → Select format type → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F1] → Type slot no. → [F10] → [F2] → Select format type → [F10] → [F1] → [F5] |

# Zero Code Suppression

Use this procedure to specify zero code suppression for the 100D module as AMI zero code suppression (AMI-ZCS) or bipolar 8 zero suppression (B8ZS). Your selection must match the suppression at the far end of the DS1 facility.

## Summary: Zero Code Suppression

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | 100D module idle |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | AMI-ZCS |
| Valid Entries | AMI-ZCS, B8ZS |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks Õ LS/GS/DS1 Õ** Dial slot no. **Õ Enter Õ Suppression Õ AMI-ZCS** or **B8ZS Õ Enter Õ Exit Õ Exit** |
| PC Procedure | [F4] → [F1] → Type slot no. → [F10] → [F3] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Signaling Mode

Use this procedure to specify the signaling for the 100D module as robbed-bit or common-channel signaling.

**NOTE:**
This procedure is needed only for T1 facilities; common-channel signaling is set automatically for PRI facilities.

## Summary: Signaling Mode

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | 100D module idle |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | Robbed bit |
| Valid Entries | Robbed Bit, Common Channel |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **LS/GS/DS1** → Dial slot no. → **Enter** → **Signaling** → Select type of signaling → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F1] → Type slot no. → [F10] → [F4] → Select type of signaling → [F10] → [F5] → [F5] |

# Line Compensation

Use this procedure to specify the amount of cable loss in decibels. Cable loss is based on the length of cable between the 100D module and the Channel Service Unit, as shown below:

- 1 = 0.6 dB loss
- 2 = 1.2 dB loss
- 3 = 1.8 dB loss
- 4 = 2.4 dB loss
- 5 = 3.0 dB loss

### Summary: Line Compensation

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | 100D module idle |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | 1 (0.6 dB loss) |
| Valid Entries | 1 to 5 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **LS/GS/DS1** → Dial slot no. → **Enter** → **Line Comp** → **Drop** → Dial line compensation value → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F1] → Type slot no. → [F10] → [F6] → [Alt] + [P] → Type line compensation value → [F10] → [F5] → [F5] |

# Clock Synchronization

Use this procedure to specify the modules that provide primary, secondary, and tertiary clock synchronization. (Contact your service provider for more information about the appropriate setting.) You can also specify whether the clock is synchronized to the external endpoint (loop) or to the clock reference source (local). This procedure is also used to activate or deactivate the clock.

**NOTE:**
This procedure is necessary only if your system includes more than one 100D module.

## Summary: Clock Synchronization

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | Primary clock: the first 100D module in the control unit carrier; source: loop; activation: active |
| Valid Entries | Primary, Secondary, Tertiary, Loop/Local |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **LS/GS/DS1** → Dial slot no. → **Enter** → **ClockSync** → **Priority** → Select clock synchronization → **Enter** → **Source** → Select source of synchronization → **Enter** → **Activation** → Select clock activation → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F1] → Type slot no. → [F10] → [F7] → [F1] → Select clock synchronization → [F10] → [F2] → Select source of synchronization → [F10] → [F3] → Select clock activation → [F10] → [F5] → [F5] → [F5] |

# Channel Service Unit

Use this procedure to specify the type of equipment provided by the local telephone company as foreign exchange or special access.

**NOTE:**
You do not need to use this procedure unless your system emulates loop-start or ground-start with the T1 type of DS1 facility.

## Summary: Channel Service Unit

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | 100D module idle |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | Foreign Exchange |
| Valid Entries | Foreign Exchange, Special Access |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **LS/GS/DS1** → Dial slot no. → **Enter** → **ChannelUnit** → **Foreign Exchange** or **Special Access** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F1] → Type slot no. → [F10] → [F8] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Tie Trunks

# 7

This section covers programming procedures for the following tie trunk options:

- Direction
- Trunk Seizure Type
- E&M Signal
- Dial Mode
- Trunk Dial Tone
- Trunk Answer Supervision Time
- Disconnect Time

# Direction

Use this procedure to specify whether tie trunks operate in a one-or two-way direction. For one-way tie trunks, you must also specify whether the direction is out or in.

### Summary: Direction

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Tie trunk idle |
| Planning Form | Form 3c, Incoming Trunks: Tie |
| Factory Setting | Two-way |
| Valid Entries | Two-way, Outgoing, Incoming |
| Inspect | No |
| Copy Option | Yes |
| Console Procedure | **LinesTrunks** → **TIE Lines** → **Direction** → Dial trunk no. → **Enter** → Specify direction → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F2] → [F1] → Type trunk no. → [F10] → Specify direction → [F10] → [F5] → [F5] |

# Tie Trunk Seizure Type

Use this procedure to specify whether the seizure type of incoming or outgoing tie trunk is wink, delay, immediate, or automatic.

The following settings are recommended when T1 facilities are programmed for tie-trunk emulation to provide special network services [such as Megacom, Megacom 800, or Software Defined Network (SDN)]:

- If Automatic Route Selection (ARS) is used for all outgoing calls and no personal line or **Pool** buttons are used, assign the wink signaling type. Set the network to wink.
- If personal line or **Pool** buttons (pool or dial-out codes) are used for outgoing calls, assign the immediate signaling type. Set the network to dial. Contact your service provider for more information about the dial setting.
- If Dialed Number Identification Service (DNIS) is used for incoming calls, assign the wink signaling type. The network is also set to wink. (Setting both ends to immediate also works.) Contact your service provider for more information about the appropriate setting.
- When DNIS is not used for incoming calls, assign the automatic signaling type. The network is set to automatic.

## Summary: Tie Trunk Type

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Tie trunk idle |
| Planning Form | Form 3c, Incoming Trunks: Tie |
| Factory Setting | Wink |
| Valid Entries | Wink, Delay, Immediate, Automatic |
| Inspect | No |
| Copy Option | Yes |
| Console Procedure | **LinesTrunks** → **TIE Lines** → **Intype** or **Outtype** → Dial trunk no. → **Enter** → Specify seizure type → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F2] → [F2] or [F3] → Type trunk no. → [F10] → Specify seizure type → [F10] → [F5] → [F5] |

# E&M Signal

Use this procedure to specify the type of tie trunk signal, as follows:

- E&M Mode
  - **1S.** Type 1 Standard. Tie trunks that are connected through the local telephone company.
  - **1C.** Type 1 Compatible. Tie trunks that are connected directly to a system that uses 1S signaling.
- Simplex Mode
  - **5.** Type 5 Simplex. Tie trunks that are connected to a system using type 5 signaling.

## Summary: E&M Signal

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Tie trunk idle |
| Planning Form | Form 3c, Incoming Trunks: Tie |
| Factory Setting | 1S |
| Valid Entries | 1S, 1C, 5 |
| Inspect | No |
| Copy Option | Yes |
| Console Procedure | **LinesTrunks** → **TIE Lines** → **E&M Signal** → Dial trunk no. → **Enter** → Specify signaling type → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F2] → [F4] → Type trunk no. → [F10] → Specify signaling type → [F10] → [F5] → [F5] |

# Dial Mode

Use this procedure to specify whether an incoming or outgoing tie trunk is touch-tone or rotary.

Touch-tone cannot be programmed for incoming immediate signaling tie trunks. Users of touch-tone single-line telephones cannot make calls by using individual trunks programmed for rotary operation. The touch-tone signals generated from the telephone while dialing are transmitted to the central office at the same time the rotary signals are sent to the system. The central office receives both signals and cannot process the call.

### Summary: Dial Mode

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3c, Incoming Trunks: Tie |
| Factory Setting | Rotary |
| Valid Entries | Rotary, Touch-tone |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **TIE Lines** → **Inmode** or **Outmode** → **Entry Mode** → Dial line/trunk no. → **Enter** or **Delete** → **Exit** → **Exit** → **Exit**<br>To program a block of lines/trunks:<br>**LinesTrunks** → **TIE Lines** → **Inmode** or **Outmode** → Select block of lines → Toggle LED On/Off → **Exit** → **Exit** → **Exit** |

PC Procedure

To program a single line/trunk:

[F4] → [F2] → [F6] or [F7] → [F6] → Type line/trunk no. → [F10] or [F8] → [F5] → [F5] → [F5]

To program a block of lines/trunks:

[F4] → [F2] → [F6] or [F7] → Select block of lines → Toggle letter **G** On/Off → [F5] → [F5] → [F5]

# Tie Trunk Dial Tone

Use this procedure to specify whether the system provides dial tone for people calling in on a tie trunk. Settings are remote (system provides dial tone) and local (system does not provide dial tone).

## Summary: Tie Trunk Dial Tone

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3c, Incoming Trunks: Tie |
| Factory Setting | Remote |
| Valid Entries | Remote, Local |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **TIE Lines** → **Dialtone** → **Entry Mode** → Dial trunk no. → **Enter** or **Delete** → **Exit** → **Exit** → **Exit**<br>To program a block of lines/trunks:<br>**LinesTrunks** → **TIE Lines** → **Dialtone** → Select block of lines/trunks → Toggle LED On/Off → **Exit** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F4] → [F2] → [F8] → [F6] → Type trunk no. → [F10] or [F8] → [F5] → [F5]<br>To program a block of lines/trunks:<br>[F4] → [F2] → [F8] → Select block of lines → Toggle letter **G** On/Off → [F5] → [F5] → [F5] |

# Tie Trunk Answer Supervision Time

Use this procedure to specify the tie trunk answer supervision time in milliseconds. This is the time limit for the called system to respond.

## Summary: Tie Trunk Answer Supervision Time

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3c, Incoming Trunks: Tie |
| Factory Setting | 300 ms |
| Valid Entries | 20 to 4800 ms, in increments of 20 ms |
| Inspect | No |
| Copy Option | Yes |
| Console Procedure | **LinesTrunks** → **TIE Lines** → **AnsSupvr** → Dial trunk no. → **Enter** → **Drop** → Dial no. of ms → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F2] → [F9] → Type trunk no. → [F10] → [Alt] + [P] → Type no. of ms → [F10] → [F5] → [F5] |

# Disconnect Time

Use this procedure to specify the tie trunk disconnect time limit in milliseconds.

### Summary: Disconnect Time

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3c, Incoming Trunks: Tie |
| Factory Setting | 300 ms |
| Valid Entries | 140 to 2400 ms |
| Inspect | No |
| Copy Option | Yes |
| Console Procedure | **LinesTrunks** → **TIE Lines** → **Disconnect** → Dial trunk no. → **Enter** → **Drop** → Dial no. of ms → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F2] → [F10] → Type trunk no. → [F10] → [Alt] + [P] → Type no. of ms → [F10] → [F5] → [F5] |

# DID Trunks

# 8

This section covers programming DID trunks and includes procedures for the following:

- Block Assignment
- DID Trunk Type
- Disconnect Time
- Expected Digits
- Delete Digits
- Add Digits
- Signaling
- Invalid Destination

**NOTE:**
These procedures apply to Hybrid/PBX mode only.

# Block Assignment

Use this procedure to assign each DID trunk connected to the system to either Block 1 or Block 2.

### Summary: Block Assignment

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3d, Incoming Trunks: DID |
| Factory Setting | Block 1 |
| Valid Entries | Block 1, Block 2 |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **DID** → **Block** → Dial trunk block no. → **Enter** → **Entry Mode** → Type the line/trunk no. → **Enter** or **Delete** → **Exit** → **Exit** → **Exit**<br><br>To program a block of lines/trunks:<br>**LinesTrunks** → **DID** → **Block** → Dial trunk block no. → **Enter** → Select trunk lines → Toggle LED On/Off → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F4] → [F4] → [F1] → Type trunk block no. → [F10] → Type the line/trunk no. → [F10] or [F8] → [F5] → [F5] → [F5]<br><br>To program a block of lines/trunks:<br>[F4] → [F4] → [F1] → Type trunk block no. → [F10] → Select trunk lines → Toggle letter **G** On/Off → [F10] → [F5] → [F5] → [F5] |

# DID Trunk Type

Use this procedure to specify the DID trunk type as either immediate-start or wink-start. Wink-start is more reliable if the local telephone company supports it.

### Summary: DID Trunk Type

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | DID trunk idle |
| Planning Form | Form 3d, Incoming Trunks: DID |
| Factory Setting | Wink-start |
| Valid Entries | Immediate-start, Wink-start |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **DID** → **Type** → Dial trunk block no. → **Enter** → **Immed** or **Wink** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F4] → [F2] → Type trunk block no. → [F10] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Disconnect Time

Use this procedure to specify the DID trunk disconnect time limit in milliseconds.

### Summary: Disconnect Time

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3d, Incoming Trunks: DID |
| Factory Setting | 500 ms |
| Valid Entries | 10 to 2400 ms, in increments of 10 ms |
| Inspect | No |
| Copy Option | Yes |
| Console Procedure | **LinesTrunks** → **DID** → **Disconnect** → Dial trunk no. → **Enter** → **Drop** → Dial no. of ms → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F4] → [F3] → Type trunk no. → [F10] → [Alt] + [P] → Type no. of ms → [F10] → [F5] → [F5] |

# Expected Digits

Use this procedure to tell the system how many digits are sent by the local telephone company.

### Summary: Expected Digits

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3d, Incoming Trunks: DID |
| Factory Setting | 3 digits |
| Valid Entries | 1 to 4 digits |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **DID** → **ExpectDigit** → Dial trunk block no. → **Enter** → **Drop** → Dial no. of digits → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F4] → [F4] → Type trunk block no. → [F10] → [Alt] + [P] → Type no. of digits → [F10] → [F5] → [F5] |

# Delete Digits

Use this procedure to specify the number of leading digits to be deleted from the digits sent by the local telephone company. Use this procedure when the number of digits sent by the telephone company is greater than the number in the system numbering plan.

## Summary: Delete Digits

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3d, Incoming Trunks: DID |
| Factory Setting | 0 digits |
| Valid Entries | 0 to 4 digits |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **DID** → **DeleteDigit** → Dial trunk block no. → **Enter** → **Drop** → Dial no. of digits → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F4] → [F6] → Type trunk block no. → [Alt] + [P] → Type no. of digits → [F10] → [F5] → [F5] |

# Add Digits

Use this procedure to specify the number of leading digits that must be added to the digits sent by the local telephone company. Use this procedure when the number of digits sent by the telephone company is fewer than the number in the system numbering plan.

### Summary: Add Digits

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3d, Incoming Trunks: DID |
| Factory Setting | 0 |
| Valid Entries | 1 to 9999 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **DID** → **Add Digits** → Dial trunk block no. → **Enter** → **Drop** → Dial added digits → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F4] → [F7] → Type trunk block no. → [Alt] + [P] → Type added digits → [F10] → [F5] → [F5] |

# Signaling

Use this procedure to specify whether the type of dialing signal from the local telephone company is touch-tone or rotary. Touch-tone dial mode cannot be programmed for immediate-start DID trunks.

Touch-tone single-line telephone users cannot make calls by using individual trunks programmed for rotary operation. The touch-tone signals generated from the telephone while dialing are transmitted to the central office at the same time the rotary signals are sent to the system. The central office receives both signals and cannot process the call.

## Summary: Signaling

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not Required |
| Planning Form | Form 3d, incoming Trunks: DID |
| Factory Setting | Rotary |
| Valid Entries | Rotary, Touch-tone |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **DID** → **Signaling** → Dial trunk block no. → **Enter** → **Rotary** or **TouchTone** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F4] → [F8] → Type trunk block no. → [F10] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Invalid Destination

Use this procedure to specify whereto direct outside calls (received on DID trunks) for unassigned extension numbers. Calls can be directed to a backup position (normally the primary system operator) or given a fast busy signal. See “QCC Operator to Receive Call Types” in Chapter 13 for information on assigning a backup position.

### Summary: Invalid Destination

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3d, incoming Trunks: DID |
| Factory Setting | Backup (calls are sent to the primary system operator) |
| Valid Entries | Backup, Fast Busy |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **DID** → **InvalDstn** → **Send to Backup Extension** or **Return Fast Busy** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F4] → [F9] → [F1] or [F2] → [F10] → [F5] → [F5] |

# PRI Facilities

# 9

The procedures in this section provide the steps for programming the following options for Primary Rate Interface (PRI) facilities connected to a 100D (DS1) module:

- Telephone Number
- B-Channel Groups
- Network Service
- Copy Telephone Number to Send
- Incoming Routing
- Telephone Number to Send
- Test Telephone Number
- Timers and Counters
- Terminal Equipment Identifier
- Dial Plan Routing
- Outgoing Tables
- Network Selection Tables
- Special Services Tables
- Call-by-Call Service Table

**NOTE:**
If you are adding PRI facilities to an existing system, certain values must be set correctly. To inspect or change these values, see “DS1 Facilities.” Do not start these procedures until you have checked the following:

- Type of DS1 Facility must be set to PRI.
- Frame format must be specified correctly.
- Zero code suppression must be specified correctly.
- Clock synchronization source must be set to loop (derived from the T1 line).

The settings for frame format and zero-code suppression must be consistent with the options selected when the PRI connection was ordered.

If you are using ARS in connection with PRI, make sure you select voice, data, or voice and data, as appropriate, when you perform the ARS “Voice and/or Data Routing” procedure found in “Automatic Route Selection.”

# Telephone Number

Use this procedure to assign a string of up to 12 digits to each PRI channel. This string must match the number sent by the network (that is, the number provided by the PRI service provider) to indicate the number dialed by an outside caller. The system uses this number to route the call to the correct destination, which means that the number assigned to each channel in the same B-channel group must be unique. Note also that the number cannot be the same as the associated test telephone number.

## Summary: Telephone Number

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX, Key |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | No digits |
| Valid Entries | Up to 12 digits (any combination of 0 to 9) |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **PRI** → **PhoneNumber** → Dial trunk no. → **Enter** → **Drop** → Dial telephone no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F6] → [F1] → Type trunk no. → [F10] → [Alt] + [P] → Type telephone no. → [F10] → [F5] → [F5] |

# B-Channel Groups

Use this procedure to perform the following:

- Assign B-channels to a group.
- Associate individual ISDN channels (that can place and receive calls) on the B-channels in each group.

B-channels are partitioned into trunk groups when PRI service is ordered. The trunk groups defined when service is ordered must match the B-channel groups defined when MERLIN LEGEND is programmed.

Each B-channel can be assigned to only one group, and each ISDN channel can be associated with only one group. Up to 80 B-channel groups can be established.

Each group can contain up to 23 channels; however, all channels assigned must signal through the same D-channel (that is, must be connected to the same 100D module).

B-channels must be assigned in the order of system search (through the group) for an available channel. To minimize call attempts on the same line or trunk, arrange B-channels in the opposite order of the hunting arrangement provided by the network service provider.

B-channels must be identified by control unit slot and port numbers since they are not associated with a line/trunk number or a logical ID.

PRI B-channel groups programmed for line routing perform similarly to loop-start trunks. PRI B-channel groups programmed for dial plan routing perform similarly to DID trunks.

**NOTE:**
If more lines than B-channels are assigned to a B-channel group, users may experience situations where a line that is idle is not able to seize a B-channel. The user will receive a fast busy tone.

## Summary: B-Channel Groups

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX, Key |
| Idle Condition | Not required |
| Planning Form | Form 3b, incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | Not applicable |
| Valid Entries | Group numbers (1 to 80) |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | To program a single line/trunk:<br>**LinesTrunks** → **PRI** → **B-ChannlGrp** → **B Channels** → Dial group no. → **Enter** → Dial B-channel slot and port no. → **Enter** → **Lines** → Dial group no. → **Enter** → **Entry Mode** → Dial line/trunk no. → **Enter** → **Exit** → **Exit** → **Exit**<br><br>To program a block of lines/trunks:<br>**LinesTrunks** → **PRI** → **B-ChannlGrp** → **B Channels** → Dial group no. → **Enter** → Dial B-channel slot and port no. → **Enter** → **Lines** → Dial group no. → **Enter** → Select specific lines/trunks → Toggle LED On/Off → **Exit** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F4] → [F6] → [F2] → [F1] → Type group no → Type B-channel slot and port nos. → [F5] → Type group no. → [F10] → [F6] → Type line/trunk no. → [F10] → [F5] → [F5] → [F5]<br>To program a block of lines/trunks:<br>[F4] → [F6] → [F2] → [F1] → Type group no → Type B-channel slot and port nos. → [F5] → Type group no. → [F10] → Select specific lines/trunks → Toggle letter **G** On/Off → [F5] → [F5] → [F5] |

# Network Service

Use this procedure to specify the type of outgoing service provided by each B-channel group (Megacom WATS and 800, MultiQuest® Service, ACCUNET® Switched Digital Service (SDS), or Software Defined Network (SDN).

**NOTE:**
You can enter a service not shown on the Network Service screen by using the five-digit binary code that represents the service in the Network Facilities Information Element of ISDN PRI signaling protocol. For information on these codes, contact your service provider. See "Miscellaneous Procedure."

## Summary: Network Service

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX, Key |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | Not applicable |
| Valid Entries | AT&T Toll, Local, Miscellaneous |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **PRI** → **B-ChannlGrp** → **NetworkServ** → Dial group no. → **Enter** → Specify network service → **Enter** → **Exit** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F6] → [F2] → [F3] → Type group no. → [F10] → Specify network service → [F10] → [F5] → [F5] → [F5] → [F5] |

# Copy Telephone Number to Send

Use this procedure to indicate whether or not the telephone number to send to the network (for calls going out over ISDN lines assigned to a B-channel group) is copied from the number assigned to that channel.

Select **Do not Copy Phone Number** when a telephone number to send is assigned to each channel in the B-channel group or when no telephone number is to be sent to the network. In the latter case, make sure that there are no telephone numbers assigned to any channels in the B-channel group by using the "Telephone Number to Send" procedure.

## Summary: Copy Telephone Number to Send

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX, Key |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity |
| Factory Setting | Do not copy |
| Valid Entries | Do not copy, Copy |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **PRI** → **B ChannlGrp** → **Copy Number** → Dial group no. → **Enter** → Specify copy or no copy → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F6] → [F2] → [F4] → Type group no. → [F10] → Specify copy or no copy → [F10] → [F5] → [F5] → [F5] |

# Incoming Routing

Use this procedure to specify whether incoming routing is by line appearance or according to dial plan. Dial Plan Routing is available in Hybrid/PBX mode only.

### Summary: Incoming Routing

| | |
|---|---|
| Programmable by | System manager |
| Mode | Line appearance: Hybrid/PBX, Key; Dial Plan Routing: Hybrid/PBX Only |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | Line appearance |
| Valid Entries | Dial Plan Routing, Routing by Line Appearance |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **PRI** → **B-ChannlGrp** → **Incoming Rtg** → Dial B-channel group no. → **Enter** → Specify method of routing → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F6] → [F2] → [F6] → Type B-Channel group no. → [F10] → Specify method of routing → [F10] → [F5] → [F5] → [F5] |

# Telephone Number to Send

Use this procedure to assign the telephone number to send to the network when outgoing calls are made on an ISDN line. If the person being called subscribes to an automatic number identification service, the number indicates who is calling.

The number assigned to each channel does not have to be unique because it is not used for routing.

## Summary: Telephone Number to Send

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | No digits are assigned |
| Valid Entries | Up to 12 digits (any combination of 0 to 9) |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **PRI** → **NumbrToSend** → Specify type of no. → **Enter** → **Drop** → Dial base no. → **Enter** → Dial line no. → **Enter** → **Drop** → Dial telephone no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F6] → [F3] → Specify type of no. → [F10] → [Alt] + [P] → Type base no. → [F10] → [Alt] + [P] → Type telephone no. → [F10] → [F5] → [F5] |

# Test Telephone Number

Use this procedure to assign a test line or trunk telephone number for each 100D module installed in the control unit.

The number assigned to the test line/trunk must be different from the numbers assigned to other channels in the same B-channel group. It must be the same number as that provided by the PRI service provider.

## Summary: Test Telephone Number

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX, Key |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | Not applicable |
| Valid Entries | Telephone number of up to 12 digits |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **PRI** → **Test TelNum** → Dial slot no. → **Enter** → **Drop** → Dial telephone no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F6] → [F4] → Type slot no. → [F10] → [Alt] + [P] → Type telephone no. → [F10] → [F5] → [F5] |

# Timers and Counters

Use this procedure to set timer and counter thresholds.

**CAUTION:**
*The factory settings for these thresholds are standard and rarely need to be changed. If you are not sure of the correct timer and threshold settings for your PRI lines and trunks, check with your authorized support representative before you make a change. Incorrect settings can cause your PRI lines and trunks to malfunction.*

If the network does not respond before the programmed time or count, the system takes the appropriate corrective action.

The timers and counters are listed below.

- **T200 Timer.** Times the delay in the link layer acknowledgement of a message sent from the system to the network over a D-channel.
- **T203 Timer.** Times the interval between each exchange of messages between the system and the network on the D-channel.
- **N200 Counter.** Counts the number of times the system has transmitted a message on a D-channel because no link layer acknowledgement is received from the network.
- **N201 Counter.** Counts the maximum number of layer three octets the system can send or receive in a single D-channel message.
- **K Counter.** Counts the number of layer three unacknowledged messages sent from the system to the network on a D-channel.
- **T303 Timer.** Times the delay in network response when the system sends a setup message to initiate an outgoing call.
- **T305 Timer.** Times the delay in network response when the system sends a disconnect message to clear a call.

- **T308 Timer.** Times the delay in network response when the system sends a release message to clear a call.
- **T309 Timer.** Times the duration of a D-channel data link failure (a loss of signaling for the entire PRI connection).
- **T310 Timer.** Times the network delay following the receipt of a call preceding message on an outgoing call.
- **T313 Timer.** Times the delay in network response when the system sends a connect message that indicates the completion of an incoming call.
- **T316 Timer.** Times the delay in network response when the system sends a restart message to clear a B-channel.

**NOTE:**
If you enter an invalid timer value, the number you enter is truncated to the closest valid value. For example, if you enter 45 for a counter that ranges from 0 to 30, 4 is recorded as the counter value.

Table 9-1 shows the factory setting for each timer and counter and the valid range for each threshold.

## Summary: Timers and Counters

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | See Table 9-1 |
| Valid Entries | See Table 9-1 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **PRI** → **Protocol** → **Timers** → Dial slot no. → **Enter** → Select timer/counter → **Drop** → Dial no. of ms/octets/and so on → **Enter** → **Exit** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F6] → [F6] → [F1] → Type slot no. → [F10] → Select timer/counter → [Alt] + [P] → Type no. of ms/octets/and so on → [F10] → [F5] → [F5] → [F5] → [F5] |

**Table 9-1. Timers and Counters**

| Timer/Counter | Purpose | Factory Setting | Valid Range |
|---|---|---|---|
| T200 Timer | Maximum response time | 1 second | 1000 to 3000 ms |
| T203 Timer | Maximum time | 30 seconds | 1 to 60 seconds |
| N200 Counter | Maximum transmissions | 3 transmissions | 1 to 5 transmissions |
| N201 Counter | Maximum octets | 260 octets | 16 to 260 octets |
| K Counter | Maximum outstanding I-frames | 7 frames | 1 to 15 frames |
| T303 Timer | Set up timeout | 4 seconds | 4 to 12 seconds |
| T305 Timer | Disconnect timeout | 4 seconds | 4 to 30 seconds |
| T308 Timer | Release timeout | 4 seconds | 4 to 12 seconds |
| T309 Timer | Signal loss | 90 seconds | 30 to 120 seconds |
| T310 Timer | Call Proc. timeout | 10 seconds | 2 to 10 seconds |
| T313 Timer | Connect timeout | 4 seconds | 4 to 12 seconds |
| T316 Timer | Restart timeout | 120 seconds | 30 to 120 seconds |

# Terminal Equipment Identifier

Use this procedure to assign the link layer address of a piece of equipment connected to each D-channel. Normally, only one piece is connected and the system assumes that the Terminal Equipment Identifier (TEI) is 0.

**CAUTION:**
*The value of the TEI rarely has to be changed. Check with your authorized support representative before changing this value.*

## Summary: Terminal Equipment Identifier

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | 0 |
| Valid Entries | 0 to 63 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **PRI** → **Protocol** → **TEI** → Dial slot no. → **Enter** → **Drop** → Dial new ID no. → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F6] → [F6] → [F2] → Type slot no. → [F10] → [Alt] + [P] → Type new ID no. → [F10] → [F5] → [F5] → [F5] |

# Dial Plan Routing

Dial plan routing provides a way to route incoming calls on a “per B-channel group” basis. An incoming call is routed by matching the incoming number (by service, number of digits, and pattern) and then optionally deleting and/or adding digits to direct the call to a specific endpoint. A service must be specified; the number of digits and pattern are optional. For example, you can specify that calls received from a particular area code should be routed to the specific individual or group responsible for accounts in that area.

Dial plan routing is available in Hybrid/PBX mode only. Key systems route incoming calls on a per-line basis.

**NOTE:**
You can enter a service not shown on the Network Service screen by using the five-digit binary code that represents the service in the Network Facilities Information Element of ISDN PRI layer three signaling protocol. ( Contact your service provider for more information about the codes.) See “Miscellaneous Procedures.”

**IMPORTANT:**
You must program a service before you program any other Dial Plan Routing function. If you have not programmed a service, complete the procedure below for the **`Service`** option and then repeat the procedure for each optional function that you want to program.

## Summary: Dial Plan Routing

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | Service: empty; Patterns: blank; Total Digits: 0; Delete Digits: 0; Add Digits: 0 |
| Valid Entries | Service: Toll, Local, Miscellaneous<br>Entries: 0-15<br>Digits per Pattern: 0-8<br>Total Digits: 1-14<br>Delete Digits: 0-14, 0=wildcard<br>Add Digits: 0-4 (valid digits: 0-9) |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To specify Service:<br>LinesTrunks → PRI → DialPlanRtg → Service → Dial entry no. → Enter → Select service → Exit → Exit → Exit<br><br>To specify Patterns:<br>LinesTrunks → PRI → DialPlanRtg → Patterns → Dial entry no. → Enter → **Drop** → Dial pattern → Enter → Exit → Exit → Exit<br><br>To specify Total Digits:<br>LinesTrunks → PRI → DialPlanRtg → Total Digits → Dial entry no. → Enter → **Drop** → Dial digits → Enter → Exit → Exit → Exit<br><br>To specify Delete Digits:<br>LinesTrunks → PRI → DialPlanRtg → Delete Digits → Dial entry no. → Enter → **Drop** → Dial delete digits → Enter → Exit → Exit → Exit |

To specify Add Digits:
**LinesTrunks** → **PRI** → **DialPlanRtg** → **Add Digits** → Dial entry no. → **Enter** → **Drop** → Dial add digits → **Enter** → **Exit** → **Exit** → **Exit**

PC Procedure

To specify Service:
[F4] → [F6] → [F7] → [F2] → Type entry no. → [F10] → Select service → [F10] → [F5] → [F5] → [F5]

To specify Patterns:
[F4] → [F6] → [F7] → [F2] Type entry no. → [F10] → [Alt] + [P] → Type pattern → [F10] → [F5] → [F5] → [F5]

To specify Total Digits:
[F4] → [F6] → [F7] → [F3] Type entry no. → [F10] → [Alt] + [P] → Type digits → [F10] → [F5] → [F5] → [F5]

To specify Delete Digits:
[F4] → [F6] → [F7] → [F4] Type entry no. → [F10] → [Alt] + [P] → Type delete digits → [F10] → [F5] → [F5] → [F5]

To specify Add Digits:
[F4] → [F6] → [F7] → [F5] Type entry no. → [F10] → [Alt] + [P] → Type add digits → [F10] → [F5] → [F5] → [F5]

# Outgoing Tables

PRI provides tables that work in conjunction with personal lines, pools, and ARS tables to route calls. The following tables specify services for outgoing calls:

- **Call-by-Call.** Selects an outgoing service, based on routing digits and the bearer capability (voice, data, or both) of the calling extension. It allows a single group of B-channels to carry a variety of services, such as ACCUNET, SDN, and Megacom WATS.
- **Network Selection.** Selects a long-distance carrier. Calls that match Network Selection tables can be routed to a specific service by the Call-by-Call tables.
- **Special Services.** Selects services such as international dialing and operator assistance. Calls that match these tables are not routed by the Call-by-Call tables.

**NOTE:**
PRI tables that work with pools and ARS apply to Hybrid/PBX mode only.

# Network Selection Tables

Dialed prefixes for selecting long-distance carriers are matched to entries in the four Network Selection tables. Eight default tables are provided, specifying 10*** and 101****. The asterisks are wildcards that represent the various long-distance carrier codes. (10*** is the current U.S. standard for specifying long-distance carriers; 101**** is provided for future use.)

**NOTE:**
U.S. customers rarely need to program additional Network Selection tables because long-distance carrier codes match 10*** or 101****.

## Summary: Network Selection Tables

| | |
|---|---|
| Programmable by | System manager |
| Mode | Key and Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | Not applicable |
| Valid Entries | Prefix for long distance carrier |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **PRI** → **OutgoingTbl** → **NetwkSelect** → Dial entry no. → **Enter** → **Drop** → Dial prefix → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F6] → [F8] → [F1] → Type entry no. → [F10] → [Alt] + [P] → Type prefix → [F10] → [F5] → [F5] → [F5] |

# Special Services Tables

Eight tables provide for international calling and for operator-assisted calls. Default tables include the special prefixes 0 and 00 for operator-assisted calls. Dialed numbers are matched against entries in these tables for patterns (011, 010, 01, 00, 0, and 1); for operator assistance (operator-assisted, presubscribed common carrier operator, and none); and for type of number (national or international). Up to four digits can be deleted.

### Summary: Special Services Tables

| | |
|---|---|
| Programmable by | System manager |
| Mode | Key and Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | See Table 9-2 |
| Valid Entries | Prefix for international or operator-assisted calls |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To specify Pattern:<br>**LinesTrunks** → **PRI** → **OutgoingTbl** → **SpecialServ** → **Pattern** → Dial entry no. → **Enter** → **Drop** → Dial pattern → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**<br><br>To specify Operator:<br>**LinesTrunks** → **PRI** → **OutgoingTbl** → **SpecialServ** → **Operator** → Dial entry no. → **Enter** → Select type of operator → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**<br><br>To specify Type of Number:<br>**LinesTrunks** → **PRI** → **OutgoingTbl** → **SpecialServ** → **TypeOfNumbr** → Dial entry no. → **Enter** → Select type → **Enter** → **Exit** → **Exit** → **Exit** → **Exit** |

To specify Delete Digits:
**LinesTrunks** → **PRI** → **OutgoingTbl** → **SpecialServ** → **DeleteDigit** → Dial entry no. → **Enter** → **Drop** → Dial pattern → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**

PC Procedure

To specify Pattern:
[F4] → [F6] → [F8] → [F2] → [F1] → Type entry no. → [F10] → [Alt] + [P] → Type pattern → [F10] → [F5] → [F5] → [F5] → [F5]

To specify Operator:
[F4] → [F6] → [F8] → [F2] → [F2] → Type entry no. → [F10] → Select type of operator → [F10] → [F5] → [F5] → [F5] → [F5]

To specify Type of Number:
[F4] → [F6] → [F8] → [F2] → [F3] → Type entry no. → [F10] → Type number type → [F10] → [F5] → [F5] → [F5] → [F5]

To specify Delete Digits:
[F4] → [F6] → [F8] → [F2] → [F4] → Type entry no. → [F10] → [Alt] + [P] → Type digits to be deleted → [F10] → [F5] → [F5] → [F5] → [F5]

**Table 9-2. Special Services Table**

| Table | Pattern (up to 4 digits) | Operator | Delete Digits (0 to 4) |
|---|---|---|---|
| 0 | 011 | none | 3 |
| 1 | 010 | Local Operator | 3 |
| 2 | 01 | Local Operator | 2 |
| 3 | 00 | Local Operator/ Presubscribed Carrier | 2 |
| 4 | 0 | Local Operator | 1 |
| 5 | 1 | none | 1 |

# Call-by-Call Service Table

When a call is placed on a Call-by-Call B-channel group, a specific service is selected. The selected service depends on the match between the dialed digits and the table entries. A service must be specified; otherwise the entry is ignored.

The Call-by-Call table can contain up to 10 entries. Each entry can contain up to 10 patterns, each with a maximum of eight digits. If a dialed number matches two patterns, the longer pattern takes precedence. For example, 212555 matches both 212555 and 212, but the system will match the longer pattern. In addition to patterns, the Call-by-Call table can be used to specify from 0 through 8 digits to be deleted (the default is 0).

If the last entry in the table is empty (that is, no pattern is specified), this entry is used as a default and matches any pattern and type of call.

If ARS (Hybrid/PBX only) is used, ARS selects the route. If the route points to a Call-by-Call B-Channel group, Call-by-Call service selects the network service. ARS Call-by-Call service is integrated according to the specified bearer capability (voice, data, or both) for each feature. In addition, ARS digit deletion/addition may help specify the service selected by the Call-by-Call feature. See “Automatic Route Selection” for more information.

## Summary: Call-by-Call Service Table

| | |
|---|---|
| Programmable by | System manager |
| Mode | Key and Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3b, Incoming Trunks: DS1 Connectivity (100D module) |
| Factory Setting | Not applicable |
| Valid Entries | Pattern: up to eight digits<br>Call Type: voice, data, both<br>Service: AT&T Toll, Local, Miscellaneous<br>Delete Digits: 0 to 8 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To specify Patterns:<br>**LinesTrunks** → **PRI** → **OutgoingTbl** → **CBC Service** → **Patterns** → Dial list no. → **Enter** → **Drop** → Dial pattern → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**<br><br>To specify Voice/Data:<br>**LinesTrunks** → **PRI** → **OutgoingTbl** → **CBC Service** → **Voice/Data** → Dial list no. → **Enter** → Select voice, data, or both → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**<br><br>To specify Network Service:<br>**LinesTrunks** → **PRI** → **OutgoingTbl** → **CBC Service** → **NetwkServ** → Dial list no. → **Enter** → Select service → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**<br><br>To specify Delete Digits:<br>**LinesTrunks** → **PRI** → **OutgoingTbl** → **CBC Service** → **DeleteDigit** → Dial list no. → **Enter** → **Drop** → Dial no. of digits → **Enter** → **Exit** → **Exit** → **Exit** → **Exit** |

PC Procedure

To specify Patterns:
[F4] → [F6] → [F8] → [F3] → [F1] → Type list no. → [F10] → [Alt] + [P] → Type pattern → [F10] → [F5] → [F5] → [F5] → [F5]

To specify Voice/Data:
[F4] → [F6] → [F8] → [F3] → [F2] → Type list no. → [F10] → Select voice, data, or both → [F10] → [F5] → [F5] → [F5] → [F5]

To specify Network Service:
[F4] → [F6] → [F8] → [F3] → [F3] → Type list no. → [F10] → Select service → [F10] → [F5] → [F5] → [F5]

To Specify Delete Digits:
[F4] → [F6] → [F8] → [F3] → [F4] → Dial list no. → [F10] → [Alt] + [P] → Dial no. of digits → [F10] → [F5] → [F5] → [F5] → [F5]

# Telephones

# 10

This section contains the following summaries:

- Assigning outside lines or trunks to the buttons on a telephone (including lines and trunks used for loudspeaker paging).
- Copying line button assignments from one telephone to an individual telephone or block of telephones.
- Assigning the following buttons on telephones (for Hybrid/PBX systems only):
  - — System Access or Intercom Voice
  - — System Access or Intercom Ring
  - — System Access or Intercom Originate Only
  - — Shared System or Intercom Access
- Identifying analog multiline telephones that do not have built-in speakerphones (BIS) or Hands Free Answer on Intercom (HFAI) capability.
- Identifying analog multiline telephones that require pairing of extension jacks to provide the Voice Announce to Busy, or to provide voice and data features.

# Assign Trunks or Pools to Telephones

Use this procedure to assign outside lines/trunks (connected to the control unit) to specific buttons on each telephone. The lines/trunks assigned to a button on a telephone are called *personal lines.*

This procedure is used only to change or add personal lines, Loudspeaker Paging, or **Pool** buttons (Hybrid/PBX only) to telephones. See "Assign Intercom or System Access Button" procedures to add or change Intercom **(ICOM)** or System Access **(SA)** buttons.

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

The following lines/trunks cannot be assigned to a button on a telephone:

- Lines/trunks used for Music On Hold
- Lines/trunks used for maintenance alarms

**NOTE:**
If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a copyright license from and pay license fees to a third party (such as the American Society of Composers, Artists, and Producers or Broadcast Music Incorporated). Magic on Hold® requires no such license and can be purchased from AT&T.

**Pool** buttons cannot be assigned or removed from extensions unless the pool has trunks assigned. If all trunks are to be removed from a pool, all **Pool** button assignments must first be removed from telephones. Another way of handling this situation is to program another trunk into the pool and then remove the **Pool** button assignments from the extensions.

- **Hybrid/PBX only.** Individual lines/trunks assigned to a pool can be assigned to a button only on a DLC operator position. If one of the lines/trunks in a pool is assigned to a button on a non-DLC telephone, the result is a **Pool** button assignment.
- **Key only.** The system assigns the first eight line numbers to buttons on multiline telephones whether or not an outside line is physically connected. If a line is not connected, the button assignment must be removed so the user can assign a feature to the button.

  For the MDC 9000 and MLC-5 cordless multiline telephones and the MDW 9000 wireless multiline telephone, the system assigns the first eight lines connected to the control unit even though the telephone has fewer than eight buttons available. Remove the extra lines in system programming so that the appropriate number of lines are assigned to buttons on these telephones.

Lines and trunks are assigned to buttons in the order in which you press each line button on the system programming console or keyboard. Existing line assignments can be rearranged by removing all current assignments and then pressing the line buttons on the console or keyboard in the order that they should appear on the buttons. For information on the order of the programmed buttons, refer to the button numbers on the applicable planning form for each telephone.

If you want to reserve some blank buttons for features between line buttons, a line must be assigned as a placeholder for each blank button. After all lines are assigned, remove the lines used as placeholders on the buttons reserved for features.

## Summary: Assign Trunks or Pools to Telephones

| | |
|---|---|
| Programmable by | System manager |
| Mode | All, but note differences in factory settings. |
| Idle Condition | Telephone idle |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 4d, MLX Telephone<br>Form 4e, MFM Adjunct: MLX Telephone<br>Form 4f, Tip/Ring Equipment<br>Form 5a, Direct-Line Console (DLC): Analog<br>Form 5b, Direct-Line Console (DLC): Digital<br>Form 5c, MFM Adjunct: DLC<br>Data Form 1a, Modem Data Station<br>Data Form 1b, 7500B Data Station |
| Factory Setting | **Key Mode.** An Intercom Ring **(ICOM Ring)** button, an Intercom Voice **(ICOM Voice)** button, and the first eight lines connected to the control unit are assigned to all analog multiline telephones, MLX telephones (excluding operator positions), and MFMs connected to MLX telephones. Two Intercom Ring buttons are assigned to single-line telephones; no outside lines are assigned.<br><br>**Behind Switch Mode.** Intercom Ring, Intercom Voice, and prime line buttons are assigned to all analog multiline telephones, MLX telephones (excluding operator positions), and MFMs connected to MLX telephones. Two Intercom Ring buttons are assigned to single-line telephones; no outside lines are assigned. When prime lines are assigned to MLX extensions, lines are not assigned to MFMs used to connect adjuncts. Lines for MFMs must be assigned separately. |

| | |
|---|---|
| | **Hybrid/PBX Mode.** System Access Ring **(SA Ring),** System Access Voice **(SA Voice),** and System Access Originate Only **(SA Orig Only)** buttons are assigned to all analog multiline telephones and MLX telephones (excluding operator positions). Five **Call** buttons are assigned to QCC operator positions. Two System Access Ring buttons and one System Access Originate Only button are assigned to single-line telephones. No personal line or Pool buttons are assigned. |
| Valid Entries | Extension numbers |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | To program a single line/trunk:<br>**Extensions** → **Lines/Trunks** → Dial ext. no. → **Enter** → **Entry Mode** → Dial line/trunk no. → **Enter** → **Exit** → **Exit**<br><br>To program a block of lines/trunks:<br>**Extensions** → **Lines/Trunks** → Dial ext. no. → **Enter** → Select trunk range → Toggle LED On/Off → **Enter** → **Exit** → **Exit** |
| PC Procedure | To program a single line/trunk:<br>[F6] → [F1] → Type ext. no. → [F10] → [F6] → Type line/trunk no. → [F10] → [F5] → [F5]<br><br>To program a block of lines/trunks:<br>[F6] → [F1] → Type ext. no. → [F10] → Select trunk range → Toggle letter **G** On/Off → [F10] → [F5] → [F5] |

# Copy Line/Trunk Assignments

Use this procedure to copy outside line/trunk button assignments, pool dial-out code restrictions (Hybrid/PBX only), and (for operator positions only) Night Service information from one extension to another extension or block of extensions with identical requirements.

If you are copying assignments to a block of extensions and one of the extensions in the block is in use, the display shows the **`Station Busy - Pls Wait`** message. Copying for the rest of the extensions in the block is delayed until the busy extension becomes idle. The number of the busy extension is not shown. If a DSS is attached, the LED associated with the busy extension is on. If you exit instead of waiting for the busy extension to become idle, copying for the rest of the extensions is canceled; however, the assignments that have already been copied are not canceled.

If you are copying assignments from an operator position to a block of extensions that includes both operator and nonoperator extensions, the information is copied only to the operator positions; the nonoperator positions are not affected. Similarly, if you are copying assignments from a nonoperator position to a block of extensions that includes both operator and nonoperator extensions, the information is copied only to the nonoperator positions; the operator positions are not affected. The system does not provide an error tone to signal that the copy did not work for all of the extensions in the block.

## Summary: Copy Line/Trunk Assignments

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Telephone idle |
| Planning Form | 4a, Extension Copy: Analog Multiline Telephone Template<br>4c, Extension Copy: MLX Telephone Template |
| Factory Setting | Not applicable |
| Valid Entries | Not applicable |
| Inspect | Yes: lines/pools assigned to an extension |
| Copy Option | Not applicable |
| Console Procedure | To copy to a single extension:<br>**Extensions** → **Line Copy** → **Single** → Dial copy from ext. no. → **Enter** → Dial copy to ext. no. → **Enter** → **Exit** → **Exit**<br><br>To copy to a block of extensions:<br>**Extension** → **Line Copy** → **Block** → Dial copy from ext. no. → **Enter** → Dial ext. no. of first telephone in block → **Enter** → Dial ext. no. of last telephone in block → **Enter** → **Exit** → **Exit** |
| PC Procedure | To copy to a single extension:<br>[F6] → [F2] → [F1] → Type copy from ext. no. → [F10] → Type copy to ext. no. → [F10] → [F5] → [F5]<br><br>To copy to a block of extensions:<br>[F6] → [F2] → [F2] → Type copy from ext. no. → [F10] → Type ext. no. of first telephone in block → [F10] → Type ext. no. of last telephone in block → [F10] → [F5] → [F5] |

# Assign Intercom or System Access Buttons

Use this procedure to assign or change the assignments for Intercom **(ICOM)** buttons used to make and receive inside calls. This includes the following types of Intercom buttons:

- Ring
- Voice
- Originate Only (Ring or Voice)

In Hybrid/PBX mode only, use this procedure to assign or change assignments for System Access **(SA)** buttons used to make or receive inside and outside calls. This procedure includes the following types of System Access buttons:

- Ring
- Voice
- Originate Only (Ring or Voice)
- Shared (Ring or Voice)

**NOTES:**

1. You cannot change the factory setting for **Call** buttons assigned to QCC operator positions, and you cannot assign Ring, Voice, Originate Only, or Shared buttons to QCC operator positions.
2. System Access or Intercom buttons can be assigned only to the first 10 buttons on a telephone.
3. You can assign a combination of up to 10 System Access or Intercom buttons to each telephone (excluding QCC operator positions).
4. You can remove System Access or Intercom buttons, but at least one must remain on the telephone.

5. Each System Access Ring or Voice on an individual telephone can be assigned as a Shared System Access **(SSA)** button on up to 27 other telephones.

   **Release 2.1 and earlier**
   Each System Access Ring or Voice on an individual telephone can be assigned as a Shared System Access **(SSA)** button on up to 16 other telephones.

6. System Access and Intercom buttons are centrally programmed and cannot be programmed by individual telephone users.

## Summary: Assign Intercom or System Access Buttons

| | |
|---|---|
| Programmable by | System manager |
| Mode | All, but note differences in factory settings |
| Idle Condition | Telephone idle |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 4d, MLX Telephone<br>Form 4e, MFM Adjuncts: MLX Telephone<br>Form 4f, Tip/Ring Equipment<br>Form 5a, Direct-Line Console (DLC): Analog<br>Form 5b, Direct-Line Console (DLC): Digital<br>Form 5c, MFM Adjunct (DLC)<br>Data Form 1a, Modem Data Station<br>Data Form 1b, 7500B Data Station |
| Factory Setting | **Key Mode.** An Intercom Ring **(ICOM Ring),** an Intercom Voice **(ICOM Voice),** and the first eight lines connected to the system are assigned to all analog multiline and MLX telephones, excluding operator positions. Two Intercom Ring buttons are assigned to tip/ring equipment connected on an 012 module. An Intercom Ring and an Intercom Originate Only **(ICOM Orig Only)** button are assigned to tip/ring equipment connected by an MFM. No outside lines are assigned.<br><br>**Behind Switch Mode.** An Intercom Ring, an Intercom Voice, and a prime line button are assigned to all analog multiline and MLX telephones, excluding operator positions. Two Intercom Ring buttons and a prime line button are assigned to tip/ring equipment connected to an 012 module. An Intercom Ring and an Intercom Originate Only Ring button are assigned to tip/ring equipment connected by an MFM. No outside lines are assigned. |

**Hybrid/PBX Mode.** System Access Ring **(SA Ring),** System Access Voice **(SA Voice),** and System Access Originate Only Ring **(SA Orig Only)** buttons are assigned to all analog multiline and MLX telephones, excluding operator positions. Two System Access Ring buttons and a System Access Originate Only Ring button are assigned to tip/ring equipment (for example, single-line telephones or fax machines connected to an 012 module). No personal line or pool buttons are assigned.

**All Modes.** System Access Ring (Hybrid/PBX mode) or Intercom Ring (Key and Behind Switch modes), System Access Voice (Hybrid/PBX mode) or Intercom Voice (Key and Behind Switch modes), and the first 18 through 29 lines connected to the control unit are assigned to all DLC operator positions. The number of lines assigned depends on the type of telephone used as a DLC operator position. Refer to the appropriate telephone planning form for details.

| | |
|---|---|
| Valid Entries | Not applicable |
| Inspect | Yes: specific button options. |
| Copy Option | Yes (You can copy additional **SA** buttons to another extension, but you cannot overwrite **SA** buttons that are already assigned.) |
| Console Procedure | To program extension:<br>**More** → **Cntr-Prg** → **Program** Ext. → Dial ext. no. → **Enter** → **Start** → **Program extension** → **Enter** → **Exit** → **Exit**<br>To copy extension programming:<br>**More** → **Cntr-Prg** → Copy ext. → Dial copy from ext. no. → **Enter** → Dial copy to ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | To program extension:<br>[PgUp] → [F4] → [F1] → Type ext. no. → [F10] → Program extension → [F10] → [F5] → [F5]<br>To copy extension programming:<br>[PgUp] → [F4] → [F2] → Type copy from ext. no. → [F10] → Type copy to ext no. → [F10] → [F5] → [F5] |

# Analog Multiline Telephone Without Built-in Speakerphone (BIS) or Hands Free Answer Intercom (HFAI) Capability

Use this procedure to identify analog multiline telephones with flat membrane buttons that do not have built-in speakerphones (BIS) or Hands Free Answer Intercom (HFAI) capability. The models that must be identified are 5-Button, 10-Button, 34-Button, and 34-Button Deluxe analog multiline models with flat membrane buttons.

Keep the factory setting for analog multiline models with raised plastic buttons, including the following models: 10-Button HFAI, 34-Button with speakerphone (SP-34), 34-Button with speakerphone and display (SP-34D), BIS-10, BIS-22, BIS-34, BIS-22D, and BIS-34D.

This procedure is not necessary for MLX or single-line telephones.

## Summary: Analog Multiline Telephones Without BIS or HFAI Capability

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 5a, Direct-Line Console (DLC): Analog<br>Data Form 1a, Modem Data Stations |
| Factory Setting | All models of analog multiline telephones (except the analog multiline display console) have BIS/HFAI capability. |
| Valid Entries | Extension numbers |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **BIS/HFAI** → Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [F8] → Type ext. no. → [F10] → [F5] → [F5] |

# Analog Multiline Telephones with Voice Announce to Busy

Use this procedure to dedicate a voice or voice pair to be used to provide the Voice Announce to Busy feature to an analog multiline telephone.

The extension number associated with the first (odd-numbered) extension jack in the pair is the telephone's extension number. The extension number for the second (even-numbered) extension jack is dedicated to the Voice Announce to Busy feature. Calls cannot be placed to the extension jack reserved for the Voice Announce to Busy feature.

Voice Announce to Busy must be disabled at data stations.

**NOTE:**
This procedure does not apply to MLX telephones (Voice Announce to Busy is automatically provided) and cannot be programmed for single-line telephones.

## Summary: Analog Multiline Telephones with Voice Announce to Busy

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | System idle |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 5a, Direct-Line Console (DLC)<br>Analog Data Form 1a, Modem Data Station |
| Factory Setting | Not applicable |
| Valid Entries | Extension numbers |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | **Extensions** → **VoiceSignl** → Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [F10] → Type ext. no. → [F10] → [F5] → [F5] |

# Analog Multiline Telephones in Data Stations

See Chapter 19, “Data Features.”

# Auxiliary Equipment

# 11

The procedures in this section describe the steps needed to perform the following:

- Identify the line/trunk jacks used for Music on Hold, loudspeaker paging, and maintenance alarms.
- Identify the extension jacks used for fax, MERLIN MAIL, Voice Messaging System, Automated Attendant, and AUDIX Voice Power.

## Music on Hold

Use this procedure to identify the line/trunk jack reserved for connection of a music source, such as a radio, tape player, or stereo system.

**NOTES:**

1. If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a copyright license from and pay license fees to a third party [such as the American Society of Composers, Artists, and Producers (ASCAP) or Broadcast Music Incorporated (BMI)]. Magic on Hold® requires no such license and can be purchased from your authorized dealer.
2. Only one Music on Hold line/trunk jack is allowed per system.

3. You cannot assign the line/trunk identified for Music on Hold to a line/trunk pool. If the line/trunk is currently assigned to a pool, you must remove it before you program this option.
4. You cannot assign the line/trunk identified for use with Music on Hold to a button on any telephone or as a Remote Access trunk, and you cannot use the line/trunk jack identified for Music on Hold for a loudspeaker paging system or maintenance alarm.

## Summary: Music on Hold

| | |
|---|---|
| Programmable by | System manager |
| Mode | All, but in Hybrid/PBX mode the line/trunk designated for Music on Hold cannot be assigned to a line/trunk pool. |
| Idle Condition | System idle |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | Not Applicable |
| Valid Entries | Line/trunk number |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **AuxEquip** → **MusicOnHold** → Dial line/trunk no. → **Enter** → **Exit** |
| PC Procedure | [F9] → [F1] → Type line/trunk no. → [F10] → [F5] |

# Loudspeaker Paging

Use this procedure to identify the line/trunk jack reserved for connection of loudspeaker paging equipment.

**NOTES:**

1. If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a copyright license from and pay license fees to a third party (such as the American Society of Composers, Artists, and Producers or Broadcast Music Incorporated). Magic on Hold requires no such license and can be purchased from your authorized dealer.
2. A maximum of three single-zone or multizone loudspeaker paging systems can be connected to the system.
3. You cannot assign the line/trunk identified for loudspeaker paging equipment use to a line/trunk pool. If the line/trunk is currently assigned to a pool, you must remove it before you program this option.
4. You cannot assign the line/trunk identified for loudspeaker paging equipment use as a Remote Access line/trunk, and you cannot use its jack for Music on Hold or maintenance alarm.

## Summary: Loudspeaker Paging

| | |
|---|---|
| Programmable by | System manager |
| Mode | All, but in Hybrid/PBX mode the line/trunk designated for loudspeaker paging cannot be assigned to a line/trunk pool. |
| Idle Condition | Line/trunk idle |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | Not Applicable |
| Valid Entries | Line/trunk numbers |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **AuxEquip** → **Ldspkr Pg** → Dial line/trunk no. → **Enter** → **Exit** |
| PC Procedure | [F9] → [F2] → Type line/trunk no. → [F10] → [F5] |

# Fax

Use this procedure to add a fax machine by assigning the extension jack used to connect the fax machine. To remove a fax machine and free the extension jack for another use, you must remove the extension jack assignment.

In addition, you can specify the extensions to receive a message-waiting indication (MWI) when a fax transmission is received, and specify the length of time before the system registers that a fax has arrived and sends the message-waiting indication.

**NOTE:**
Do not use this procedure for fax machines connected to analog multiline telephones with a General Purpose Adapter (GPA). In a GPA configuration features cannot be assigned to the fax independently of the telephone.

A maximum of 16 fax machines can have the Fax Message Waiting feature. Additional fax machines (more than 16) can be installed, but these machines cannot have this feature.

You can specify up to four telephones to receive the message-waiting indication when a fax transmission is received. Note that fax machines can only send and not receive message-waiting indications.

## Summary: Fax

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 4d, MLX Telephone<br>Form 4e, MFM Adjunct: MLX Telephone<br>Form 4f, Tip/Ring Equipment<br>Form 5a, Direct-Line Console (DLC): Analog<br>Form 5b, Direct-Line Console (DLC): Digital<br>Form 5c, MFM Adjunct: DLC |
| Factory Setting | 10 seconds |
| Valid Entries | 0 to 30 seconds |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **AuxEquip** → **Fax** → **Extension** → Dial ext. no. → **Enter** → **Exit** → **Msg Waiting** → Dial fax machine ext. no. → **Enter** → Dial MWI ext. no. → **Enter** → **Threshold** → **Drop** → Dial no. of seconds → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F9] → [F3] → [F1] → Type ext. no. → [F10] → [F5] → [F2] → Type fax machine ext. no. → [F10] → Type MWI ext. no. → [F10] → [F3] → [Alt] + [P] → Type no. of seconds [F10] → [F5] → [F5] |

# Maintenance Alarms

Use this procedure to identify the line/trunk jack that connects an external alerting device that sounds or flashes when major maintenance problems occur.

You cannot assign the line/trunk identified for the maintenance alarm to a button on any telephone or as a Remote Access trunk, and you cannot use its line/trunk jack to connect a loudspeaker paging system or Music on Hold.

### Summary: Maintenance Alarms

| | |
|---|---|
| Programmable by | System manager |
| Mode | All, but in Hybrid/PBX mode, the line/trunk designated for the maintenance alarm cannot be assigned to a line/trunk pool. |
| Idle Condition | System idle |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | Not Applicable |
| Valid Entries | Line/trunk number |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **AuxEquip** → **MaintAlarms** → Dial line/trunk no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F9] → [F4] → Type line/trunk no. → [F10] → [F5] → [F5] |

# Voice Messaging System and Automated Attendant

Use this procedure to specify the touch-tone duration and the interval between digits in codes sent between a voice messaging system and the communications system. The touch-tone duration and interval between digit assignment must be the same as those programmed on the voice messaging system.

This procedure specifies the integrated voice messaging ports (line/trunk jacks) used to connect voice messaging systems such as MERLIN MAIL Voice Messaging System or the AUDIX Voice Power-Integrated Solution II/III application. It also specifies the generic VMI ports (line/trunk jacks) used for automated attendants, such as MERLIN Attendant or Integrated Voice Power Automated Attendant IS II/III.

In addition, this procedure can be used to specify the number of rings before a call transferred by the voice messaging system is sent to the backup position for both integrated and generic VMI ports. The number of rings cannot be programmed for individual voice messaging systems; the single setting applies for all. Use the Group Type procedure in “Optional Group Features” to assign VMI ports as either integrated or generic.

## Summary: Voice Messaging System and Automated Attendant

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | (See forms packaged with application.) |
| Factory Setting | Touch-tone duration: 100 ms<br>Interval between digits: 50 ms<br>Number of rings before transfer: 4 |
| Valid Entries | Touch-tone duration: 50 to 200 ms, in increments of 25 ms<br>Interval between digits: 50 to 200 ms, in increments of 25 ms<br>Number of rings before transfer: 0 to 9 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **AuxEquip** → **VMS/AA** → **TransferRtn** → **Drop** → Dial no. of rings → **Enter** → **TT Duration** → **Drop** → Dial no. of ms → **Enter** → **TT Interval** → **Drop** → Dial no. of ms → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F9] → [F6] → [F1] → [Alt] + [P] → Type no. of rings → [F10] → [F2] → [Alt] + [P] → Type no. of ms → [F10] → [F3] → [Alt] + [P] → Type no. of ms → [F10] → [F5] → [F5] |

# Optional Telephone Features

# 12

The summaries in this section detail the steps in programming the following optional features:

- Extension Language
- Pool Dial-Out Code
- Call Restrictions
- Copy Call Restrictions
- Forced Account Code Entry
- Microphone Operation
- Remote Call Forwarding

# Extension Language

Use this procedure to change the language for an MLX telephone. It applies to Releases 1.1 and later only.

## Summary: Extension Language

| | |
|---|---|
| Programmable by | Users and system manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 4d, MLX Telephone<br>Form 5b, Direct-Line Console (DLC): Digital Data<br>Form 1b, 7500B Data Station |
| Factory Setting | English |
| Valid Entries | English, French, Spanish |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To program a single extension:<br>**More** → **Language** → **Extensions** → **Single** → Dial ext. no. → **Enter** → Select a language → **Enter** → **Exit** → **Exit**<br><br>To program a block of extensions:<br>**More** → **Language** → **Extensions** → **Block** → Dial starting ext. no. → **Enter** → Dial ending ext. no. → **Enter** → Select a language → **Enter** → **Exit** → **Exit** |
| PC Procedure | To program a single extension:<br>[PgUp] → [F6] → [F2] → [F1] → Type ext. no. → [F10] → Select a language → [F10] → [F5] → [F5]<br><br>To program a block of extensions:<br>[PgUp] → [F6] → [F2] → [F2] → Type starting ext. no. → [F10] → Type ending ext. no. → Select a language → [F10] → [F5] → [F5] |

# Pool Dial-Out Code

Use this procedure to allow or restrict dialing pool dial-out codes and the placing of calls on specific line/trunk pools. Entering a pool dial-out code and then deleting that code restricts the user from using the pool associated with the entered code.

## Summary: Pool Dial-Out Code

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Telephone idle |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 4d, MLX Telephone<br>Form 4e, MFM Adjunct: MLX Telephone<br>Form 4f, Tip/Ring Equipment<br>Form 5a, Direct-Line Console (DLC): Analog<br>Form 5b, Direct-Line Console (DLC): Digital<br>Form 5c, MFM Adjunct (DLC): Digital<br>Form 5d, Queued Call Console (QCC)<br>Data Form 1a, Modem Data Station<br>Data Form 1b, 7500B Data Station |
| Factory Setting | Main pool: 70; All other pools: 890 to 899. All telephones can dial any line/trunk pool dial-out code. |
| Valid Entries | Pool numbers |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **Dial OutCd** → Dial ext. no. → **Enter** → Dial pool dial-out code → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [F3] → Type ext. no. → [F10] → Type pool dial-out code → [F10] → [F5] → [F5] |

# Call Restrictions

Use this procedure to change individual telephone calling restrictions to one of the following:

- Unrestricted
- Restricted from making all outgoing calls
- Restricted from making toll calls

### Summary: Call Restrictions

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Telephone idle |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 4d, MLX Telephone<br>Form 4e, MFM Adjunct: MLX Telephone<br>Form 4f, Tip/Ring Equipment<br>Form 5a, Direct-Line Console (DLC): Analog<br>Form 5b, Direct-Line Console (DLC): Digital<br>Form 5c, MFM Adjunct: DLC<br>Form 5d, Queued Call Console (QCC)<br>Data Form 1a, Modem Data Station<br>Data Form 1b, 7500B Data Station |
| Factory Setting | Unrestricted |
| Valid Entries | Unrestricted, Outward restricted, Toll ‘restricted |
| Inspect | No |
| Copy Option | Yes |
| Console Procedure | **Extensions** → **Restriction** → Dial ext. no. → **Enter** → Select restriction → **Enter** → **Exit** |
| PC Procedure | [F6] → [F4] → Type ext. no. → [F10] → Select restriction → [F10] → [F5] |

# Copy Call Restrictions

Use this procedure to copy calling restrictions, allowed lists, and disallowed lists. Feature assignment must be completed for the “copy from” extension. These features can then be copied to an individual extension or block of extensions with identical calling restriction requirements.

If you are copying restrictions to a block of extensions and one of the extensions in the block is in use, the display shows the **Station Busy - Pls Wait** message. Copying for the rest of the extensions in the block is delayed until the busy extension becomes idle. The number of the busy extension is not shown. If a DSS is attached, the LED associated with the busy extension is on. If you exit instead of waiting for the busy extension to become idle, copying for the rest of the extensions in the block is canceled; however, the restrictions that have already been copied are not canceled.

If you are copying restrictions to a block of extensions, they must be sequentially numbered.

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

**NOTE:**
Dial-out code restrictions are not copied.

## Summary: Copy Call Restrictions

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | "Copy to" telephone(s) idle |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 4d, MLX Telephone<br>Form 4e, MFM Adjunct: MLX Telephone<br>Form 5a, Direct-Line Console (DLC): Analog<br>Form 5b, Direct-Line Console (DLC): Digital<br>Form 5c, MFM Adjunct: DLC<br>Form 5d, Queued Call Console (QCC)<br>Data Form 1a, Modem Data Station<br>Data Form 1b, 7500B Data Station |
| Factory Setting | Not applicable |
| Valid Entries | Not applicable |
| Inspect | No |
| Copy Option | Not applicable |
| Console Procedure | To copy to a single extension:<br>**Extensions** → **RestrctCopy** → **Single** → Dial copy from ext. no. → **Enter** → Dial copy to ext. no. → **Enter** → **Exit** → **Exit** → **Exit**<br><br>To copy to a block of extensions:<br>**Extensions** → **RestrctCopy** → **Block** → Dial copy from ext. no. → **Enter** → Dial first no. in copy to block → **Enter** → Dial last no. in copy to block → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | To copy to a single extension:<br>[F6] → [F6] → [F1] → Type copy from ext. no. → [F10] → Type copy to ext. no. → [F10] → [F5] → [F5] → [F5]<br><br>To copy to a block of extensions:<br>[F6] → [F6] → [F2] → Type copy from ext. no. → [F10] → Type first copy no. in copy to block → [F10] → [F5] → [F5] → [F5] |

# ARS Restriction Level for Extensions

Use this procedure to assign an ARS restriction level to an extension. Only outgoing calls are affected; users can receive inside, local, and toll calls on restricted telephones and can join any type of call in progress. In order to use a route a caller at an extension must have a Restriction Level that is equal to or greater than the Facility Restriction Level (FRL) for the route. The restriction level assigned to extensions is opposite to the FRL assigned to routes, where 0 is the most and 6 is the least restrictive.

## Summary: Assigning ARS Restriction Level For an Extension

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX only |
| Idle Condition | Not required |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 4d, MLX Telephone<br>Form 4e, MFM Adjunct: MLX Telephone<br>Form 4f, Tip/Ring Equipment<br>Form 5a, Direct-Line Console (DLC): Analog<br>Form 5b, Direct-Line Console (DLC): Digital<br>Form 5c, MFM Adjunct: DLC<br>Form 6g, Call Restriction Assignments and Lists |
| Factory Setting | 3 |
| Valid Entries | 0-6, (0 is most restrictive and 6 is least restrictive) |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **ARS Restrict** → Dial ext. no. → **Enter** → **Drop** → Dial restriction level → **Enter** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F6] → Type ext. no. → [F10] → [Alt] + [P] → Type restriction level → [F10] → [F5] |

# Forced Account Code Entry

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

## Summary: Forced Account Code Entry

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 4d, MLX Telephone<br>Form 4e, MFM Adjunct: MLX Telephone<br>Form 4f, Tip/Ring Equipment<br>Form 5a, Direct-Line Console (DLC): Analog<br>Form 5b, Direct-Line Console (DLC): Digital<br>Form 5c, MFM Adjunct: DLC<br>Form 5d, Queued Call Console (QCC)<br>Data Form 1a, Modem Data Station<br>Data Form 1b, 7500B Data Station |
| Factory Setting | Not assigned |
| Valid Entries | Assigned, not assigned |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **Account** → Toggle LED On/Off or Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [F7] → Toggle letter **R** On/Off or Type ext. no. → [F10] → [F5] → [F5] |

# Microphone Operation

Use this procedure to enable or disable microphones on MLX telephones (except QCC operator positions). When the microphone is disabled, users cannot use the speakerphone to conduct conversations.

**NOTE:**
The microphone cannot be disabled on analog multiline telephones or on MLX telephones used as QCC operator positions.

### Summary: Microphone Operation

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 4d, MLX Telephone<br>Form 5b, Direct-Line Console (DLC): Digital |
| Factory Setting | Enabled |
| Valid Entries | Enabled, Disabled |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Mic Disable** → Toggle LED On/Off or Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F7] → Toggle letter R On/Off or Type ext. no. → [F10] → [F5] → [F5] |

# Authorization Code

The Authorization Code feature allows you to pickup someone else's telephone, enter your authorization code, and complete a call with the restrictions that apply to your own telephone *(home extension).* This includes toll restrictions, outward restriction, Facility Restriction Level (FRL), Allowed Lists, Disallowed Lists, Forced Account Code Entry (FACE), Night Service Exclusion List, and Dial Access to Pools.

Use this procedure to assign or remove an authorization code to an extension. The authorization code can range from 2 to 11 characters (0-9, *) and must be unique for each extension. An authorization code cannot begin with a "*."

If you are assigning authorization codes for a group of sequential extensions, begin programming the lowest extension number to take advantage of the **Next** screen key (see "Standard Procedures").

### Summary: Authorization Codes

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 6h, Authorization Codes |
| Factory Setting | Not assigned |
| Valid Entries | 2-11 characters (0-9, *) |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Auth Code** → Dial ext. no. → **Enter** → Dial authorization code → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F9] → Type ext. no. → [F10] → Type authorization code → [F10] → [F5] → [F5] |

# Remote Call Forwarding

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

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

### Summary: Remote Call Forwarding

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 4b, Analog Multiline Telephone<br>Form 4d, MLX Telephone<br>Form 4e, MFM Adjunct: MLX Telephone<br>Form 4f, Tip/Ring Equipment<br>Form 5a, Direct-Line Console (DLC): Analog<br>Form 5b, Direct-Line Console (DLC): Digital<br>Form 5c, MFM Adjunct: DLC<br>Form 5d, Queued Call Console (QCC)<br>Data Form 1a, Modem Data Station<br>Data Form 1b, 7500B Data Station |
| Factory Setting | Disallowed |
| Valid Entries | Disallowed, allowed |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Remote Frwd** → Toggle LED On/Off or Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F8] → Toggle letter **R** On/Off or Type ext. no. → [F10] → [F5] → [F5] |

# Optional Operator Features

# 13

The summaries in this section affect feature programming for both DLC and QCC operator positions and include the following:

- Operator Hold Timer
- DLC Operator Automatic Hold
- QCC Optional Features
  - — Hold Return
  - — Automatic Hold or Release
  - — Queue over Threshold
  - — Elevate Priority
  - — Calls-in-Queue Alert
  - — QCC Operator to Receive Call Types
  - — Call Type Queue Priority Level
  - — Message Center Operation
  - — Automatic or Manual Extended Call Completion
  - — Return Ring
  - — Position Busy Backup

**NOTE:**
QCC options are available in Hybrid/PBX mode only.

# Operator Hold Timer

Use this procedure to set the length of the operator hold timer for all DLCs and QCCs. If the system operator does not pick up the call within the time programmed, an abbreviated ring reminds the operator that a call is being held.

This option cannot be programmed for individual operator positions.

## Summary: Operator Hold Timer

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | 60 seconds |
| Valid Entries | 10 to 255 seconds |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Operator** → **Hold Timer** → **Drop** → Dial no. of seconds → **Enter** → **Exit** |
| PC Procedure | [F3] → [F3] → [Alt] + [P] → Type no. of seconds → [F10] → [F5] |

# DLC Operator Automatic Hold

Use this procedure to enable or disable the DLC Operator Automatic Hold feature for DLC operator positions. When this feature is enabled, it prevents accidental call disconnection.

## Summary: DLC Operator Automatic Hold

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | Disabled |
| Valid Entries | Disabled, Enabled |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Operator** → **DLC Hold** → **Automatic Hold Enable** or **Automatic Hold Disable** → **Enter** → **Exit** |
| PC Procedure | [F3] → [F4] → [F1] or [F2] → [F10] → [F5] |

# Hold Return

Use this procedure to determine whether calls on hold are returned to the QCC queue or remain on hold, on the QCC operator console, after the hold timer has expired twice. After the hold timer expires the first time, the operator hears an abbreviated ring as a call-on-hold reminder. If another call is received at the same time that the hold timer expires, 10 seconds are added to the programmed operator hold timer interval for the first call. If the QCC operator does not pick up a call by the time the hold timer expires twice, the call can be programmed to either remain on hold or return to the QCC queue.

This option cannot be programmed for individual QCC operator positions. The single setting applies to all QCC operator positions.

### Summary: Hold Return

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | Calls remain on hold |
| Valid Entries | Remain on hold, Return to QCC queue |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **Hold Rtrn** → **Return to Queue** or **Remain on Hold** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [F1] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Automatic Hold or Release

Use this procedure to specify whether a call in progress (on a call button) is automatically put on hold (Automatic Hold) or disconnected (Automatic Release) when the operator presses another button.

This option cannot be programmed for individual QCC operator positions. The single setting applies to all QCC operator positions.

## Summary: Automatic Hold or Release

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | Automatic Release |
| Valid Entries | Auto Hold, Auto Release |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **HoldRelease** → **Auto Hold** or **Auto Release** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [F2] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Queue over Threshold

Use this procedure to specify the maximum number of calls (threshold) in the QCC queue before system operators are notified with a tone that the threshold has been reached or exceeded. If the threshold is set to 0, operators are not notified.

## Summary: Queue over Threshold

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | 0 |
| Valid Entries | 0 to 99 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **Threshold** → **Drop** → Dial no. of calls → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [F3] → [Alt] + [P] → Type no. of calls → [F10] → [F5] → [F5] |

# Elevate Priority

Use this procedure to specify the length of time before calls waiting in the QCC queue are automatically reprioritized to a higher level. If priority is set to 0, calls are not prioritized.

### Summary: Elevate Priority

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | 0 seconds |
| Valid Entries | 0 and 5 to 30 seconds |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **ElvatePrior** → **Drop** → Dial no. of seconds → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [F4] → [Alt] + [P] → Type no. of seconds → [F10] → [F5] → [F5] |

# Calls-In-Queue Alert

Use this procedure to specify whether each QCC operator is notified (with a single beep) when a new call enters the QCC queue.

## Summary: Calls-In-Queue Alert

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | Disable |
| Valid Entries | Enable, Disable |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **InQue Alert** → Dial ext. no. → **Enter** → **InQue Alert Enable** or **InQue Alert Disable** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [F6] → Type ext. no. → [F10] → [F1] or [F2] → [F10] → [F5] → [F5] |

# QCC Operator to Receive Call Types

Use this procedure to specify which QCC operators receive the following types of calls:

- Dial 0 calls (internal calls to the system operator)
- DID calls to invalid destinations (unassigned extension numbers)
- Calls to the Listed Directory Number (extension for the QCC queue)
- Calls programmed to return to the QCC queue (returning from directing, camped-on, held calls, and operator parked calls)
- Group Coverage calls
- Forward/Follow Me calls

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

**NOTES:**

1. If you want a QCC operator position to operate as a message center (receiving returning parked and directed calls, Group Coverage calls, and calls to unassigned DID numbers), program the Message Center option before you assign the operator to receive call types.
2. This procedure does not include use of the menu options **`Follow/Frwd`** or **`QCC Ext.`** These two options are used to assign queue priorities and are not associated with individual QCC operators. See “Call Type Queue Priority Level.”
3. This procedure does not include programming the operator position to receive calls on individual lines or trunks. See “QCC Operator to Receive Calls.”

4. Programming an operator position to receive DID calls to invalid destinations does not cause the calls to ring into the QCC queue unless you program such calls to be sent to a backup extension. See “Invalid Destination.” When no operator is assigned to receive the call types, the call does not ring into the QCC queue, and the caller hears an error tone.
5. If a trunk assigned to ring into the QCC queue is to be assigned shared remote access, assign that trunk remote access before performing this procedure. See “Remote Access Trunk Assignment.”

## Summary: QCC Operator to Receive Call Types

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | QCC operator receives the following calls:<br>Dial 0<br>Unassigned DID<br>Listed Directory Number<br>Returning |
| Valid Entries | Not applicable |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **Call Types** → Select a call type → **Operator** → Dial coverage group no. → **Enter** → Dial ext. no. → **Enter** → **Exit** → **Exit** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [F7] → Select a call type → [F2] → Type coverage group no. → [F10] → Type ext. no. → [F10] → [F5] → [F5] → [F5] → [F5] → [F5] |

# Call Type Queue Priority Level

Use this procedure to assign a priority value (1 to 7) that determines the order in which calls programmed to ring into the QCC queue are sent to QCC system operator positions. A value of 1 is the highest priority. The QCC queue priority level is assigned for the following types of calls:

- Dial 0 calls (internal calls to the system operator)
- DID calls to invalid destinations (unassigned extension numbers)
- Calls to the Listed Directory Number (extension for the QCC queue)
- Calls programmed to return to the QCC queue (returning from extending, camped-on, held calls, and operator parked calls)
- Group Coverage calls
- Calls signed in (Follow) or forwarded to the system operator
- Calls to a system operator extension number

This procedure does not include programming the QCC queue priority level for individual lines or trunks to ring into the queue. See “QCC Queue Priority Level.”

## Summary: Call Type Queue Priority Level

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | 4 |
| Valid Entries | 1 to 7 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **Call Types** → Select call type → **Priority** → **Drop** → Dial priority level → **Enter** → **Exit** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [F7] → Select call type → [F1] → [Alt] + [P] → Type priority level → [F10] → [F5] → [F5] → [F5] → [F5] |

# Message Center Operation

Use this procedure to designate one or more QCC operator positions to operate as a message center. The following options are automatically set for the message center position:

- Incoming calls are not directed to this position.
- Returning calls are directed to this position (return from extending and operator parked calls).
- All group coverage calls are directed to this position.
- All DID calls to invalid destinations are directed to this position.

Designating message center operation does not change any call type option programming, except that the call types mentioned above are added to the calls received at the QCC Message Center.

## Summary: Message Center Operation

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | Not applicable |
| Valid Entries | QCC extension numbers |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **Msg Center** → Dial ext. no. → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [F8] → Type ext. no. → [F5] → [F5] → [F5] |

# Extended (Directed) Call Completion

Use this procedure to specify one of the two basic options shown below for QCC operator positions with a DSS only:

- **Automatic Completion.** Allows one-touch call transfer; that is, calls are transferred by touching only an extension button on the DSS. The operator does not have to press the **Release** button.
- **Manual Completion.** QCC operators must press the **Release** button to direct a call using a DSS.

This option cannot be programmed for individual QCC operator positions. The setting applies to all QCC operator positions.

## Summary: Extended Call Completion

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | Automatic Extended Completion |
| Valid Entries | Automatic, Manual |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **ExtndComplt** → **Automatic Complete** or **Manual Complete** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [F9] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Return Ring

Use this procedure to specify the number of rings before an unanswered directed call is returned to the QCC queue or QCC Message Center position.

This option cannot be programmed for individual QCC operator positions. The setting applies to all QCC operator positions.

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

## Summary: Return Ring

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | 4 rings |
| Valid Entries | 1 to 15 rings |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **Return Ring** → **Drop** → Dial no. of rings → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [F10] → [Alt] + [P] → Type no. of rings → [F10] → [F5] → [F5] |

# Position Busy Backup

Use this procedure to designate the calling group to provide the backup position for the QCC queue. The specified calling group will receive incoming calls when all QCC operator positions are in position-busy mode.

Position Busy Backup is programmed for the QCC queue rather than for individual QCC operator positions. The calling group designated as the QCC queue backup serves as the backup for the Remote Access feature and as backup when the QCC is being used as the system programming console.

Only one Position Busy Backup can be programmed per system.

### Summary: Position Busy Backup

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 6a, Optional Operator Features |
| Factory Setting | No backup |
| Valid Entries | Calling group number |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Operator** → **Queued Call** → **More** → **QCC Backup** → **Drop** → Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F3] → [F2] → [PgUp] → [F1] → [Alt] + [P] → Type ext. no. → [F10] → [F5] → [F5] |

# Optional Group-Assigned Features

# 14

This section contains programming summaries for the following optional features:

- Call Pickup Groups
- Group Paging
- Group Coverage Member Assignments
- Group Coverage Delay Interval
- Group Calling Member Assignments
- Group Calling Line/Trunk or Pool Assignments
- Optional Group Calling Features
  - — Hunt Type
  - — Group Calling Delay Announcement
  - — Group Coverage Receiver
  - — Group Calling Overflow and Threshold
  - — Group Calling Message-Waiting Indicator
  - — Group Calling Calls-in-Queue Alarm Threshold
  - — Group Calling External Alert for Calls-in-Queue Alarm
  - — Group Type

# Call Pickup Groups

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

**NOTES:**

1. A maximum of 30 call pickup groups, with a maximum of 15 extensions per group, are allowed.
2. An extension can belong to only one group.
3. Before reassigning an extension to a new group, you must remove it from its current group.

## Summary: Call Pickup Groups

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7a, Call Pickup Groups |
| Factory Setting | Not applicable |
| Valid Entries | Call pickup group number, extension number |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **Call Pickup** → Dial pickup group no. → **Enter** → Dial ext. no. → **Enter** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [F9] → Type pickup group no. → [F10] → Type ext. no. → [F10] → [F5] → [F5] |

# Group Paging

Use this procedure to assign or remove an extension from a paging group. A paging group consists of telephone users who hear common announcements over the telephone speakerphone. Only MLX telephones and analog multiline telephones with speakerphones can be members of a paging group.

A maximum of six paging groups with a maximum of 10 extensions per group is allowed. A seventh paging group, called the Page All group includes all telephones connected to the system. Extensions cannot be added to or removed from the Page All group.

To reassign an extension to a new paging group, just assign it; the extension is automatically removed from its old paging group.

### Summary: Group Paging

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7b, Group Paging |
| Factory Setting | Not applicable |
| Valid Entries | Extension number |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → Group Page → Dial paging group no. → **Enter** → Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F2] → Type paging group no. → [F10] → Type ext. no. → [F10] → [F5] → [F5] |

# Group Coverage Member Assignments

Use this procedure to assign or remove an extension from a coverage group. A coverage group is a group of senders. Coverage is an arrangement in which calls from a group of senders are redirected to one or more receivers.

**NOTE:**
This procedure assigns *senders.* Before you begin, make certain that the *receivers* for the coverage group are also programmed. Receivers can be assigned through individual or centralized telephone programming. You can also use the Integrated Solution III/IV feature, Integrated Administration, to assign coverage receivers.

A maximum of 30 coverage groups are allowed, each with an unlimited number of members. Up to eight receivers can be assigned per coverage group.

An extension can be a sender in only one group; it can be a receiver for more than one coverage group. A calling group can be assigned as a receiver for a coverage group (see “Group Coverage Receiver”). In Hybrid/PBX mode only, the QCC queue can be a receiver for up to 30 coverage groups. See “QCC Operator to Receive Calls.”

If the sender’s extension has one or more personal lines assigned, the sender can be assigned as the principal user so that calls received on the personal line are sent to receivers programmed for Individual or Group Coverage. See “Principal User for Personal Line.”

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

## Summary: Group Coverage Member Assignments

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7c, Group Coverage |
| Factory Setting | Not applicable |
| Valid Entries | Extension numbers |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Group Cover** → Dial group no. → **Enter** → Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F3] → Type group no. → [F10] → Type ext. no. → [F10] → [F5] → [F5] |

# Group Coverage Delay Interval

Use this procedure to specify the number of rings before a call is sent to group coverage receivers.

### Summary: Group Coverage Delay Interval

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7c, Group Coverage |
| Factory Setting | Not applicable |
| Valid Entries | Extension numbers |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Options** → **More** → **Cover Delay** → **Drop** → **Enter** → Dial the number of rings → **Enter** → **Exit** |
| PC Procedure | [F7] → [PgUp] → [F6] → [Alt] + [P] → Type the number of rings → [F10] → [F5] |

# Group Calling Member Assignments

Use this procedure to assign or remove an extension from a calling group. A calling group is used to direct calls to a group of people who all handle the same type of call. A single extension number is assigned to the group and is used by both inside and outside callers to reach the group.

To reassign an extension to a new calling group, you must remove it from its old group before programming the new assignment.

**NOTES:**

1. If a linear hunting pattern is indicated on the back of the system planning form (6d), be sure to assign extensions to the group in the exact order that they are shown on the form. The system searches for an available member in the order in which you assign the extensions to the group.
2. A maximum of 32 calling groups with a maximum of 20 extensions per group is allowed.
3. An extension can belong to only one calling group. A QCC cannot be a member of a calling group. The delay announcement device should not be programmed as a calling group member.
4. The extension status feature must be set to the Calling Group or CMS mode before you assign members to the group. See “Extension Status.”

## Summary: Group Calling Member Assignments

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7c, Group Coverage |
| Factory Setting | Not applicable |
| Valid Entries | Extension numbers |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Grp Calling** → **Members** → Dial calling group ext. no. → **Enter** → Dial ext. no. → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F4] → [F9] → Type calling group ext. no. → [F10] → Type ext. no. → [F10] → [F5] → [F5] → [F5] |

# Group Calling Line/Trunk or Pool Assignments

Use this procedure to assign or remove lines, trunks, or pools (Hybrid/PBX only) that ring directly into a calling group.

Incoming calls on each line/trunk or pool can be directed to only one calling group.

To reassign a line/trunk or pool to a new calling group, you must remove it from its old group before making the new assignment.

### Summary: Group Calling Line/Trunk or Pool Assignments

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7d, Group Calling |
| Factory Setting | Not applicable |
| Valid Entries | Line, trunk, or pool number |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Grp Calling** → **Line/Pool** → Dial calling group ext. no. → **Enter** → Dial line/trunk no. → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F4] → [F10] → Type calling group ext. no. → [F10] → Type line/trunk no. → [F10] → [F5] → [F5] → [F5] |

# Hunt Type

Use this procedure to assign one of the following hunt-type patterns to calling groups:

- **Circular Hunting Pattern.** The system distributes calls to group members by hunting in a circular pattern for the first available extension after the one that received the last call to the group.
- **Linear Hunting Pattern.** The system searches for an available group member in the order in which the extensions were assigned to the calling group.

## Summary: Hunt Type

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7d, Group Calling |
| Factory Setting | Circular hunting pattern |
| Valid Entries | Circular, Linear |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Grp Calling** → **Hunt Type** → Dial calling group ext. no. → **Enter** → **Circular** or **Linear** → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F4] → [F1] → Type calling group ext. no. → [F10] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Group Calling Delay Announcement

Use this procedure to designate the announcement device used to play messages to callers while they are waiting in the queue.

Only one announcement device can be designated for each calling group; however, more than one calling group can use the same announcement device. The extension to which the delay announcement device is connected should not be programmed as a calling group member.

If the extension jack or MFM was previously programmed as a regular extension, you must remove all line/trunk button assignments before you designate the extension jack as a delay announcement device.

### Summary: Group Calling Delay Announcement

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7d, Group Calling |
| Factory Setting | No delay announcement devices are assigned |
| Valid Entries | Announcement, No announcement |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Grp Calling** → **DelayAnnce** → Dial calling group ext. no. → **Enter** → Dial ext. no. of announcement device → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F4] → [F2] → Type calling group ext. no. → [F10] → Type ext. no. of announcement device → [F10] → [F5] → [F5] |

# Group Coverage Receiver

Use this procedure to assign or remove a calling group as receiver for a coverage group.

Calling group member assignments must be made before you assign the group as a receiver for a coverage group.

**NOTE:**
Integrated Administration uses calling group 30 as the default group to cover AUDIX Voice Power.

## Summary: Group Coverage Receiver

| | |
|---|---|
| Programmable by | System manager, Integrated Administration |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7c, Group Coverage |
| Factory Setting | Not applicable |
| Valid Entries | Group numbers |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Grp Calling** → **Grp Coverage** → Dial calling group ext. no. → **Enter** → Dial coverage group no. → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F4] → [F3] → Type calling group ext. no. → Type coverage group no. → [F10] → [F5] → [F5] → [F5] |

# Group Calling Overflow and Threshold

Use this procedure to designate either another calling group or the QCC queue (Hybrid/PBX only) to receive calls when the number of calls waiting in the queue for a calling group is equal to or greater than the programmed threshold.

Overflow coverage can be provided only by calling groups or the QCC queue (Hybrid/PBX only), not by individual extensions. Group members can be notified when the number of calls waiting in the queue reaches the threshold.

A calling group or the QCC queue (Hybrid/PBX only) can provide overflow coverage for more than one calling group; however, which group's calls go to an available member in the overflow calling group is unpredictable.

The factory-set extension number for the QCC Listed Directory Number is 800.

## Summary: Group Calling Overflow and Threshold

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7d, Group Calling |
| Factory Setting | Overflow coverage: none<br>Threshold: 1 call |
| Valid Entries | Backup extension number: 1 to 99 calls |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Grp Calling** → **Overflow** → Dial calling group ext. no. → **Enter** → Dial ext. no. → **Enter** → **Drop** → Dial no. of calls → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F4] → [F8] → Type calling group ext. no. → [F10] → Type backup ext. no. → [F10] → [Alt] + [P] → Type no. of call → [F10] → [F5] → [F5] |

# Group Calling Message-Waiting Indicator

Use this procedure to designate the extension that will receive message-waiting indications (MWIs) for the calling group.

Only one extension can be designated as a message-waiting receiver for each calling group; however, more than one calling group can use the same message-waiting receiver. The extension assigned as a message-waiting receiver does not have to be a member of the calling group.

Message-waiting indications cannot be sent to the extension assigned to the group unless this option is programmed. The message-waiting receiver cannot distinguish between messages left for the calling group and personal messages.

## Summary: Group Calling Message-Waiting Indicator

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7d, Group Calling |
| Factory Setting | No message-waiting receiver assigned |
| Valid Entries | Extension number |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Grp Calling** → **Message** → Dial calling group ext. no. → **Enter** → Dial ext. no. for MWI receiver → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F4] → [F4] → Type calling group ext. no. → [F10] → Type ext. no. for MWI receiver → [F10] → [F5] → [F5] |

# Group Calling Calls-In-Queue Alarm Threshold

Use this procedure to specify the number of unanswered calls that wait in the calling group queue before group members are notified with either an external alert or a light on the telephone. Group members are notified when the number of calls waiting in the queue is equal to or greater than the programmed threshold.

## Summary: Group Calling Calls-In-Queue Alarm Threshold

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7d, Group Calling |
| Factory Setting | 1 call |
| Valid Entries | 1 to 99 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Grp Calling** → **Queue Alarm** → Dial calling group ext. no. → **Enter** → **Drop** → Dial no. of calls → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F4] → [F6] → Type calling group ext. no. → [F10] → [Alt] + [P] → Type no. of calls → [F10] → [F5] → [F5] |

# Group Calling External Alert for Calls-In-Queue Alarm

Use this procedure to designate the external alert device used to notify calling group members when the number of calls in the queue reaches the programmed threshold.

Only one external alert device can be designated for each calling group. Since the external alert signal is continuous, it is recommended that only light-type external alert devices be designated for the Calls-in-Queue alarm.

## Summary: Group Calling External Alert for Calls-In-Queue Alarm

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7d, Group Calling |
| Factory Setting | Not applicable |
| Valid Entries | Extension number |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Grp Calling** → **Xtnl Alert** → Dial calling group ext. no. → **Enter** → **Drop** → Dial ext. no. for alert → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F4] → [F7] → Type calling group ext. no. → [F10][Alt] + [P] → Type ext. no. for alert → [F10] → [F5] → [F5] |

# Group Type

Use this procedure to determine whether or not the system automatically logs in members of a calling group after a power failure. This setting also determines the type of voice messaging interface when the calling group is used to connect voice messaging or automated attendant applications. The settings are listed below.

- **Automatic Log Out.** Used for calling groups to specify that the system does not automatically log in calling group members after a power failure. Calling group members must manually log themselves into the group.
- **Automatic Log In.** Used for calling groups that consist of fax machines or data stations (also called data hunt groups) to specify that the system automatically logs in calling group members after a power failure. This setting can also be used for calling groups consisting of telephones.
- **Integrated VMI.** Used when a voice messaging system that requires special signaling for integrated operation (for example, AUDIX Voice Power, IS II/III, or MERLIN MAIL Voice Messaging System) is connected to one or more extension jacks assigned to a calling group. The system automatically logs in the group members after a power failure.
- **Generic VM.** Used when a voice messaging system that does not need special signaling (for example, MERLIN Attendant) is connected to one or more extension jacks assigned to a calling group. The system automatically logs in the group members after a power failure.

## Summary: Group Type

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7d, Group Calling |
| Factory Setting | Automatic Log Out |
| Valid Entries | Automatic log in, Automatic log out, Integrated VMI, Generic VMI |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Extensions** → **More** → **Grp Calling** → **More** → **Group** → Type Dial calling group ext. no. → **Enter** → Specify login type → **Enter** → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F6] → [PgUp] → [F4] → [PgUp] → Type calling group ext. no. → Specify login type → [F10] → [F5] → [F5] → [F5] |

# System Features

# 15

This section contains programming summaries for the optional system features that affect all or most system users and includes the following:

- Transfer Return Time
- One-Touch Transfer/Hold
- Transfer Audible
- Type of Transfer
- Camp-On Return Time
- Call Park Return Time
- Delay Ring Interval
- Automatic Callback Interval
- Extension Status
- SMDR Language
- SMDR Call Report Format
- SMDR Call Length
- SMDR Calls Recorded on Call Report
- SMDR Account Code Format
- Inside Dial Tone

- Reminder Service Cancel
- Redirect Outside Calls to Unassigned Extension Numbers
- Host System Dial Codes for Behind Switch Mode
- Recall Timer
- Allowed Lists
- Assign Allowed Lists to Telephones
- Disallowed Lists
- Assign Disallowed Lists to Telephones
- Remote Access Trunk Assignment
- Remote Access Automatic Callback
- Remote Access without Barrier Codes
- Remote Access Barrier Codes
- Remote Access with Barrier Codes

# Transfer Return Time

Use this procedure to specify the number of times the telephone rings before a call transferred to another inside telephone is returned to the originator. A setting of 0 means that transferred calls are never returned to the originator.

**NOTE:**
The transfer return time should not be set to 0 in a system with single-line telephones.

## Summary: Transfer Return Time

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | 4 rings (Integrated Administration: 6 rings) |
| Valid Entries | 0 to 9 rings |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **Transfer** → **Return Time** → **Drop** → Dial no. of rings → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F7] → [F1] → [F1] → [Alt] + [P] → Type no. of rings → [F10] → [F5] → [F5] |

# One-Touch Transfer/One-Touch Hold

Use this procedure to assign the One-Touch Transfer or One-Touch Hold feature.

One-Touch Transfer allows users to initiate transfers to another extension by pressing an Auto Dial or DSS button for that extension. If the One-Touch Transfer feature is assigned, you must also specify whether the transfer completion is manual (the user has to press another button to complete the transfer) or automatic (the transfer is completed automatically).

The One-Touch Transfer feature is not available on single-line telephones.

One-Touch Hold applies to incoming central office calls only. When the user presses an Auto Dial or DSS button to initiate a transfer, the outside caller is put on hold. The system automatically selects an intercom facility and dials the transfer destination. There is no transfer return function with this method. Consequently, if the transfer destination does not answer or is busy, the user who initiates the transfer must notify the outside caller, or the outside caller will remain on hold.

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

## Summary: One-Touch Transfer/Hold

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | One-Touch Transfer, automatic completion (One-Touch Hold is the factory setting in Behind Switch mode.) |
| Valid Entries | Transfer, Hold |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To program One-Touch Transfer:<br>**Options** → **Transfer** → **One Touch** → **Transfer** → **Enter** → **Manual** or **Automatic** → **Enter** → **Exit** → **Exit**<br>To program One-Touch Hold:<br>**Options** → **Transfer** → **One Touch** → **Hold** → **Enter** → **Exit** → **Exit** |
| PC Procedure | To program One-Touch Transfer:<br>[F7] → [F1] → [F2] → [F1] → [F10] → [F1] or [F2] → [F10] → [F5] → [F5]<br>To program One-Touch Hold:<br>[F7] → [F1] → [F2] → [F2] → [F10] → [F5] → [F5] |

# Transfer Audible

Use this procedure to specify whether an outside caller hears ringing (also called ringback) or Music On Hold while being transferred. Inside callers always hear ringback during a transfer.

**NOTE:**
If you use equipment that rebroadcasts music or other copyrighted materials, you may be required to obtain a copyright license from and pay license fees to a third party (such as the American Society of Composers, Artists, and Producers or Broadcast Music Incorporated). Magic on Hold requires no such license and can be purchased from your authorized dealer.

## Summary: Transfer Audible

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | Music On Hold |
| Valid Entries | Music On Hold, Ringback |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **Transfer** → **Audible** → **Music On Hold** or **Ringback** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F7] → [F1] → [F3] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Type of Transfer

Use this procedure to specify whether the system automatically selects an Intercom or System Access Ring or Voice button when the **Transfer** button, or an Auto Dial or DSS button (for One-Touch Transfer) is pressed.

### Summary: Type of Transfer

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | Ring button (Intercom or System Access) is automatically selected |
| Valid Entries | Voice Announce, Ring |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **Transfer** → **Type** → **Voice Announce** or **Ring** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F7] → [F1] → [F4] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Camp-On Return Time

Use this procedure to specify the number of seconds before a camped-on call (a call transferred to a busy telephone with the Camp-On feature) is returned to the originator.

**Summary: Camp-On Return Time:**

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | 90 seconds |
| Valid Entries | 30 to 300 seconds, in 10-second increments |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **CampOn** → **Drop** → Dial no. of seconds → **Enter** → **Exit** |
| PC Procedure | [F7] → [F2] → [Alt] + [P] → Type no. of seconds → [F10] → [F5] |

# Call Park Return Time

Use this procedure to specify the number of seconds before a call put on hold with the Park feature is returned to the originator.

### Summary: Call Park Return Time

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | 180 seconds |
| Valid Entries | 30 to 300 seconds, in 10-second increments |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **CallParkRtn** → **Drop** → Dial no. of seconds → **Enter** → **Exit** |
| PC Procedure | [F7] → [F3] → [Alt] + [P] → Type no. of seconds → [F5] → [F5] |

# Delay Ring Interval

Use this procedure to specify the number of rings for the delay ring interval. The delay ring interval is applied when a primary, secondary, or group cover button is set to delayed ring.

### Summary: Delay Ring Interval

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 7c, Group Coverage |
| Factory Setting | 2 rings |
| Valid Entries | 1 to 6 rings |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **Delay Ring** → **Drop** → Dial no. of rings → **Enter** → **Exit** |
| PC Procedure | [F7] → [F4] → [Alt] + [P] → Type no. of rings → [F10] → [F5] |

# Automatic Callback Interval

Use this procedure to specify the number of times the telephone rings at the originator's telephone before the system cancels a Callback request.

### Summary: Automatic Callback Interval

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | 3 rings |
| Valid Entries | 1 to 6 rings |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **Callback** → **Drop** → Dial no. of rings → **Enter** → **Exit** |
| PC Procedure | [F7] → [F6] → [Alt] + [P] → Type no. of rings → [F10] → [F5] |

# Extension Status

Use this procedure to specify whether the Extension Status (ES) feature is used in Hotel mode or Group Calling/Call Management System (CMS) mode.

The calling mode affects the meaning of the LEDs and the use of Auto Dial or DSS buttons when the DLC operator position is in Extension Status mode.

In Hotel mode, telephones are restricted from making calls in Extension Status states 1 and 2 (ES1 and ES2). In Group Calling/CMS mode, ES states reflect member or agent status without restricting the telephones. In the Group Calling/CMS mode, the Extension Status feature is used by the agents to log in and out, and by the supervisor to see agent status.

## Summary: Extension Status

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | Group Calling/CMS mode |
| Valid Entries | Group Calling/CMS mode, Hotel mode |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **Ext Status** → **Hotel** or **GrpCall/CMS** → **Enter** → **Exit** |
| PC Procedure | [F7] → [F7] → [F1] or [F2] → [F10] → [F5] |

# SMDR Language

Use this procedure to change the language of the SMDR reports. It applies to Releases 1.1, 2.0, 2.1 and 3.0 only. The default report language is the same as that set for the system language. See “System Language.”

## Summary: SMDR Language

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 1, System Planning |
| Factory Setting | English (matches System Language setting) |
| Valid Entries | English, French, Spanish |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **More** → **Language** → **SMDR** → Select language → **Enter** → **Exit** |
| PC Procedure | [PgUp] → [F6] → [F3] → Select language → [F10] → [F5] |

# SMDR Call Report Format

Use this procedure to specify whether the SMDR call reports are printed in Basic format or ISDN format. In ISDN format, automatic number identification (ANI) information appears in the Calling Number field in place of IN (which appears in the Basic report format). The call recording type for these calls is I in ISDN format and C in Basic format.

ISDN format should be used only in conjunction with automatic number identification (ANI) or Caller ID service subscription.

## Summary: SMDR Call Report Format

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | Basic format |
| Valid Entries | Basic, ISDN |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **SMDR** → **Format** → **Basic SMDR** or **ISDN SMDR** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F7] → [F8] → [F1] → [F1] or [F2] → [F10] → [F5] → [F5] |

# SMDR Call Length

Use this procedure to set the minimum time length of a call before it is recorded on SMDR call reports.

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

## Summary: SMDR Call Length

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | 40 seconds |
| Valid Entries | 0 to 255 seconds |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **SMDR** → **Call Length** → **Drop** → Dial no. of seconds → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F7] → [F8] → [F2] → [Alt] + [P] → Type no. of seconds → [F10] → [F5] → [F5] |

# SMDR Calls Recorded on Call Report

Use this procedure to specify whether SMDR information should be recorded for both incoming and outgoing calls or for outgoing calls only.

## Summary: SMDR Calls Recorded on Call Report

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | Incoming and outgoing |
| Valid Entries | In/Out, Out Only |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **SMDR** → **Call Report** → **In/Out** or **Out Only** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F7] → [F8] → [F3] → [F1] or [F2] → [F10] → [F5] → [F5] |

# SMDR Account Code Format

For calls made using an authorization code, SMDR can be programmed to either have the “home extension” or the actual authorization codes recorded in the Account Code field if no Account Code is entered. Account Code overrides the Authorization Code entry in the SMDR record when both features are used.

### Summary: SMDR Account Code Format

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | Home Extension Number |
| Valid Entries | Home Extension Number, Authorization Code |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **SMDR** → **Auth Code** → **Home Extension Number** or **Authorization Code** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F7] → [F8] → [F6] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Inside Dial Tone

Use this procedure to set the inside (system) dial tone to be either different from, or the same as, the outside line/trunk dial tone.

**NOTE:**
The inside dial tone must be the same as the outside dial tone when the internal dial tone is not recognized by software applications or modems.

## Summary: Inside Dial Tone

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | Inside dial tone is different from outside dial tone |
| Valid Entries | Inside, Outside |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **InsideDial** → **Inside** or **Outside** → **Enter** → **Exit** |
| PC Procedure | [F7] → [F9] → [F1] or [F2] → [F10] → [F5] |

# Reminder Service Cancel

Use this procedure to set the time of day when all programmed Reminder Service calls are automatically canceled.

To deactivate Reminder Service Cancel, erase the currently programmed time and do not enter a new time.

### Summary: Reminder Service Cancel

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | Not applicable |
| Valid Entries | 0000 to 2359 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To deactivate Reminder Service Cancel:<br>**Options** → **Reminder Srv** → **Drop** → **Enter** → **Exit**<br>To set Reminder Service Cancel time:<br>**Options** → **Reminder Srv** → **Drop** → Dial time → **Enter** → **Exit** |
| PC Procedure | To deactivate Reminder Service Cancel:<br>[F7] → [F10] → [Alt] + [P] → [F10] → [F5]<br>To set Reminder Service Cancel time:<br>[F7] → [F10] → [Alt] + [P] → Type time → [F10] → [F5] |

# Redirect Outside Calls to Unassigned Extension Numbers

Use this procedure to specify the extension number to receive redirected calls. Redirected calls include calls made to unassigned numbers by remote access users, by users on DID trunks (Hybrid/PBX only), or by users on dial-in tie trunks. Calls can be redirected to the following locations:

- The QCC queue (Hybrid/PBX only)
- Another extension number
- A calling group

**Hybrid/PBX Mode Only**
This setting does not affect calls received on DID trunks if you have specified that calls to unassigned DID extensions are to receive a fast busy signal. See "Invalid Destination."

## Summary: Redirect Outside Calls to Unassigned Extension Numbers

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | Extension number of primary operator |
| Valid Entries | QCC queue extension number, other extension number |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To select QCC queue:<br>**Options** → **More** → **Unassigned** → **QCC Queue** → **Enter** → **Exit**<br>To select extension or calling group:<br>**Options** → **More** → **Unassigned** → **Extension** or **Grp Calling** → **Enter** → Dial ext. no. or group no. → **Enter** → **Exit** |
| PC Procedure | To select QCC queue:<br>[F7] → [PgUp] → [F1] → [F1] → [F1] → [F10] → [F5]<br>To select extension or calling group:<br>[F7] → [PgUp] → [F1] → [F2] or [F3] → Type ext. no. or group no. → [F10] → [F5] |

# Host System Dial Codes for Behind Switch Mode

Use this procedure to assign the host system dial codes for the Transfer, Conference, and Drop features.

When multiline telephone users press the **Transfer, Conference,** or **Drop** button, a signal is sent to the host service and the communications system features are not accessed. Assigning dial codes to these features ensures that users can take advantage of them through the host system.

**NOTE:**
This procedure applies to Behind Switch mode only.

## Summary: Host System Dial Codes for Behind Switch Mode

| | |
|---|---|
| Programmable by | System manager |
| Mode | Behind Switch |
| Idle Condition | Not required |
| Planning Form | Form 1, System Planning |
| Factory Setting | No host dial codes are assigned |
| Valid Entries | Host system dial code of up to 6 digits |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **More** → **BehndSwitch** → Select feature → **Drop** → Dial host system dial code → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F7] → [PgUp] → [F2] → Select feature → [Alt] + [P] → Type host system dial code → [F10] → [F5] → [F5] |

# Recall Timer

Use this procedure to designate the length of the timed flash that is sent when Recall is used to disconnect a call and get a new dial tone without hanging up. Both the interval of the timed flash and how Recall works depend on the type of telephone and system operating mode.

The recall timer should be reset if multiline telephone users experience either of the following problems:

- Nothing happens when the user presses the Recall button on an outside call. This indicates that the interval is too short and should be increased to 650 milliseconds or 1 second.
- In a system operating in Behind Switch mode, the call is disconnected when the user presses the Recall button on an outside call. This indicates that the interval is too long and should be decreased to 350 milliseconds.

## Summary: Recall Timer

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, System Features |
| Factory Setting | 450 ms |
| Valid Entries | 350 ms, 450 ms, 650 ms, 1 second |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Options** → **More** → **RecallTimer** → Select time → **Enter** → **Exit** |
| PC Procedure | [F7] → [PgUp] → [F3] → Select time → [F10] → [F5] |

# Allowed Lists

Use this procedure to establish Allowed Lists. These lists are telephone numbers that can be dialed from specified telephones, regardless of any calling restrictions that are assigned to the telephones.

A maximum of eight lists (numbered 0 through 7) with a maximum of 10 numbers each (numbered 0 through 9) are allowed. Each allowed number can be no more than six digits (an area code plus an exchange) or six digits with a leading 1, where required.

If you program 0 as the first digit of a list entry, any toll restriction assigned to the extension is removed for calls that can be placed by a toll operator.

Special characters (such as Pause) are not permitted in Allowed List entries.

## Summary: Allowed Lists

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 6g, Call Restriction Assignments and Lists |
| Factory Setting | Not applicable |
| Valid Entries | Area code/exchange (1- to 6-digits with leading 1 if necessary) |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Tables** → **AllowList** → Dial list no. and entry no. → **Enter** → **Drop** → Dial no. → **Enter** → **Exit** |
| PC Procedure | [F8] → [F1] → Type list no. and entry no. → [F10] → [Alt] + [P] → Type no. → [F10] → [F5] |

# Assign Allowed Lists to Telephones

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

### Summary: Assign Allowed Lists to Telephones

| | |
|---|---|
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 6g, Call Restriction Assignments and Lists |
| Factory Setting | Not applicable |
| Valid Entries | 0 to 7 |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | **Tables** → **AllowTo** → Dial list no. → **Enter** → Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F2] → Type list no. → [F10] → Type ext. no. → [F10] → [F5] → [F5] |

# Disallowed Lists

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

A maximum of 8 lists (numbered 0 through 7) with 10 entries each (numbered 0 through 9) are allowed. Each number can have a maximum of 11 digits, including a wildcard.

## Summary: Disallowed Lists

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 6g, Call Restriction Assignments and Lists |
| Factory Setting | Not applicable |
| Valid Entries | 1- to 11-digits with 1 wildcard |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Tables** → **Disallow** → Dial list no. and entry no. → **Enter** → **Drop** → Dial no. → **Enter** → **Exit** |
| PC Procedure | [F8] → [F3] → Type list no. and entry no. → [F10] → [Alt] + [P] → Type no. → [F10] → [F5] |

# Assign Disallowed Lists to Telephones

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

## Summary: Assign Disallowed Lists to Telephones

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 6g, Call Restriction Assignments and Lists |
| Factory Setting | Not applicable |
| Valid Entries | 0 to 7 |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | **Tables** → **DisallowTo** → Dial list no. → **Enter** → Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F4] → Type list no. → [F10] → Type ext. no. → [F10] → [F5] → [F5] |

# Remote Access Features

This section covers the following Remote Access features:

- Remote Access Trunk Assignment
- Remote Access Automatic Callback
- Remote Access without Barrier Codes
- Remote Access Barrier Codes
- Remote Access with Barrier Codes

**Security Alert:**

As a customer of a new telephone system, you should be aware that there exists an increasing problem of telephone toll fraud. Telephone toll fraud can occur in many forms, despite the numerous efforts of telephone companies and telephone equipment manufacturers to control it. Some individuals use electronic devices to prevent or falsify records of these calls. Others charge calls to someone else's number by illegally using lost or stolen calling cards, billing innocent parties, clipping onto someone else's line, and breaking into someone else's telephone equipment physically or electronically. In certain instances, unauthorized individuals make connections to the telephone network through the use of remote access features.

The Remote Access feature of your system, if you choose to use it, permits off-premises callers to access the system from a remote telephone by using an 800 number or a 7- or 10-digit telephone number, The system returns an acknowledgment signaling the user to key in his or her barrier code, which is selected and administered by the system manager. After the barrier code is accepted, the system returns dial tone to the user. If you do not program specific restrictions, the user will be able to place any call normally dialed from a telephone associated with the system. Such an off-premises network call is originated at, and will be billed from the system location.

The Remote Access feature helps the customer, through proper administration, to minimize the ability of unauthorized persons to gain access to the network. Most commonly, phone numbers and codes are compromised when overheard in a public location, through theft of a wallet or purse containing access information, or through carelessness (writing codes on a piece of paper and improperly discarding it). Additionally, hackers may use a computer to dial an access code and then publish the information to other hackers. Enormous charges can be run up quickly. It is the customer's responsibility to take the appropriate steps to properly implement the features, evaluate and administer the various restriction levels, protect access codes, and distribute access codes only to individuals who have been fully advised of the sensitive nature of the access information.

Common carriers are required by law to collect their tariffed charges. While these charges are fraudulent charges made by persons with criminal intent, applicable tariffs state that the customer of record is responsible for payment of all long-distance or other network charges. AT&T cannot be responsible for such charges and will not make any allowance or give any credit for charges that result from unauthorized access.

To minimize the risk of unauthorized access to your communications system follow these basic rules:

- Use a nonpublished remote access number.
- Assign barrier codes randomly to users on a need-to-have basis, keeping a log of ALL authorized users and assigning one code to one person.
- Use random sequence barrier codes, which are less likely to be broken.
- Deactivate all unassigned codes promptly.
- Ensure that remote access users are aware of their responsibility to keep the telephone number and any barrier codes secure.
- When possible, restrict the off-network capability of off-premises callers using the Call Restrictions and Disallowed List capabilities.

- When possible, block out-of-hours calling.
- Frequently monitor system call detail reports for quicker detection of any unauthorized or abnormal calling patterns.
- Limit remote call forward to persons on a need-to-have basis.

## Remote Access Trunk Assignment

Use this procedure to assign or remove the trunks used for remote access. You can also use this procedure to specify whether the Remote Access feature is dedicated (always used for remote access) or shared (used for remote access only when Night Service is activated).

Trunks used for dedicated remote access must not be assigned to ring into a calling group or the QCC queue (Hybrid/PBX mode only).

In Hybrid/PBX mode, if a trunk assigned to ring into the QCC queue is also used for shared remote access, perform the procedure below before you perform the “QCC Operator to Receive Calls” procedure.

**NOTE:**
A loop start trunk must be programmed for Reliable Disconnect if it is to be used for remote access (see “Disconnect Signaling Reliability”).

## Summary: Remote Access Trunk Assignment

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3a, Incoming Trunks: Remote Access |
| Factory Setting | Remote Access is not assigned |
| Valid Entries | Dedicated, Shared, No Remote |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **RemoteAccss** → **LinesTrunks** → Dial line/trunk no. → **Enter** → Specify how trunk is used → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F8] → [F1] → Type line/trunk no. → [F10] → Specify how trunk is used → [F10] → [F5] → [F5] |

# Remote Access Automatic Callback

Use this procedure either to allow remote access users to use the Automatic Callback feature to request busy lines/trunks or pools or to prevent use of the Automatic Callback feature.

**NOTE:**
This feature applies to Hybrid/PBX mode only.

## Summary: Remote Access Automatic Callback

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3a, Incoming Trunks: Remote Access |
| Factory Setting | Disable |
| Valid Entries | Disable, Enable |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **RemoteAccss** → **AutoQueuing** → **Enable** or **Disable** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F8] → [F6] → [F1] or [F2] → [F10] → [F5] → [F5] |

# Remote Access Without Barrier Codes

Use this procedure to change the class of restriction for one of the following:

- All non-tie lines/trunks
- All tie trunks and DID trunks with Remote Access
- DID remote access code

**NOTE:**
If barrier code requirements have been established for remote access users, use “Remote Access with Barrier Codes” and not this procedure.

The class of restriction assigned may be one of the following:

- **Restriction.** Determines whether remote access users can make local and/or toll calls and includes the following settings:
  - — Unrestricted
  - — Toll restricted
  - — Outward restricted
- **ARS Facility Restriction Level** (Hybrid/PBX only). Allows or disallows use of outgoing trunks by assigning a facility restriction level from 0 through 6. The FRL ranges from 0 (most restrictive) to 6 (least restrictive). The FRL value assigned here is the opposite of the FRL value assigned to the ARS route, where a value of 0 is the least restrictive, and a value of 6 is the most restrictive.
- **Allowed Lists Assignment.** Assigns Allowed Lists and is used when remote access users are restricted from making local or toll calls.
- **Disallowed Lists Assignment.** Assigns Disallowed Lists and is used when remote access users are not restricted from making local or toll calls.

A maximum of eight Allowed or Disallowed Lists can be assigned to lines/trunks.

Class of restriction settings are assigned either to all non-tie trunks or to all tie ‘ trunks and DID trunks. They cannot be assigned to each trunk on an individual basis.

## Summary: Remote Access Without Barrier Codes

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3a, Incoming Trunks: Remote Access |
| Factory Setting | Call restriction: Outward restricted<br>ARS restriction level: 3 |
| Valid Entries | Unrestricted, Toll Restricted, Outward Restricted; 0 to 6 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To change Call Restrictions:<br>**LinesTrunks** → **RemoteAccss** → **Non-TIE** or **TIE Lines** → **Restriction** → Select restriction → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**<br><br>To change ARS Facility Restriction Level:<br>**LinesTrunks** → **RemoteAccss** → **Non-TIE** or **TIE Lines** → **ARS Restrict** → **Drop** → Dial FRL value → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**<br><br>To assign/remove Allowed Lists:<br>**LinesTrunks** → **RemoteAccss** → **Non-TIE** or **TIE Lines** → **Allow List** → Dial list no. → **Enter** → **Exit** → **Exit** → **Exit** → **Exit** |

To assign/remove Disallowed Lists:
**LinesTrunks** → **RemoteAccss** → **Non-TIE** or **TIE Lines** → **DisallowLst** → Dial list no. → **Enter** → **Exit** → **Exit** → **Exit** → **Exit**

PC Procedure

To change Call Restrictions:
[F4] → [F8] → [F2] or [F3] → [F2] → Select restriction → [F10] → [F5] → [F5] → [F5] → [F5]

To change ARS Facility Restriction Level:
[F4] → [F8] → [F2] or [F3] → [Alt] + [P] → Type FRL value → [F10] → [F5] → [F5] → [F5] → [F5]

To assign/remove Allowed Lists:
[F4] → [F8] → [F2] or [F3] → [F4] → Type list no. → [F5] → [F5] → [F5] → [F5]

To assign/remove Disallowed Lists:
[F4] → [F8] → [F2] or [F3] → [F6] → Type list no. → [F10] → [F5] → [F5] → [F5] → [F5]

# Remote Access Barrier Codes

Use this procedure to establish or remove barrier code requirements as well as to establish or remove the barrier codes themselves.

Barrier codes are security passwords that restrict users from making unauthorized remote access calls on tie and non-tie lines and trunks. Callers are allowed three attempts per call to enter the correct remote access barrier code. If the caller enters an incorrect barrier code or times out during code entry, the caller hears the retry tone. The caller can erase an entered code by dialing ✶✶ (two asterisks). Code erasure is counted as one of the three permitted attempts. After three unsuccessful attempts, the caller hears a reorder tone and the call is disconnected, If this happens, the SMDR will contain sixteen 0's in the Account Code field to flag the three failed attempts.

A maximum of 16 barrier codes are allowed for all lines/trunks. Each of the 16 barrier codes may be programmed with its own class of restriction (COR).

The systemwide barrier code length can range from a minimum of 4 characters to a maximum of 11 characters. The default length is 7. If you enter a length that is less than 4 or greater than 11, the entry is erased and the previous entry displays on the screen. When the barrier code length is changed, all barrier codes are erased and must be reassigned.

The time and date of the most recent change made to the systemwide barrier code length is shown during the system programming procedure as well as on the Remote Access DISA Information report. The SMDR record for incoming remote access trunks includes the barrier code IDs established in this procedure.

Use numbers 0 through 9 and the asterisk (*) to enter the barrier codes. The codes cannot start with an asterisk and cannot contain two consecutive asterisks. (The use of two consecutive asterisks is reserved for users to erase an incorrect barrier code entry.)

See "Remote Access with Barrier Codes: Class of Restriction" to allow or deny use of system features for each barrier code assigned.

## Summary: Remote Access Barrier Codes

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3a, Incoming Trunks: Remote Access |
| Factory Setting | No barrier codes are established |
| Valid Entries | Not applicable |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To establish or remove code requirements:<br>**LinesTrunks** → **RemoteAccss** → **Non-Tie** or **TIE Lines** → **BarrierCode** → Specify whether barrier codes are required → **Enter** → **Exit** → **Exit** → **Exit**<br><br>To change barrier code length:<br>**LinesTrunks** → **RemoteAccss** → **BarrierCode** → **Code Info** → **Code Length** → **Drop** → Dial code length → **Enter** → **Yes** → **Exit** → **Exit** → **Exit**<br><br>To change barrier code:<br>**LinesTrunks** → **RemoteAccss** → **BarrierCode** → **Code Info** → **Code Entry** → Dial code ID → **Enter** → **Drop** → Dial code → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | To establish or remove code requirements:<br>[F4] → [F8] → [F2] or [F3] → [F1] → Specify whether barrier codes are required → [F10] → [F5] → [F5] → [F5]<br><br>To change barrier code length:<br>[F4] → [F8] → [F4] → [F2] → [F1] → [Alt] + [P] → Type code length → [F10] → [F2] → [F5] → [F5] → [F5]<br><br>To change barrier code:<br>[F4] → [F8] → [F4] → [F2] → [F2] → Type Code ID → [F10] → [Alt] + [P] → Type code → [F10] → [F5] → [F5] → [F5] |

# Remote Access with Barrier Codes

Use this procedure to change the class of restriction for individual remote access barrier codes. The class of restriction assigned to each barrier code allows or denies the use of the following system features:

- **Restriction.** Determines whether remote access users can make local and/or toll calls, and includes the following settings:
  - — Unrestricted
  - — Toll restricted
  - — Outward restricted
- **ARS Facility Restriction Level** (Hybrid/PBX only). Allows or restricts use of outgoing trunks by assigning a facility restriction level (FRL) from 0 through 6. The FRL ranges from 0 (most restrictive) to 6 (least restrictive). The FRL value assigned here is the opposite of the FRL value assigned to the ARS route, where a value of 0 is the least restrictive, and a value of 6 is the most restrictive.
- **Allowed Lists Assignment.** Assigns Allowed Lists and is used when remote access users are restricted from making local or toll calls.
- **Disallowed Lists Assignment.** Assigns Disallowed Lists and is used when remote access users are not restricted from making local or toll calls.

A maximum of eight Allowed or Disallowed Lists can be assigned to each barrier code. Class of restriction settings apply to individual barrier codes.

**NOTE:**
If barrier code requirements have not been established or have been removed for remote access users, do not use this procedure. See “Remote Access Without Barrier Codes.”

## Summary: Remote Access with Barrier Codes

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 3a, Incoming Trunks: Remote Access . |
| Factory Setting | Call restrictions:<br>Barrier Code: outward restricted<br>All other barrier codes: unrestricted<br>ARS restriction level: 3 |
| Valid Entries | Unrestricted, Toll Restricted, Outward Restricted; 0 to 6 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **LinesTrunks** → **RemoteAccss** → **BarrierCode** → **Restriction** → Dial barrier code no. → **Enter** → Select restriction → **Enter** → **ARS Restrict** → Dial barrier code no. → **Enter** → **Drop** → Dial FRL value → **Enter** → **Allow List** or **Disallow List** → Dial barrier code no. → **Enter** → Dial list no. → **Enter** → **Exit** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F4] → [F8] → [F4] → [F3] → Type barrier code no. → [F10] → Select restriction → [F10] → [F4] → Type barrier code no. → [F10] → [Alt] + [P] → Type FRL value → [F10] → [F6] or [F7] → Type barrier code no. → [F10] → [F5] → [F5] → [F5] → [F5] |

# Automatic Route Selection

# 16

This section contains programming procedures for the following Automatic Route Selection (ARS) features:

- 1 + 7-Digit Dialing Requirements
- ARS Tables
- Start and Stop Times for Subpatterns
- Pool Routing
- Facility Restriction Level (FRL)
- Digit Absorption
- Other Digits
- N11 Special Numbers Tables
- Dial 0 Table
- Voice and/or Data Routing

**NOTE:**
ARS applies to Hybrid/PBX mode only.

# 1 + 7-Digit Dialing Requirements

Use this procedure for calls placed within the same (home) area code as the system. The procedure allows you to specify whether or not the local telephone company requires a 1 to precede the 7-digit number. The two available settings are:

- **Within Area Code.** Requires that a 1 plus a 7-digit number must be dialed; the system checks the 1 + 7-digit tables for routing.
- **Not Within Area Code.** Does not require that a 1 precede the 7-digit number (the system does this automatically).

## Summary: 1 + 7-Digit Dialing Requirements

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3f, Automatic Route Selection Tables |
| Factory Setting | Not within area code |
| Valid Entries | Not within area code, Within area code |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Tables** → **ARS** → **ARS 1+7Dial** → **Within Area Code** or **Not within Area Code** → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F6] → [F1] → [F1] or [F2] → [F10] → [F5] → [F5] |

# ARS Tables

Use this procedure for the following tasks:

- To specify type of table (6-digit, area code, exchange, or 1 + 7-digit number).
- To add or change area codes to be included in each table.
- To add or change exchanges to be included in each table.

A maximum of 16 tables can be established, numbered 1 through 16. Each table can have a maximum of 100 entries, numbered 1 through 100. Tables 17 and 18, the Default Toll and Default Local tables respectively, cannot be changed.

The first entry in a 6-digit table must be the area code. Subsequent entries consist of exchanges within that area code.

Area code tables can contain only area codes.

Exchange and 1 + 7-digit tables can contain only exchanges.

The wildcard character (Pause) cannot be used to enter area codes or exchanges in ARS tables.

## Summary: ARS Tables

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3f, Automatic Route Selection Tables |
| Factory Setting | Not applicable |
| Valid Entries | Not applicable |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | **Tables** → **ARS** → **ARS Input** → Dial table no. → **Enter** → Specify table type → **Enter** → Dial entry no. → **Enter** → **Drop** → Dial no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F2] → Type table no. → [F10] → Select table type → [F10] → Type entry no. → [F10] → [Alt] + [P] → Type no. → [F10] → [F5] → [F5] |

# Start and Stop Times for Subpatterns

Use this procedure to specify the time of day that calls are routed using Subpattern B routing information.

Subpatterns are used to provide two different routing patterns according to the time of day. This allows you to take advantage of lower rates that may apply to some or all lines, or to change restrictions on some facilities during off hours.

The stop time for Subpattern B is the start time for Subpattern A.

Enter the time in 4-digit, 24-hour notation, and use leading zeros as necessary.

## Summary: Start and Stop Times for Subpatterns

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3f, Automatic Route Selection Tables<br>Form 3g, Automatic Route Selection Default and Special Numbers Tables |
| Factory Setting | No time is specified, thus all calls are routed according to Subpattern A. |
| Valid Entries | 0000 to 2359 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Tables** → **ARS** → **Sub B Start** → Dial table no. → **Enter** → **Drop** → Dial start time → **Enter** → **Sub B Stop** → Dial table no. → **Enter** → **Drop** → Dial stop time → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F6] → [F8] → Type table no. → [F10] → [Alt] + [P] → Type start time → [F10] → [F8] → Type table no. → [F10] → [Alt] + [P] → Type stop time → [F10] → [F5] → [F5] |

# Pool Routing

Use this procedure to identify the trunk pools on which to route calls to area codes and/or exchanges included in ARS tables.

A maximum of six routes (numbered 1 through 6) can be specified for each subpattern. Pool routing is programmed for Tables 1 through 16. Tables 17 and 18, the Default Toll and Default Local tables respectively, cannot be changed.

## Summary: Pool Routing

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3f, Automatic Route Selection Tables<br>Form 3g, Automatic Route Selection Default and Special Numbers Tables |
| Factory Setting | Not applicable |
| Valid Entries | Not applicable |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Tables** → **ARS** → **Sub A Pools** or **Sub B Pool** → Dial table no. and pool route no. → **Enter** → Dial pool dial-out code → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F6] → [F3] or [F10] → Type table no. and pool route no. → [F10] → Type pool dial-out code → [F10] → [F5] → [F5] |

# Facility Restriction Level

Use this procedure to assign a Facility Restriction Level (FRL) to each route. The FRL ranges from 0 (least restrictive) to 6 (most restrictive) and is used to restrict user access to the route. The FRL assigned to telephones and remote access users is the opposite of the FRL assigned to routes, where 0 is the most restrictive and 6 is the least restrictive.

**NOTE:**
Pool routes must be programmed before you assign Facility Restriction Levels.

Facility Restriction Levels are assigned to Tables 1 through 18. Tables 17 and 18, the Default Toll and Default Local tables respectively, cannot be changed.

## Summary: Facility Restriction Level

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3f, Automatic Route Selection Tables<br>Form 3g, Automatic Route Selection Default and Special Numbers Tables |
| Factory Setting | 3 |
| Valid Entries | 0 to 6 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Tables** → **ARS** → **Sub A FRL** or **More** and **Sub B FRL** → Dial table no. and pool route no. → **Enter** → Dial restriction level → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F6] → [F4] or [PgUp] and [F1] → Type table no. and pool route no. → [F10] → Type restriction level → [F10] → [F5] → [F5] |

# Digit Absorption

Use this procedure to specify how many of the digits dialed (0 through 11) by the caller should be absorbed (not sent to the telephone company's central office) by the system when a call is made on an identified route.

Entries of 1 through 11 indicate that the system should not send the specified number of digits, starting with the first digit dialed by the user after the dial-out code.

Digit absorption is assigned to Tables 1 through 18.

**NOTE:**
Pool routes must be programmed before you assign digit absorption.

## Summary: Digit Absorption

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3f, Automatic Route Selection Tables |
| Factory Setting | 0 |
| Valid Entries | 0 to 11 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Tables** → **ARS** → **SubA Absorb** or **More** and **SubB Absorb** → Dial table no. and pool route no. → **Enter** → **Drop** → Dial no. of digits to absorb → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F6] → [F6] or [PgUp] and [F2] → Type table no. and pool route no. → [F10] → [Alt] + [P] → Type no. of digits to absorb → [F10] → [F5] → [F5] |

# Other Digits

Use this procedure to specify other (extra) digits that must be added by the system to the beginning of the number dialed by the caller, when calls are placed on an identified route.

**NOTES:**

1. Pool routes must be programmed before you assign other digits.
2. A maximum of 20 digits can be added, in any combination of the digits 0 through 9.
3. Special characters such as switchhook flash, Stop, and # cannot be included as extra digits. Pause is allowed in every position but the first.
4. Other digits are assigned to Tables 1 through 18.

## Summary: Other Digits

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3f, Automatic Route Selection Tables |
| Factory Setting | 0 |
| Valid Entries | Up to 20 digits (any combination of 0 to 9) |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Tables** → **ARS** → **Sub A Digit** or **More** and **Sub BDigit** → Dial table no. and pool route no. → **Enter** → **Drop** → Dial digits to be added → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F6] → [F7] or [PgUp] and [F3] → Type table no. and pool route no. → [F10] → [Alt] + [P] → Type digits to be added → [F10] → [F5] → [F5] |

# N11 Special Numbers Tables

Use this procedure to specify Facility Restriction Level (FRL) and/or digits that must be added when emergency numbers in the N11 Special Numbers table are dialed (for example, 411, 811, or 911).

Subpattern B, absorb, and pool routing cannot be programmed for the N11 Special Numbers tables.

### Summary: N11 Special Numbers Tables

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3g, Automatic Route Selection Default and Special Numbers Tables |
| Factory Setting | Not applicable |
| Valid Entries | Not applicable |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To change Facility Restriction Level:<br>**Tables** → **ARS** → **More** → **SpeclNumber** → **ARS FRL** → **Drop** → Dial FRL value → **Enter** → **Exit** → **Exit** → **Exit**<br><br>To program other digits:<br>**Tables** → **ARS** → **More** → **SpeclNumber** → **ARS Digit** → **Drop** → Dial digits → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | To change Facility Restriction Level:<br>[F8] → [F6] → [PgUp] → [F4] → [F1] → [Alt] + [P] → Type FRL value → [F10] → [F5] → [F5]<br><br>To program other digits:<br>[F8] → [F6] → [PgUp] → [F4] → [F2] → [Alt] + [P] → Type digits → [F10] → [F5] → [F5] |

# Dial 0 Table

Use this procedure to specify pool routing, Facility Restriction Level (FRL), and Other Digits for the Dial 0 table.

Only one route can be specified. The Subpattern B route cannot be specified for this table, and digit absorption cannot be specified.

## Summary: Dial 0 Table

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3g, Automatic Route Selection Default and Special Numbers Tables |
| Factory Setting | 3 |
| Valid Entries | 0 to 6 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Tables** → **ARS** → **More** → Dial 0 → **ARS Pool** or **ARS FRL** or **ARS Digits** → Dial value → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F6] → [PgUp] → [F6] → [F1] or [F2] or [F3] → Type value → [F10] → [F5] → [F5] → [F5] |

# Voice and/or Data Routing

Use this procedure to route voice, data, or voice and data. The voice/data specification is used mainly in conjunction with PRI. See Chapter 9, “PRI Facilities,” especially its subtopic, “Outgoing Tables.”

Voice/data routes can be associated with Subpattern A or Subpattern B.

## Summary: Voice and/or Data Routing

| | |
|---|---|
| Programmable by | System manager |
| Mode | Hybrid/PBX |
| Idle Condition | Not required |
| Planning Form | Form 3g, Automatic Route Selection Default and Special Numbers Tables |
| Factory Setting | Voice |
| Valid Entries | Voice Only, Data Only, Voice Data |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **Tables** → **ARS** → **More** → **Sub A Data** or **Sub B Data** → Dial table no. and route no. → **Enter** → Select capability → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F8] → [F6] → [PgUp] → [F7] or [F8] → Type table no. and route no. → [F10] → Select capability → [F10] → [F5] → [F5] |

# Night Service

# 17

This section contains summary information for the following optional Night Service features:

- Night Service Group Assignment
- Night Service with Outward Restriction
- Night Service with Time Set

## Night Service Group Assignment

Use this procedure to assign extensions and calling groups to a Night Service group for coverage after hours.

A maximum of eight Night Service groups can be assigned (no more than one for each operator position assigned). Any number of extensions can be assigned to a Night Service group, and an extension can belong to more than one group.

A calling group can also be assigned to a Night Service group. This applies only to Release 2.0 or later.

## Summary: Night Service Group Assignment

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 9a, Night Service: Group Assignment |
| Factory Setting | Not applicable |
| Valid Entries | Not applicable |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To assign a calling group to a Night Service group: **NightSrvce** → **GroupAssign** → **Calling Group** → Dial ext. no. of Night Service attendant → **Enter** → Dial calling group no. → **Enter** → **Exit** → **Exit**<br>To assign an extension to a Night Service group: **NightSrvce** → **GroupAssign** → **Extensions** → Dial ext. no. of Night Service attendant → **Enter** → Dial ext. no. of telephone → **Enter** → **Exit** → **Exit** |
| PC Procedure | To assign a calling group to a Night Service group: [F10] → [F1] → [F2] → Type ext. no. of Night Service attendant → [F10] → Type calling group no. → [F10] → [F5] → [F5]<br>To assign an extension to a Night Service group: [F10] → [F1] → [F1] → Type ext. no. of Night Service attendant → [F10] → Type ext. no. of telephone → [F10] → [F5] → [F5] |

# Night Service with Outward Restriction

Use this procedure to prevent unauthorized use of telephones after hours. This feature requires the user to enter a password to make a call when Night Service is activated, unless one of the lists below applies. it also requires an operator to enter a password in order to manually activate Night Service.

This procedure is also used to establish the following lists:

- **Emergency Allowed List.** A list of telephone numbers that can be dialed without a password.
- **Exclusion List.** A list of extensions that are exempt from password requirements.

**NOTES:**

1. A maximum of six telephone numbers can be included on the Emergency Allowed List, each number with a maximum of 12 digits.
2. Extensions included in the Exclusion List keep normal call restrictions (if any are assigned); however, they are not protected in any other way from unauthorized use after hours.
3. AUDIX Voice Power jacks are automatically included on the Exclusion List.

## Summary: Night Service with Outward Restriction

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 9b, Night Service: Outward Restrictions |
| Factory Setting | No password |
| Valid Entries | 4 digits (any combination of 0 to 9) |
| Inspect | Yes (Exclusion List) |
| Copy Option | No |
| Console Procedure | **NightSrvce** → **OutRestrict** → **Drop** → Dial password → **Enter** → **Emergency** → Dial item no. → **Enter** → **Drop** → Dial telephone no. → **Enter** → **ExcludeList** → Dial ext. no. → **Enter** → **Exit** → **Exit** |
| PC Procedure | [F10] → [F2] → [Alt] + [P] → Type password → [F10] → [F3] → Type item no. → [F10] → [Alt] + [P] → Type telephone no. → [F10] → [F4] → Type ext. no. → [F10] → [F5] → [F5] |

# Night Service with Time Set

Use this procedure to specify the time of day and the days of the week when Night Service is to be activated and deactivated.

Enter the time of day as 4 digits, using 24-hour notation. Enter the day of the week as a single digit (0 to 6), with 0 being Sunday. If you enter an invalid number, the system truncates the number.

If you change the system time while Night Service is active, Night Service is deactivated automatically and you must manually reactivate it.

Operators can override the timer and turn Night Service on and off manually. This feature can be deactivated when out-of-the-ordinary situations occur (for example, a midweek holiday).

**NOTE:**
For Release 2.1 and earlier, after setting Start and Stop time for Night Service the current day of the week for Night Service must be set using the following procedure.

**NightSrvce** → **Day of Week** → Dial the current day of the week → **Enter** → **Exit**

If system programming information is being loaded into memory from a backup diskette, the current day of the week must be reset.

Night Service can be turned off by using the following procedure:

**NightSrvce** → **Day of Week** → Dial 9 → **Enter** → **Exit**

## Summary: Night Service with Time Set

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 9c, Night Service: Time Set |
| Factory Setting | Not applicable |
| Valid Entries | Day: 0 to 6; Time: 0000 to 2359 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To add or change start/stop time:<br>**NightSrvce** → **Start** → **Drop** → Dial start day and time → **Enter** → **Stop** → **Drop** → Dial stop day and time → **Enter** → **Exit**<br><br>To activate/deactivate:<br>**NightSrvce** → **Time Control** → **Off** or **On** → **Enter** → **Exit** |
| PC Procedure | To add or change start/stop time:<br>[F10] → [F6] → [Alt] + [P] → Type start day and time → [F10] → [F7] → [Alt] + [P] → Type stop day and time → [F10] → [F5]<br><br>To activate/deactivate:<br>[F10] → [F8] → [F1] or [F2] → [F10] → [F5] |

# Labeling

# 18

This section contains summaries on adding or changing labels for the following:

- Extension Directory
- Lines or Trunks
- Posted Message
- Group Calling
- System Speed Dial Directory

These procedures can be done using Integrated Administration.

**Programming on the system programming console:**
Use the buttons next to the display to specify the letters A through I and punctuation. Use the line/feature buttons to specify additional alphanumeric characters for labels. Use the template provided with the MLX-20L telephone to see which line buttons correspond to which alphanumeric characters.

**Programming with SPM:**
Use the PC keyboard for labels. All letters appear on the screen in uppercase.

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

# Extension Directory

Use this procedure to establish alphanumeric system labels for display set telephone users to identify the person calling or leaving a message. This procedure is also used to program the Extension Directory feature for MLX telephones.

A label can have a maximum of seven characters.

### Summary: Extension Directory

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 2a, System Numbering: Extension Jacks |
| Factory Setting | Not applicable |
| Valid Entries | Not applicable |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **More** → **Labeling** → **Directory** → **Extension** → Dial ext. no. → **Enter** → **Drop** → Enter label → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [PgUp] → [F1] → [F1] → [F2] → Type ext. no. → [F10] → [Alt] + [P] → Type label → [F6] → [F5] → [F5] → [F5] |

# Lines or Trunks

Use this procedure to establish alphanumeric system labels for display set telephone users to identify the line or trunk being used.

### Summary: Lines or Trunks

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 2c, System Numbering: Line/Trunk Jacks |
| Factory Setting | Not applicable |
| Valid Entries | Not applicable |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **More** → **Labeling** → **LinesTrunks** → Dial line/trunk no. → **Enter** → **Drop** → Dial label → **Enter** → **Exit** → **Exit** |
| PC Procedure | [PgUp] → [F1] → [F2] → Type line/trunk no. → [F10] → [Alt] + [P] → Type label → [F6] → [F5] → [F5] |

# Posted Message

Use this procedure to add or change existing posted messages. The posted messages allow callers with display telephones to know why the called extension does not answer.

Each posted message can have a maximum of 16 characters. Messages 2 through 20 can be changed through programming. Message 1, Do Not Disturb, cannot be changed.

## Summary: Posted Message

| | |
|---|---|
| Programmable by | System manager, Integrated Administration |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8a, Label Form: Posted Message |
| Factory Setting | First 10 messages |
| Valid Entries | 1 to 20 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **More** → **Labeling** → **PostMessage** → Dial message no. → **Enter** → **Drop** → Enter message → **Enter** → **Exit** → **Exit** |
| PC Procedure | [PgUp] → [F1] → [F3] → Type message no. → [F10] → [Alt] + [P] → Type message → [F6] → [F5] → [F5] |

# Group Calling

Use this procedure to establish alphanumeric system labels for display telephone users to identify calling groups.

A label can have a maximum of seven characters.

## Summary: Group Calling

| | |
|---|---|
| Programmable by | System manager, Integrated Administration |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 6e, Group Calling |
| Factory Setting | Not applicable |
| Valid Entries | Not applicable |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **More** → **Labeling** → **Grp Calling** → Dial calling group ext. no. → **Enter** → **Drop** → Enter label → **Enter** → **Exit** → **Exit** |
| PC Procedure | [PgUp] → [F1] → [F4] → Type calling group ext. no. → [F10] → [Alt] + [P] → Type label → [F6] → [F5] → [F5] |

# System Speed Dial Directory

Use this procedure to establish System Speed Dial numbers for all system users. You can also use this procedure to enter the alphanumeric labels shown on display telephones (for the System Directory feature of the MLX telephone).

A total of 130 numbers (System Speed Dial plus System Directory) can be entered, with a maximum of 11 characters per label.

Speed dial code assignments are 600 through 729.

## Summary: System Speed Dial Directory

| | |
|---|---|
| Programmable by | System manager, Integrated Administration |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 8b, System Speed Dial |
| Factory Setting | Not applicable |
| Valid Entries | 600 to 729 |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **More** → **Labeling** → **Directory** → **System** → Dial dial code no. → **Enter** → **Drop** → Enter label → **Enter** → **Backspace** → Dial telephone no. → **Enter** → **Yes** or **No** → **Enter** → **Exit** → **Exit** → **Exit** |
| PC Procedure | [PgUp] → [F1] → [F1] → [F1] → Type dial code no. → [F10] → [Alt] + [P] → Type label → [F6] → [F2] → Type telephone no. → [F6] → [F1] or [F2] → [F6] → [F5] → [F5] → [F5] |

# Print Reports

# 19

Use the procedures in this section to change the language for system reports and to print the system reports.

# Report Language

Use this procedure to change the language of the system reports. It applies to Release 1.1 and higher. Unless you change the report language, reports are printed in the language chosen as the system language.

### Summary: Report Language

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Form 1, System Planning |
| Factory Setting | English |
| Valid Entries | English, French, Spanish |
| Inspect | No |
| Copy Option | No |
| Console Procedure | **More** → **Language** → **Printer** → **English** or **French** or **Spanish** → **Enter** → **Exit** |
| PC Procedure | [PgUp] → [F6] → [F4] → [F1] or [F2] or [F3] → [F10] → [F5] |

# Printing System Reports

The communications system can be used to print a variety of reports. You can print individual reports or use the **All** option to print the entire set of available reports, including all report sections and options. See Appendix F for samples of the print reports.

Use this procedure to print the reports listed below. With the exception of Trunk Information, the dash lists under the bullets show the sections of each report that automatically print when the report option is selected.

- All
  - — Each report
  - — All report options
- System Set Up
- System Dial Plan
  - — Pools
  - — Telephone Paging Zones
  - — Direct Group Calling
  - — Lines/Trunks
  - — Stations (Extensions)
- Label Information
  - — Telephone Personal Directory
  - — Message Numbers and Posted Messages

- Trunk Information[1]
  - TIE
  - DID
  - Loop/Ground
  - General
- T1 Information
- PRI Information
- Remote Access
  - General Options
  - Non-TIE Restrictions
  - TIE Restrictions
  - Barrier Code Restrictions
- Operator Information
  - Position
  - General Options
  - DSS Options
  - QCC Operators
  - Operator Information
- Allowed Lists
- Allowed Lists Assigned to Extensions
- Disallowed Lists
- Disallowed Lists Assigned to Extensions
- Automatic Route Selection
- Tables

[1] Trunk option must be specified

- Extension Directory
- System Directory
- Group Page
- Extension information
- Group Coverage
- Group Calling
- Night Service
- Call Pickup Groups
- Error Logs
- Authorization Codes

**NOTES:**

1. If you select the **All** option, keep in mind that the reports take several minutes to print. You may want to schedule use of the printer during off-peak hours.
2. If you select a report for which there is no information, the report header still prints.
3. Print reports if you cannot backup your system programming information.
4. Do not print reports if your system must handle more than 100 calls per hour.
5. If you are printing from the console, your printer must be connected to the SMDR port. if you are programming on a PC with SPM, you have the following choices:

   - Print reports on the SMDR printer (if available).
   - Print reports on the PC printer.
   - Save reports (on hard disk or floppy).
   - View reports (browse).

See *System Programming and Maintenance (SPM)* for details.

## Summary: Printing System Reports

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required |
| Planning Form | Not applicable |
| Factory Setting | Not applicable |
| Valid Entries | Any saved report |
| Inspect | No |
| Copy Option | No |
| Console Procedure | To print trunk information:<br>**More** → **Print** → **Trunk Info** → Select trunk type → **Exit**<br>To print extension information:<br>**More** → **Print** → **More** → **Ext Info** → Dial extension number → **Enter** → **Exit**<br>To print all other reports:<br>**More** → **Print** → Select report → **Exit** |
| PC Procedure | To print trunk information:<br>[PgUp] → [F3] → [F6] → Select trunk type → [F5]<br>To print extension information:<br>[PgUp] → [F3] → [PgUp] → [F10] → Type extension number → [F10] → [F5]<br>To print all other reports:<br>[PgUp] → [F3] → Select report → [F5]<br>To save report on disk:<br>[PgUp] → [F3] → Select report → [F10] → GOTO FLOPPY → [F10]<br>To view report:<br>[Ctrl] + [F8] |

# Data Features

# 20

This section covers the programming procedure for analog multiline telephones connected by a General-Purpose Adapter (GPA) to a data terminal and modem.

Other data programming procedures can be found in earlier sections of this book. Refer to Table 20-1 for specific information.

**Table 20-1. Data Features: Programming Procedures**

| Procedure | Chapter |
|---|---|
| Assign Trunks or Pools to Data Stations | 10: “Telephones” |
| Copy Trunk Assignments | 10: “Telephones” |
| Assign Intercom or System Access Buttons | 10: “Telephones” |
| Pool Dial-Out Code (Hybrid/PBX only) | 12: “Optional Telephone Features” |
| Call Restrictions | 12: “Optional Telephone Features” |
| Copy Call Restrictions | 12: “Optional Telephone Features” |
| Forced Account Code Entry | 12: “Optional Telephone Features” |
| Ringing Options | *System Programming,* Chapter 5, “Centralized Telephone Programming” |
| Assign Data Hunt Group Members | 14: “Group Calling Member Assignments” in “Optional Group Features” |
| Assign Data Hunt Group Trunks or Pools | 14: “Group Calling Line/Trunk or Pool Assignments” in “Optional Group Features” |
| Group Type | 14: “Group Type” in “Optional Group Features” (choice restricted to Automatic Log In) |

# Analog Multiline Telephones at Data Stations

Use this procedure to dedicate a pair of extension jacks to provide voice and data to an analog data station.

The extension number associated with the first (odd-numbered) extension jack in the pair is the telephone's extension number. The extension number for the second (even-numbered) extension jack is dedicated to Data.

**NOTES:**

1. Calls cannot be placed to the extension jack reserved for Data.
2. Voice Announce to Busy must be disabled at data stations.
3. When you select **Enter** after entering the voice extension number in the data entry screen, the system automatically assigns the data extension.
4. Use the Inspect feature to verify extension pairs.

## Summary: Analog Multiline Telephones at Data Stations

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | System idle |
| Planning Form | Form 2a, System Numbering: Extension Jacks<br>Form 4b, Analog Multiline Telephone<br>Form 5a, Direct-Line Console (DLC): Analog Data<br>Form 2a, Analog Data Station |
| Factory Setting | Not applicable |
| Valid Entries | Extension numbers of analog sets |
| Inspect | Yes |
| Copy Option | Yes |
| Console Procedure | **More** → **Data** → **Voice/Data** → Dial ext. no. → **Enter** → **Exit** |
| PC Procedure | [PgUp] → [F2] → [F1] → Type ext. no. → [F10] → [F5] |

# Integrated Administration

# 21

**NOTE:**
This feature applies only to Release 2.0 or later of the communications system.

Integrated Administration is available in Hybrid/PBX and Key modes only.

## Capabilities

The Integrated Administration capability of Integrated Solution III (IS III) simplifies the programming of common information for the communications system (the switch), AUDIX Voice Power and, if it is installed, the AT&T FAX Attendant System™. Since the AUDIX Voice Power and FAX Attendant applications use some of the same information programmed on the switch, Integrated Administration lets the installer or system manager make changes or additions to this information just once, instead of on both sides of the connection. Using Integrated Administration reduces programming time and effort and ensures that the switch and the applications are in agreement.

# Common Information

The switch and the applications share the following information:

- System numbering of extensions, trunks, and pools
- System labeling of the user (or other input name) associated with each extension, trunk, and pool
- The coverage Group that sends its calls to the applications
- The calling group set up for each service of the applications
- The Reliable Disconnect setting for loop-start trunk
- The Delay Ring and Coverage Delay Interval settings
- The Transfer Return Time and VMS Transfer Return Interval settings

# Set Up

You cannot program the common information until you have completed basic setup programming for the communications system. Use SPM or the system programming console to program the following:

- Mode of operation
- System numbering
- System operator positions
- Phantom extensions
- Lines/Trunks to pools assignment

**NOTE:**
If you do not want all lines to have the same application services, you must assign lines with the same services to the same pools

# Programmable Options

When you complete the system setup, you can use the information in Table 21-1 to program through Integrated Administration.

**Table 21-1. Programming through Integrated Administration**

| Option | Factory Setting | Range |
|---|---|---|
| Automated Attendant Calling Group | 770 | |
| Call Answer Calling Group | 7926 | |
| FAX Response Calling Group | 7924 | |
| Information Service Calling Group | 7927 | |
| Message Drop Calling Group | 7928 | |
| Voice Mail Calling Group | 7925 | |
| Coverage Group | 30 | 1 to 30 |
| Reliable Disconnect | yes | |
| Delay Ring | 2 rings | 1 to 6 rings |
| Coverage Delay Ring | 3 rings | 1 to 9 rings |
| VMS Transfer Return Interval | 6 rings | 0 to 9 rings |
| Transfer Return Time | 6 rings | 0 to 9 rings |

The information programmed through Integrated Administration is shared with the communications system control unit. The information does not have to be programmed again when you program the communications system.

If extension numbering is changed on the switch (using the MLX-20L console or SPM), the switch and the application database will no longer be in agreement. To reduce the chance that such changes will disrupt communication between the switch and the application(s), Integrated Administration includes an automatic reconciliation program that runs every day at 3:00 a.m. The program compares the application database to the switch programming and brings the two into agreement. The program makes changes, as necessary, only to the application database, according to the rules listed in Table 21-2. The reconciliation program does not change the switch programming.

In a Release 2.0 or earlier system with Integrated Solution III Version 1.0 or 1.1, use the System Renumbering feature cautiously. When this feature is used, all messages and greetings for users that have been renumbered are erased from AUDIX Voice Power when the automatic reconciliation program runs at 3:00 a.m.

**NOTE:**
The reconciliation program is disabled in IS III Version 1.2.

**Table 21-2. Database Reconciliation Rules**

| Extension appears in ... | | |
|---|---|---|
| **Switch** | **Application Database** | **Action** |
| yes | yes | None |
| yes | no | Extension is added to database. Can be added as AUDIX Voice Power or AUDIX Voice Power/FAX Attendant subscriber through Extension Directory screen. |
| no | yes (regular extension) | Extension is deleted from database and removed as an AUDIX Voice Power or AUDIX Voice Power/FAX Attendant subscriber. |
| no | yes (special extension) | Extension is retained as special-purpose extension in database, |
| yes | yes (special extension) | Extension is converted from special-purpose extension to regular extension in database. |

When you finish programming the common information, you can complete any remaining system programming procedures. See the Feature Reference for additional information on Integrated Administration.

Complete information on IS III can be found in the *Integrated Solution III System Manager's Guide,* Order No. 555-601-010 and the *AT&T Integrated Solution III Installation and Maintenance Guide,* Order No. 555-601-011.

# Memory Card

# 22

A PCMCIA (Personal Computer Memory Card International Association) interface slot is present on the processor module. The slot is a standard interface through which information can be added to or obtained from the system using a memory card. The PCMCIA interface slot accepts one memory card at a time.

Summary information is included for the following procedures:

- Memory Card Formatting
- Backup
- Automatic Backup
- Restore

# Card Types

The types of memory cards are described below. The card type is identified by a preprinted, color-coded label.

- **Upgrade Card.** This card is used for MERLIN LEGEND Communication System software upgrades. The upgrade can be performed by the system manager using the memory card and the Maintenance option on the SPM Main Menu. See *Maintenance and Troubleshooting* for information about this feature.

  This card is identified by an orange label with black lettering.

- **Translation Card.** The backup and restore procedures previously available to system managers through SPM (using the PC and floppy disks) can now be performed using the memory card and the new Backup/Restore option on the System menu. A new automatic backup feature permits you to set the system to perform automatic backups to the memory card on a daily or weekly basis. See “Backup” and “Restore” for more information.

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

- **Forced Installation.** For use by qualified service technicians only, this card is used when the system software has been corrupted and a re-installation must be done at the customer site. The use of the card for forced installation is reserved for emergency situations in which the system software on the processor module has been damaged.

  This card is identified by an orange label with black lettering. In addition, black stripes are present on the card to distinguish it from an upgrade card.

Figure 22–1 shows a sample Translation card.

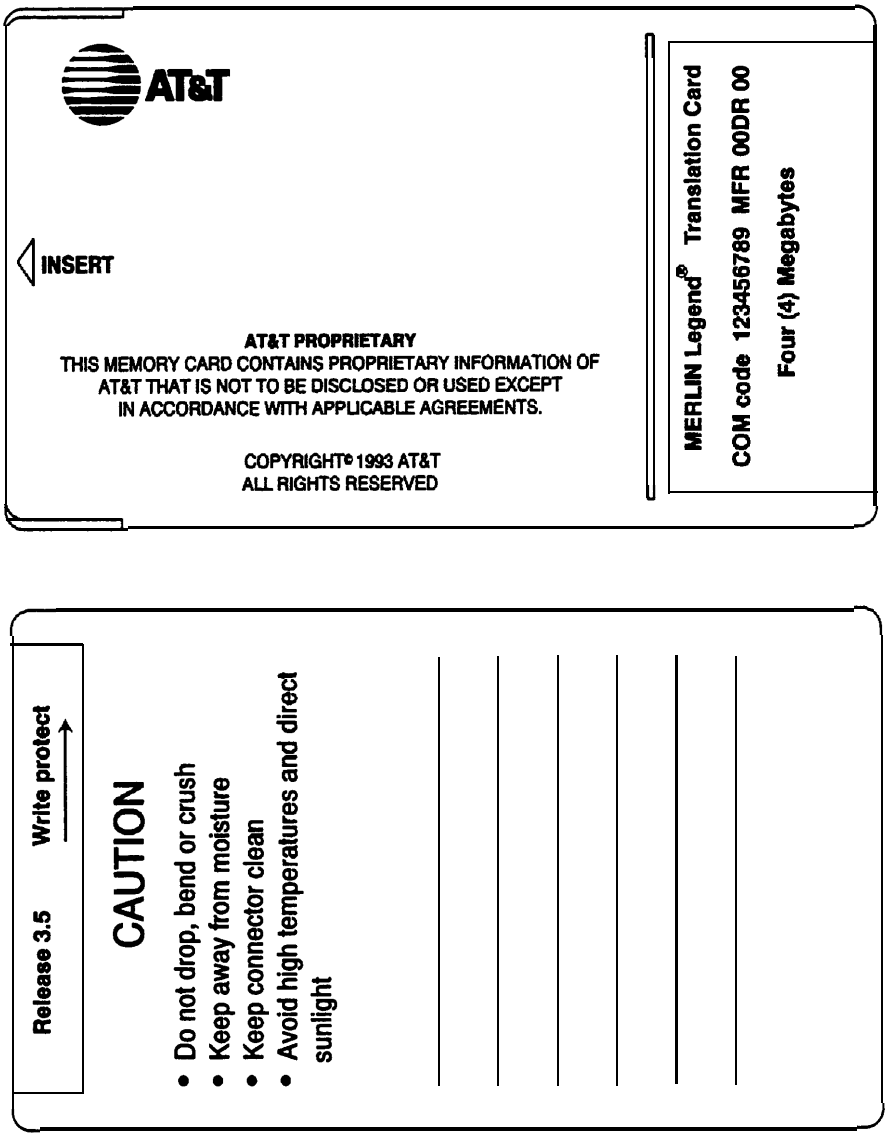



**Figure 22-1. PCMCIA Memory Card**

# Inserting the Card

To insert the card, hold the card with the AT&T logo facing up and the arrow pointing toward the slot. See Figure 22-2 for the proper way to insert the memory card into the slot on the processor module.

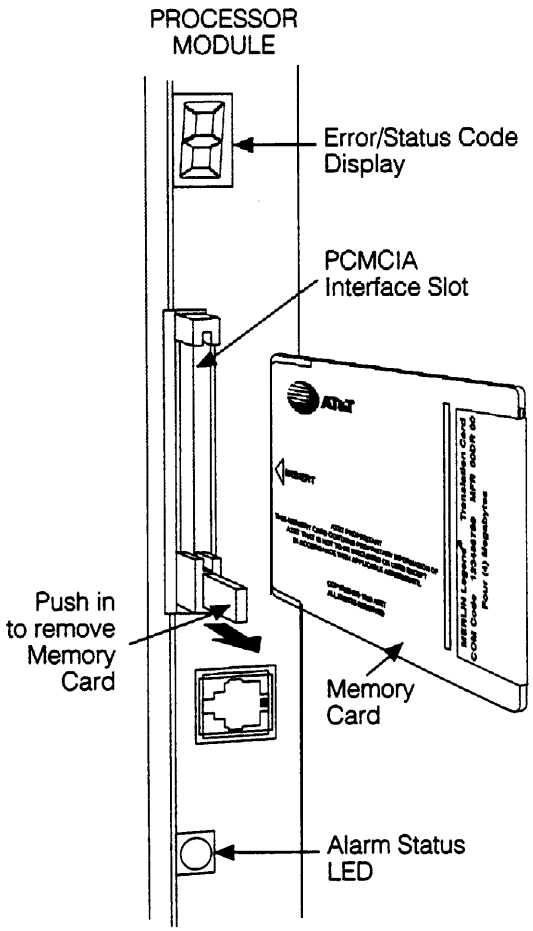



**Figure 22-2. Inserting the Memory Card**

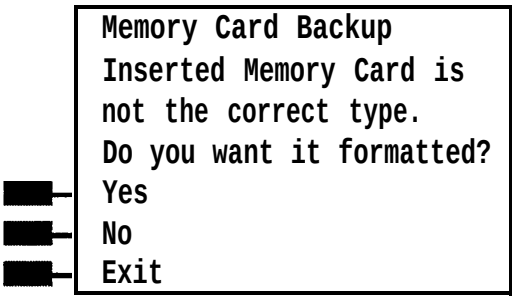
# Memory Card Formatting

The memory card should be formatted before you begin any manual or automatic backup procedures. This section details the screens and messages that appear during the format procedure.

**CAUTION:**
*Formatting overwrites previous data on the memory card. Make certain that there is no important information on the card before you begin formatting.*

## Unformatted Card

If you begin a backup procedure with an unformatted or incorrectly formatted card, this screen appears.



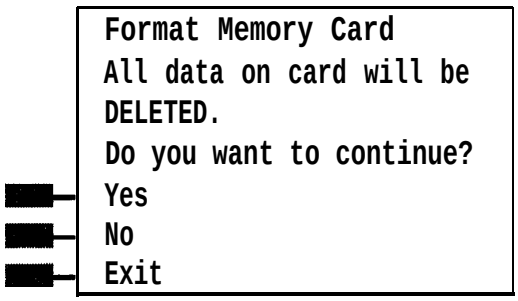

The inserted memory card is not the correct type. You have the option of formatting the memory card as a translation memory card or repeating the backup procedure with a different translation memory card.

**NOTES:**

1. Only 4 MB Series I or Series II PCMCIA memory cards maybe formatted, except those already formatted as backup/restore cards.
2. If a memory card cannot be formatted, a message appears on the screen. These messages are noted in the procedures as appropriate.

3. A memory card may need to be formatted if it is intended for use as a translation card but is currently blank or contains data other than MERLIN LEGEND Communication System backup files.

### Format Warning




This screen appears if you respond to the system prompt to format the memory card.

Select Yes (or press [F3] ) to begin the memory card format. Table 22-1 lists the screen messages that may appear while formatting is in progress.

**Table 22-1. Memory Card Formatting Messages**

| Message | What it Means |
|---|---|
| Formatting Memory Card | The format is in progress. |
| Formatting of Memory Card Completed | The format was successful and has completed. |
| Memory Card cannot be formatted | The memory card cannot be formatted. Remove the card and repeat the procedure with another card. |
| Formatting of Memory Card FAILED | The format was unsuccessful. Remove the card and repeat the procedure with another card. |
| Missing Card or Card Not Inserted Correctly | Verify that the card is inserted correctly and repeat the procedure. |

# Backup

Use this procedure to make a copy of your customized system data. You should create a backup at least three times during system installation (so that programmed information is not lost), and once after each system upgrade, service technician visit, or major system reconfiguration.

The Inspect feature **(Inspct** or [PgDn] ) is available to view the attributes of the backup files on the memory card prior to initiating the backup procedure. The attributes included on the Inspect screen are the filename, the time and date of the file creation/update, the location of the system programming port, and information about the system software release from which the backup was made.

The list of backup files contains three manual backup filenames and two automatic backup filenames. The default names of the manual backup files are **BACK1.*****, BACK2.*****,** and **BACK3.*****.** When you select one of the backup filenames, the system automatically replaces the stars in the filename with the current month and day ***(mmdd).*** For example, **BACK1.0116** would appear if you selected **BACK1.******* and performed the backup procedure on January 16. You can rename any of the three default files during the backup procedure. The automatic backup filenames are **AUTO.BACK1** and **AUTO.BACK2** You cannot change the names of these files.

If you enter a filename that currently exists, the message **File already exists** appears. You must enter another filename.

While the backup is in progress, you cannot access system programming functions, your Personal Directory, or alarm clock functions (any programmed alarms are temporarily deactivated). You may terminate the backup procedure at any point prior to receiving confirmation of a successful backup.

If any type of programming is taking place at another extension when you begin the backup procedure, the backup is canceled and the number of the first busy extension appears on the screen. Attempt the backup procedure again when the busy extension becomes idle.

If the system is turned off during a backup procedure, the backup is terminated. The system performs a System Reset (cold start), after which you may repeat the backup procedure.

If **Home** or **Menu** are pressed during a backup procedure, the backup is terminated. This may result in the deletion of an old backup file. See Chapter 1, “Programming Basics,” for detail about these keys.

See Table 22-2, “Memory Card Backup/Automatic Backup Error Messages,” if the backup procedure fails.

**Table 22-2. Memory Card Backup/Automatic Backup Error Messages**

| Message | What it Means |
|---|---|
| **File has been DELETED.** | Repeat the backup procedure. |
| **Verify that Memory Card has been Inserted Correctly** | Reinsert the memory card and repeat the backup procedure. |
| **Memory Card is Write-Protected** | Remove the memory card, flip the write protect tab, reinsert the card and repeat the backup procedure. |
| **System Busy - Pls Wait** | Repeat the backup procedure when no extensions are being programmed. |
| **Inserted Memory Card is not the correct type.** | Repeat the backup procedure with another card or format the memory card and repeat the backup procedure. |
| **Backup Failure** or **Card Failure** | Repeat the backup procedure with a different file and/or memory card. |

## Summary: Backup

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required (No extensions are allowed to be in programming mode except system programming console) |
| Planning Form | Form 1, System Planning |
| Factory Setting | Not applicable |
| Valid Entries | 1 to 11 character filename |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | Insert memory card → **System** → **Back/Restore** → **Backup** → Select backup file → Dial the new backup filename → **Enter** → **Yes** → **Exit** → **Exit** → **Exit** |
| PC Procedure | Insert memory card → [F1] → [F9] → [F1] → Select backup file → Type the new backup filename → [F6] → [F1] → [F5] → [F5] → [F5] |

# Automatic Backup

To preserve the most recent copy of your customized system data, you can program the system to automatically backup programming information onto the translation memory card. Automatic backups may be set for daily or weekly operation. If automatic backup is activated, the time may be set for daily backup (factory setting is 2:00 am) or the time and day maybe set for weekly backup (factory setting is 2:00 am Sunday).

The system places the automatic backup into one of two designated files: **AUTO.BACK1** and **AUTO.BACK2** The system places the backup in whichever file is empty. If both files are empty, the system places the backup in **AUTO.BACK1.** If both files already contain backups, the system selects the older of the two files and overwrites it. The system performs this file "toggle" each time it performs an automatic backup.

While the backup is in progress, you cannot access system programming functions, your Personal Directory, or alarm clock functions (any programmed alarms are temporarily deactivated).

If any type of programming is taking place at an extension during the automatic backup procedure, the backup is canceled. The system does not re-attempt the backup.

If an automatic backup fails for any reason (including a system-busy condition), all of the programmed alarm buttons on system operator consoles light and the information is recorded in both the permanent error log and the last 10 error logs.

**NOTE:**
If an automatic backup fails for any reason (except when the failure results from the memory card being write-protected) the automatic backup feature is turned off. Follow the procedure below to reprogram automatic backups. See Table 22-2, “Memory Card Backup/Automatic Backup Error Messages,” to determine the cause of the automatic backup failure and correct the problem.

## Summary: Automatic Backup

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | Not required (No extensions are allowed to be in programming mode including the system programming console) |
| Planning Form | Form 1, System Planning |
| Factory Setting | Weekly backup (Sunday at 2:00 a.m.)<br>(if daily backup is selected, time is factory set for 2:00 a.m.) |
| Valid Entries | Daily: hhmm (00 to 23; 00 to 59)<br>Weekly: dhhmm (0 to 6; 00 to 23; 00 to 59) |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | To program daily backup:<br>Insert memory card → **System** → **Back/Restore** → **Auto Backup** → **Daily** → **Drop** → Dial time → **Enter** → **Exit** → **Exit**<br><br>To program weekly backup:<br>Insert memory card → **System** → **Back/Restore** → **Auto Backup** → **Weekly** → **Drop** → Dial day and time → **Enter** → **Exit** → **Exit** |
| PC Procedure | To program daily backup:<br>Insert memory card → [F1] → [F9] → [F2] → [F2] → [Alt] + [P] → Type time → [F10] → [F5] → [F5]<br><br>To program weekly backup:<br>Insert memory card → [F1] → [F9] → [F2] → [F3] → [Alt] + [P] → Type day and time → [F10] → [F5] → [F5] |

# Restore

Use this procedure to restore system conditions that were backed up onto a translation memory card. The information in a backup file on the translation card is copied to the system.

The restore procedure is necessary under the following conditions:

- System RAM is corrupt.
- A previously stored set of system conditions is preferred over the current set.
- The processor module is replaced.
- A System Erase (frigid start) has been performed.
- The system software has been reinstalled.

The Inspect feature **(Inspct** or [PgDn]) is available to view the attributes of the backup files on the memory card prior to initiating the restore procedure. The attributes included on the Inspect screen are the filename, the time and date of the file backup/update, the location of the system programming port, and information about the system software release from which the backup was made.

If any type of programming is taking place at another extension when you begin the restore procedure, the restore is canceled and the number of the busy extension appears on the screen. Repeat the restore procedure when the busy extension becomes idle.

If a line is busy (incoming call or active call) when you begin the restore procedure, the restore is canceled and the number of the active line appears on the screen. Repeat the restore procedure when the line becomes idle.

See Table 22-3, “Memory Card Restore Error Messages” if the restore procedure fails.

**Table 22-3. Memory Card Restore Error Messages**

| Message | What it Means |
|---|---|
| **RESTORE IS CANCELED System is DOWN.** | Wait for the System Erase to complete and repeat the restore procedure with a different card or file. |
| **Inserted Memory Card is not the correct type.** | Repeat the restore procedure with the correct type of card. |
| **Board Mismatch between control unit and file.** | Repeat the restore procedure with another file.<br>OR<br>Modify the system hardware to match the configuration of the backup file and repeat the restore procedure with the same file. |
| **Restore File Mode is Hybrid/PBX. Control Unit strap in place for KEY.** | If the processor has been set for Permanent Key mode a restore to Hybrid/PBX is not possible. A qualified service associate should modify the processor and repeat the restore procedure. |
| **Restore Failure Try a different file or a new Memory Card.** | Repeat the restore procedure with a different file and/or memory card. |
| **File is not compatible for Release X.Y** | Repeat the restore procedure with a compatible file. |
| **Change Sys Programming Port to Extension xxxx before Restoring.** | Use the Inspect feature to view the system programming port specified in the backup file. Change the system programming port to match the port shown for the backup file and repeat the restore procedure. |
| **Verify that the Memory Card has been inserted correctly.** | Verify that the card is inserted correctly and repeat the procedure. |

**Summary: Restore**

| | |
|---|---|
| Programmable by | System manager |
| Mode | All |
| Idle Condition | System Forced Idle |
| Planning Form | Not applicable |
| Factory Setting | Not applicable |
| Valid Entries | Filenames |
| Inspect | Yes |
| Copy Option | No |
| Console Procedure | Insert memory card → **System** → **Back/Restore** → **Restore** → Select restore file → **Yes** |
| PC Procedure | Insert memory card → [F1] → [F9] → [F5] Select restore file → [F3] |

# Centralized Telephone Programming

# 23

This chapter describes centralized telephone programming for the system manager and includes the following information:

- Accessing centralized telephone programming
- Programming the features available with this function
- Programming a single telephone
- Copying programmed features from one extension to another extension (Release 2.0 and higher)

See the *Feature Reference* or the appropriate user or operator guide for details about each feature.

**NOTE:**
Only the system manager should perform the programming procedures described in this chapter.

# Introduction

Centralized telephone programming allows the system manager to program any feature that can be programmed by individual telephone users, or by the system operator, onto another telephone in the system. Any feature that can be programmed at an individual telephone can be programmed using centralized telephone programming.

The following features can be programmed only by using centralized programming:

- Barge-In
- Headset Hang Up
- Intercom buttons: all types (Key and Behind Switch mode only)
- System Access buttons: all types (Hybrid/PBX only)

To perform centralized telephone programming, you can use the system programming console (see Chapter 1, “Programming Basics”) or a PC with SPM software (see *System Programming and Maintenance).*

In Release 2.0 and higher, if you are programming several telephones of the same type (that is, all analog or all MLX), program one extension and then use the programmed extension as a template for programming additional extensions. See “Copy Extension” and also refer to the planning forms.

**NOTE:**
Some programming can be performed only when the entire system or some part of it (such as a trunk or an extension) is idle. See “Idle States” in Chapter 1.

# Access to Centralized Telephone Programming

Access the Centralized Programming menu from the System Programming menu. Centralized programming is performed by selecting features from the display or by using programming codes.

Follow the procedure below to access the Centralized Programming menu from the System Programming menu.

| | |
|---|---|
| Console Procedure | **More** → **Cntr-Prg** → **Program Ext** or **Copy Ext** |
| PC Procedure | [PgUp] → [F4] → [F1] or [F2] |

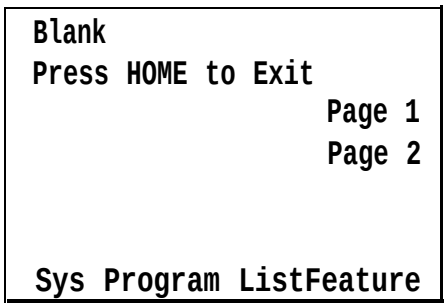
**NOTE:**
It is recommended that you use the programming codes for centralized programming; however, you may also use the **List Features** option that is available on the programming screen. See "Using the List Feature Menu" for details about this option.

# Program Extension

Review the items below before you begin to program extensions.

- Use Table 23-1 to locate the code for the feature that you want to program.
- If you enter a feature code incorrectly, a beep sounds or the message **Programming Error** appears and the red LED next to the button flashes. If this happens, press the button again and repeat the procedure.
- If you make a mistake and program the wrong feature on a button, follow the steps below:
  1. Press the button.
  2. Select Delete (press [F2] on the PC).
  3. Press the button again.

- If you press a line button that is not active, the screen shown here smears. Press **Home** to return to the Home screen.




- You can use the Extension Information (Ext Info) report option on the Print menu to print all of the programmed features for a specific extension.

At the Centralized Programming menu, follow the procedure below to program features onto a single telephone.

| | |
|---|---|
| Console Procedure | **Program Ext** → Dial ext. no. → **Enter** → **Start** → Select **Page 1** or **Page 2** → Dial Programming Code or Select **ListFeature** |
| PC Procedure | [F1] → Type ext. no. → [F10] → [F10] → [F5] or [F6] → Type Programming Code or Select [F10] |

**NOTE:**
If programming a telephone with more than 20 buttons, use the **Page 2** selection on the screen to select the additional buttons. See Appendix E for button diagrams of all telephones.

## Programming Codes

Table 23-1 provides a quick reference to the programming codes for the system features.

## Table 23-1. Telephone Programming Codes

| Feature | Code |
|---|---|
| **Account Code Entry** | *82 |
| **Alarm** | *759 |
| **Authorization Code** | *80 |
| **Auto Answer All** | *754 |
| **Auto Answer** | *753 |
| **Auto Dial** | |
| Inside (ext., group, zone) | *22 + ext. no. + Enter |
| Outside | *21 + tel. no. + Enter |
| **Automatic Line Selection** | |
| Enter | *14 |
| Exit | **14 |
| **Barge-In†§** | *58 |
| **Callback** | |
| **Automatic** | |
| On | *12 |
| Off | **12 |
| **Selective** | *55 |
| **Call Waiting** | |
| On | *11 |
| Off | **11 |
| **Camp-On** | *57 |
| **Conference** | *722 |

| Feature | Code |
|---|---|
| **Coverage** | |
| **Receiver Buttons** | |
| Primary | *40 + ext. no. + Enter |
| Secondary | *41 + ext. no. + Enter |
| Group | *42 + group no. + Enter |
| **Sender Buttons** | |
| Cover in/outside calls | *48 |
| Cover outside calls only | **48 |
| Coverage Off | *49 |
| VMS Off | *46 |
| **Data Status** | *83 + Enter |
| **Direct Voice Mail** | *56 |
| **Do Not Disturb** | *47 |
| **Drop** | *773 |
| **Extension Status** | |
| **Direct-Line Console§** | |
| Status Off | *760 |
| Status 1 | *761 |
| Status 2 | *762 |
| **Telephones** | |
| Status 1 | *45 |
| Status 2 | *44 |

*Continued on next page*

**Table 23-1, *Continued***

| Feature | Code |
|---|---|
| **Feature Button** | ***20** |
| **Forward** | ***33** |
| **Group Calling** | |
| In-queue alarm button | ***22** group no. + **Enter** |
| **Calling group supervisor** | |
| Available (ES2) | ***762** |
| Unavailable | ***760** |
| **Calling Group Members** | |
| Sign-in (available) | ***44** |
| After work call state | ***45** |
| **Group Page** | ***22** + group no. + **Enter** |
| **Headset*** | |
| Auto Answer | ***780** |
| Hang Up† | ***781** |
| Mute | ***783** |
| Status | ***782** |
| **Last Number Dial** | ***84** |
| **Messaging** | |
| Leave Message | ***25** |
| Message LED Off | ***54** |
| Posted Message | ***751** |
| Send/Remove Message§ | ***38** |

| Feature | Code |
|---|---|
| **Receiving Messages** | |
| Delete Message‡ | ***26** |
| Next Message‡ | ***28** |
| Return Call‡ | ***27** |
| Scroll Message‡ | ***29** |
| **Night Service§** | ***39** |
| **Notify** | |
| Send | ***757** + ext. no. + **Enter** |
| Receive | ***758** + ext. no. + **Enter** |
| **Park** | ***86** |
| **Park Zone Auto Dial§** | ***22** + Park Zone # + (01-24) + ***21** + tel. no. |
| **Personal Speed Dial** | |
| **Personalized Ring** | ***32+** ring. no. (1-8) |
| **Pickup** | |
| General use | ***9** |
| Specific ext. | ***9** + ext. no. + **Enter** |
| Specific line | *9 + line no. + **Enter** |
| Group | ***88** |
| Position Busy§ | ***750** |

***Continued on next page***

**Table 23-1, *Continued***

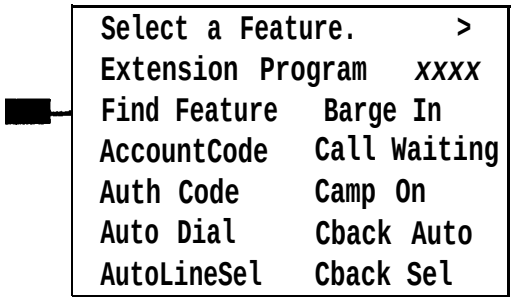
| Feature | Code |
|---|---|
| **Privacy** | ***31** |
| **Recall** | ***775** |
| **Reminder Service** | |
| Set | ***81** |
| Cancel | ****81** |
| Missed | ***752** |
| **Ringing Idle Line Preference** | |
| On | ***343** |
| Off | ***344** |
| **Ringing Options** | |
| **Ring Timing** | |
| **Individual Lines** | |
| Immediate Ring | ***37** |
| Delay Ring | ***36** |
| No Ring | ***35** |
| **All Lines** | |
| Immediate Ring | ***347** |
| Delay Ring | ***346** |
| No Ring | ***345** |
| **Abbreviated Ring** | |
| On | ***341** |
| Off | ***342** |

| Feature | Code |
|---|---|
| **Send Ring (Shared SA)** | |
| On | ***15** |
| Off | ****15** |
| **Saved Number Dial** | ***85** |
| **Send/Remove Message§** | ***38** |
| **Signaling** | ***23** + ext. no. + **Enter** |
| **System Access Intercom/Buttons** | |
| **Assign Buttons †** | |
| Ring | ***16** |
| Originate Only | ***18** |
| Shared System Access | ***17** + primary ext. no. + **Enter** |
| **Change Type of Button** | |
| Ring | ****19** |
| Voice | ***19** |
| **System Speed** | ***24** + code (600-729) + **Enter** |
| **Dial Transfer** | ***744** |
| **Voice Announce** | |
| On | ***10** |
| Off | ****10** |

* MLX telephones only.
† Centralized telephone programming only.
‡ Analog display telephone only. MLX display telephones use display instead of programmed buttons.
§ System operator only.

## Using the List Feature Menu

You can use the List Feature menu to select a feature, instead of using a programming code. When you select **ListFeature** (or press [F10]), the first screen of features appears as shown below.

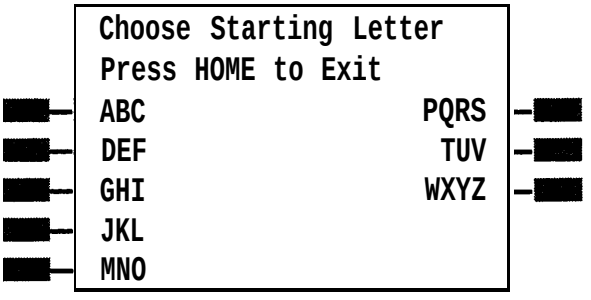



*xxxx* = previously entered extension

[F1]

There are four feature option screens. Press **More** to move through the screens. Press the button or function key that corresponds to your selection.

You can also use the **FindFeature** option to display alphabetized lists of features that begin with the letter(s) you select. The Find Feature screen is shown below.




Press the button or function key that corresponds to the first letter of the feature you want. The screen displays all of the features that begin with the selected letters. If the list of features for the letters you select does not fill a complete screen, the screen display continues with the next alphabetic feature. Press **Home** to return to the Home screen.

# Copy Extension

The system manager uses the copy extension feature to copy an extension's programmed buttons (with some exceptions) to one or more extensions. The features are individually programmed on an extension, creating a template that can then be copied to other extensions in the system.

Only extensions of the same type can be copied to one another (that is, analog to analog, and MLX to MLX) since the two extension types have different button layouts, For a system that has both analog and MLX telephone types, you will need two templates: one for analog and one for MLX.

An MFM can be copied to or from another MFM. A DLC can only be copied to another DLC. Single-line telephones and QCCs *cannot* be copied to or from.

## Features That Can Be Copied

Table 23-2 lists the features that can be copied to another extension. Features that can be copied for DLC operator extensions are listed in Table 23-3.

**Table 23-2. Features That Can Be Copied All Telephones**

| Feature | Analog and MLX Telephones | Analog Telephones Only | MLX Telephones Only |
|---|---|---|---|
| Account Code Entry | X | | |
| Authorization Code* | X | | |
| Auto Answer All | | X | |
| Auto Answer Intercom | | X | |
| Auto Dial Inside | X | | |
| Auto Dial Outside* | X | | |
| Barge-In | X | | |
| Callback-Selective | X | | |
| Camp-On | X | | |
| Conference† | X | | |
| Coverage Off | X | | |
| Coverage VMS Off | X | | |
| Data Status | X | | |
| Direct Voice Mail | X | | |
| Do Not Disturb | X | | |
| Drop† | X | | |
| Extension Status 2 (ES2) (Non-operator) | X | | |
| Extension Status 1 (ES1) (Non-operator) | X | | |
| Feature Button | | X | |
| Forward | X | | |
| Group Calling | X | | |

***Continued on next page***

Table 23-2, ***Continued***

| | | | |
|---|---|---|---|
| Group Page | X | | |
| Headset Auto Answer | | | X |
| Headset Hang Up | | | X |
| Group Page | X | | |
| Headset Auto Answer | | | X |
| Headset Hang Up | | | X |
| Headset Status | | | X |
| Headset/Handset Mute | | | X |
| Last Number Dial* | X | | |
| Delete Message | | X | |
| Leave Message | X | | |
| Message Light Off | X | | |
| Next Message | | X | |
| Posted Message | X | | |
| Return Call | | X | |
| Scroll | | X | |
| Park | X | | |
| Pickup: Group | X | | |
| Pickup: General | X | | |
| Pickup: Extension | X | | |
| Pickup: Line | X | | |
| Privacy | X | | |
| Recall | X | | |
| Reminder Service: Set | X | | |
| Reminder Service: Cancel | X | | |
| Saved Number Dial* | X | | |
| Signaling | X | | |
| SA/ICOM Ring‡ | X | | |

***Continued on next page***

Table 23-2, ***Continued***

| | | | |
|---|---|---|---|
| SA/ICOM Voice‡ | x | | |
| SA/ICOM Originate Only‡ | x | | |
| System Speed Dial | x | | |
| Transfer** | x | | |

* Number is **not** copied.
† Behind Switch mode only.
‡ Ringing options (No Ring, Delay Ring, and Immediate Ring) are copied with the button

Table 23-3 shows the operator features than can be copied for operator consoles. QCC features cannot be copied.

**Table 23-3. Features That Can Be Copied: Direct-Line Consoles Only**

| Feature | Analog Direct-Line Console (DLC) | MLX Direct-Line Console (DLC) |
|---|---|---|
| Alarm | X | X |
| Extension Status Off | X | X |
| Extension Status 1 | X | X |
| Extension Status 2 | X | X |
| Missed Reminder | X | X |
| Night Service | X | X |
| Operator Park | X | X |
| Send/Remove Message | X | X |

Use the procedure below to copy programming from one extension to another.

| | |
|---|---|
| Console Procedure | **Copy Ext** → Dial copy from ext. no. → **Enter** → Dial copy to ext. no. → **Enter** → **Exit** |
| PC Procedure | [F2] → Type copy from ext. no. → [F10] → Type copy to ext. no. → [F10] → [F5] |

# Customer Support Information

# A

## Support Telephone Number

**In the U.S.A. only,** AT&T provides a toll-free customer Helpline (1-800-628-2888) 24 hours a day. If you need assistance when installing, programming, or using your system, call the Helpline, or your AT&T representative.

**Outside the U.S.A.,** if you need assistance when installing, programming, or using your system, contact your AT&T representative.

# Federal Communications Commission (FCC) Electromagnetic Interference Information

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

# Canadian Department of Communications (DOC) Interference Information

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

Le Présent Appareil Numérique n'émet pas de bruits radioelectriques dépassant les limites applicable aux appareils numériques de la class A préscrites dans le reglement sur le brouillage radioélectrique edicté par le ministère des Communications du Canada.

# FCC Notification and Repair Information

This equipment is registered with the FCC in accordance with Part 68 of its rules. In compliance with those rules, you are advised of the following:

- **Means of Connection.** Connection of this equipment to the telephone network shall be through a standard network interface jack, USOC RJ11C, RJ14C, RJ21X. Connection to E&M tie trunks requires a USOC RJ2GX. Connection to off-premises extensions requires a USOC RJ11C or RJ14C. Connection to 1.544-Mbps digital facilities must be through a USOC RJ48C or RJ48X. Connection to DID requires a USOC RJ11C, RJ14C, or RJ21X. These USOCs must be ordered from your telephone company.
- **Party Lines and Coin Telephones.** This equipment may not be used with party lines or coin telephone lines.
- **Notification to the Telephone Companies.** Before connecting this equipment, you or your equipment supplier must notify your local telephone company's business office of the following:
  - — The telephone number(s) you will be using with this equipment.
  - — The appropriate registration number and ringer equivalence number (REN), which can be found on the back or bottom of the control unit, as follows:
    - ❑ If this equipment is to be used as a Key system, report the number AS593M-72914-KF-E.
    - ❑ If the system provides both manual and automatic selection of incoming/outgoing access to the network, report the number AS593M-72682-MF-E.
    - ❑ If there are no directly terminated trunks, or if the only directly terminated facilities are personal lines, report the number AS5USA-65646-PF-E.
    - ❑ The REN (Ringer Equivalency Number) for all three systems is 1.5 A.

— For tie line connection, the facility interface code (FIC) is TL31M and the service order code (SOC) is 9.0F.

— For connection to off-premises stations, the FIC is OL13C and the SOC is 9.0F.

— For equipment to be connected to 1.544-Mbps digital service, the FIC is 04DU9-B for D4 framing format or 04DU9-C for extended framing format, and the SOC is 6.0P.

— For equipment to be connected to DID facilities, the FIC is 02RV2-T and the SOC is 9.0F.

— The quantities and USOC numbers of the jacks required.

— For each jack, the sequence in which lines are to be connected, the line types, the FIC, and the REN by position when applicable.

- **Disconnection.** You must also notify your local telephone company if and when this equipment is permanently disconnected from the line(s).
- **REN.** The REN is used to determine the number of devices that may be connected to the telephone line. Excessive RENs on the line may result in the devices not ringing in response to an incoming call. In most, but not all, areas the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENS, contact the telephone company to determine the maximum REN for the calling area.

# Installation and Operational Procedures

The manuals for your system contain information about installation and operational procedures.

- **Repair Instructions.** If you experience trouble because your equipment is malfunctioning, the FCC requires that the equipment not be used and that it be disconnected from the network until the problem has been corrected. Repairs to this equipment can be made only by the manufacturers, their authorized agents, or others who may be authorized by the FCC. In the event repairs are needed on this equipment, contact your authorized AT&T dealer or, **in the U.S.A. only,** contact the National Service Assistance Center (NSAC) at 1-800-628-2888.

- **Rights of the Local Telephone Company.** If this equipment causes harm to the telephone network, the local telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will also be informed of your right to file a complaint with the FCC.

- **Changes at Local Telephone Company.** Your local telephone company may make changes in its facilities, equipment, operations, or procedures that affect the proper functioning of this equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

- **Hearing Aid Compatibility.** The custom telephone sets for this system are compatible with inductively coupled hearing aids as prescribed by the FCC.

- **Automatic Dialers.** WHEN PROGRAMMING EMERGENCY NUMBERS AND/OR MAKING TEST CALLS TO EMERGENCY NUMBERS:

  — Remain on the line and briefly explain to the dispatcher the reason for the call.

— Perform such activities in off-peak hours, such as early morning or late evening.

- **Direct Inward Dialing (DID).** This equipment returns answer supervision signals to the Public Switched Telephone Network when:

  — Answered by the called station

  — Answered by the attendant

  — Routed to a recorded announcement that can be administered by the customer premises equipment user

  — Routed to a dial prompt

This equipment returns answer supervision on all DID calls forwarded back to the Public Switched Telephone Network. Permissible exceptions are when:

— A call is unanswered

— A busy tone is received

— A reorder tone is received

*Allowing this equipment to be operated in such a manner as not to provide proper answer supervision signaling is in violation of Part 68 rules.*

# DOC Notification and Repair Information

**NOTICE:** The Canadian Department of Communications (DOC) label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The DOC does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to connect it to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring for single-line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or any equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected. This precaution maybe particularly important in rural areas.

**CAUTION:**

*Users should not attempt to make such connections themselves, but should contact the appropriate electrical inspection authority or electrician, as appropriate.*

To prevent overloading, the Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop used by the device. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100.

**DOC Certification No.:** 230 4095A
**CSA Certification No.:** LR 56260
**Load No.:** 6

# Renseignements sur la notification du ministère des Communications du Canada et la réparation

**AVIS:** L'étiquette du ministère des Communications du Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme à certaines normes de protection, d'exploitation et de sécurité des réseaux de télécommunications. Le ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. Dans certains cas, les fils intérieurs de l'enterprise utilisés pour un service individual à ligne unique peuvent être prolongés au moyen d'un dispositif homologué de raccordement (cordon prolongateur téléphonique interne). L'abonné ne doit pas oublier qu'il est possible que la conformity aux conditions énoncées ci-dessus n'empêchent pas la dégradation du service dans certaines situations. Actuellement, les entreprises de télécommunication ne permettent pas que l'on raccorde leur matériel aux jacks d'abonné, sauf dans les cas précis prévus pas les tarifs particuliers de ces entreprises.

Les réparations de matériel homologué doivent être effectuées par un centre d'entretien canadien autorisé désigné par le fournisseur. La compagnie de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

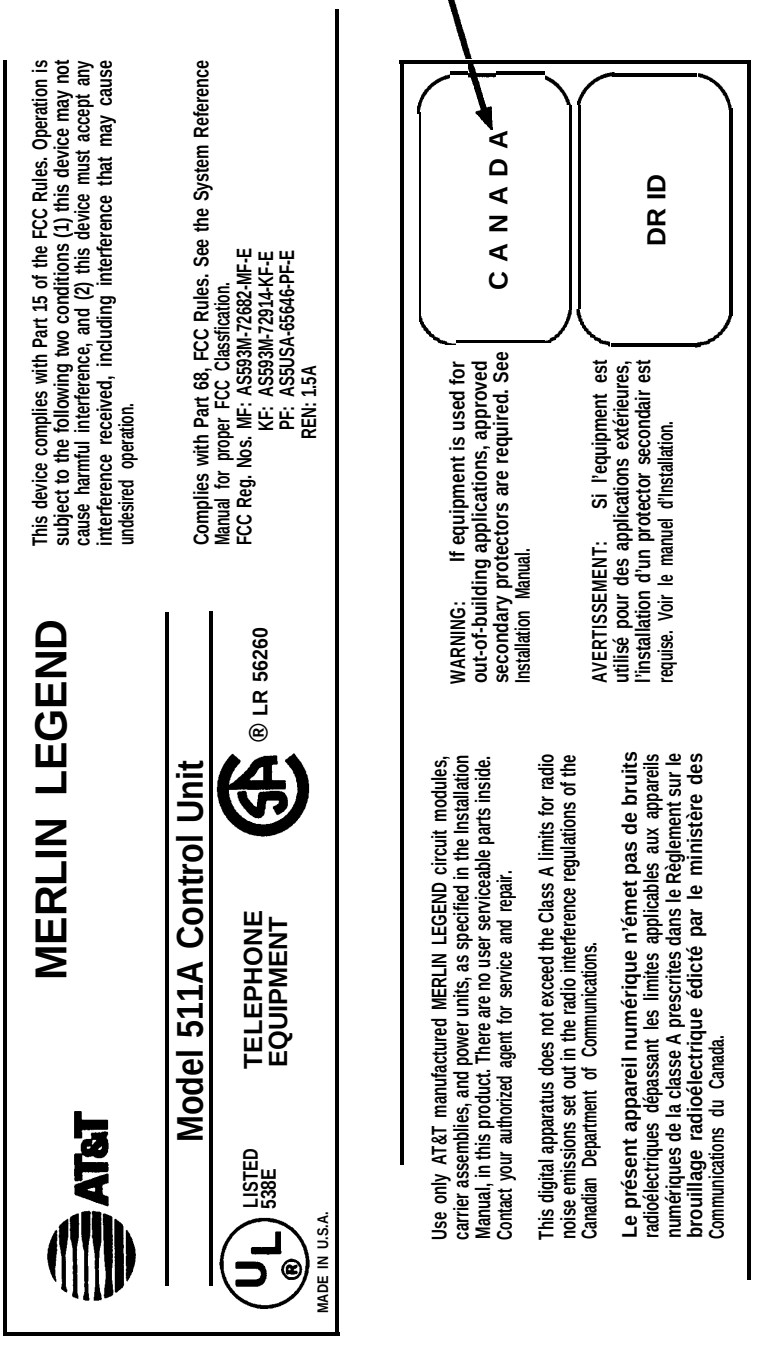
Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sent raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

**AVERTISSEMENT:** L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un electricien, selon le cas.

L'indice de charge (IC) assigné à chaque dispositif terminal indique, pour éviter toute surcharge, le pourcentage de la charge totale qui peut être raccordée à un circuit téléphonique bouclé utilisé par ce dispositif. La terminaison du circuit bouclé peut être constituée de n'importe quelle combinaison de dispositifs, pourvu que la somme des indices de charge de l'ensemble des dispositits ne dépasse pas 100.

**No d'homologation:** 230 4095A
**No de certification:** CSA LR 56260
**L'indice de charge:** 6

**MERLIN LEGEND D.O.C. Location Label Placement**




**Ministère des Communications du Canada emplacement de l'étiquette**

# Security of Your System: Preventing Toll Fraud

As a customer of a new telephone system, you should be aware that there is an increasing problem of telephone toll fraud. Telephone toll fraud can occur in many forms, despite the numerous efforts of telephone companies and telephone equipment manufacturers to control it. Some individuals use electronic devices to prevent or falsify records of these calls. Others charge calls to someone else's number by illegally using lost or stolen calling cards, billing innocent parties, clipping on to someone else's line, and breaking into someone else's telephone equipment physically or electronically. In certain instances, unauthorized individuals make connections to the telephone network through the use of remote access features.

The Remote Access feature of your system, if you choose to use it, permits off-premises callers to access the system from a remote telephone by using an 800 number or a 4- to 11-digit telephone number. The system returns an acknowledgment signaling the user to key in his or her barrier code, which is selected and administered by the system manager. After the barrier code is accepted, the system returns dial tone to the user. If you do not program specific outward calling restrictions, the user will be able to place any call normally dialed from a telephone associated with the system. Such an off premises network call is originated at, and will be billed from, the system location.

The Remote Access feature, as designed, helps the customer, through proper administration, to minimize the ability of unauthorized persons to gain access to the network. Most commonly, phone numbers and codes are compromised when overheard in a public location, through theft of a wallet or purse containing access information, or through carelessness (for example, writing codes on a piece of paper and improperly discarding it). Additionally, hackers may use a computer to dial an access code and then publish the information to other hackers. Enormous charges can be run up quickly. It is the customer's responsibility to take the appropriate steps to properly implement the features, evaluate and administer the various restriction levels, protect access codes, and distribute access codes only to individuals who have been fully advised of the sensitive nature of the access information.

Common carriers are required by law to collect their tariffed charges. While these charges are fraudulent charges made by persons with criminal intent, applicable tariffs state that the customer of record is responsible for payment of all long-distance or other network charges. AT&T cannot be responsible for such charges and will not make any allowance or give any credit for charges that result from unauthorized access.

To minimize the risk of unauthorized access to your communications system:

- Use a nonpublished Remote Access number.
- Assign access codes randomly to users on a need-to-have basis, keeping a log of all authorized users and assigning one code to one person.
- Use random-sequence access codes, which are less likely to be easily broken.
- Deactivate all unassigned codes promptly.
- Ensure that Remote Access users are aware of their responsibility to keep the telephone number and any access codes secure.

- When possible, restrict the off-network capability of off-premises callers, using calling restrictions, Facility Restriction Levels, and Disallowed List capabilities.
- When possible, block out-of-hours calling.
- Frequently monitor system call detail reports for quicker detection of any unauthorized or abnormal calling patterns.
- Limit Remote Call Forwarding to persons on a need-to-have basis.

## Limited Warranty and Limitation of Liability

AT&T warrants to you, the customer, that your MERLIN LEGEND Communications System will be in good working order on the date AT&T or its authorized reseller delivers or installs the system, whichever is later ("Warranty Date"). If you notify AT&T or its authorized reseller within one year of the Warranty Date that your system is not in good working order, AT&T will without charge to you repair or replace, at its option, the system components that are not in good working order. Repair or replacement parts may be new or refurbished and will be provided on an exchange basis. If AT&T determines that your system cannot be repaired or replaced, AT&T will remove the system and, at your option, refund the purchase price of your system, or apply the purchase price towards the purchase of another AT&T system.

If you purchased your system 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. If you purchased your system from an AT&T-authorized reseller, contact your reseller for the details of the maintenance plan applicable to your system.

This AT&T limited warranty covers damage to the system caused by power surges, including power surges due to lightning.

The following will not be deemed to impair the good working order of the system, and AT&T will not be responsible under the limited warranty for damages resulting from:

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

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 AUTHORIZED RESELLERS 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, DIRECT DAMAGES TO TANGIBLE PERSONAL PROPERTY PROXIMATELY CAUSED BY AT&T, AND LIABILITY OTHERWISE EXPRESSLY ASSUMED IN A WRITTEN AGREEMENT SIGNED BY AT&T, THE LIABILITY OF AT&T, ITS AFFILIATES, SUPPLIERS, AND AUTHORIZED RESELLERS FOR ANY CLAIMS, LOSSES, DAMAGES, OR EXPENSES FROM ANY CAUSE WHATSOEVER (INCLUDING ACTS OR OMISSIONS OF THIRD PARTIES), REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT OR OTHERWISE, SHALL NOT EXCEED AN AMOUNT EQUAL TO THE LESSER OF THE DIRECT DAMAGES PROVEN OR THE PURCHASE PRICE OF THE SYSTEM. IN NO EVENT SHALL AT&T OR ITS AFFILIATES, SUPPLIERS, OR AUTHORIZED RESELLERS BE LIABLE FOR INCIDENTAL, RELIANCE, CONSEQUENTLY, OR ANY OTHER INDIRECT LOSS OR DAMAGE (INCLUDING LOST PROFITS OR REVENUES) INCURRED IN CONNECTION WITH THE SYSTEM, THIS LIMITATION OF LIABILITY SHALL SURVIVE FAILURE OF THE EXCLUSIVE REMEDY SET FORTH IN THE LIMITED WARRANTY ABOVE.

## Voice Mail Systems

Your voice mail system permits callers to leave verbal messages for system users or gain access to the backup position in an emergency as well as create and distribute voice messages among system users.

The voice mail system, through proper administration, can help you reduce the risk of unauthorized persons gaining access to the network. However, phone numbers and authorization codes can be compromised when overheard in a public location, are lost through theft of a wallet or purse containing access information, or through carelessness (writing codes on a piece of paper and improperly discarding them). Additionally, hackers may use a computer to dial an access code and then publish the information to other hackers. Substantial charges can accumulate quickly. It is your responsibility to take appropriate steps to implement the features

properly, evaluate and administer the various restriction levels, protect and carefully distribute access codes.

Under applicable tariffs, you will be responsible for payment of toll charges. AT&T cannot be responsible for such charges and will not make any allowance or give any credit resulting from unauthorized access.

To reduce the risk of unauthorized access through your voice mail system, please observe the following procedures:

- Employees who have voice mailboxes should be required to use the passwords to protect their mailboxes,
  - — Have them use random sequence passwords.
  - — Impress upon them the importance of keeping their passwords a secret.
  - — Encourage them to change their passwords regularly.
- The administrator should remove any unneeded voice mailboxes from the system immediately.
- AUDIX Voice Power has the ability to limit transfers to subscribers only. You are strongly urged to limit transfers in this manner.
- Use the Hybrid/PBX or Key system administration capability to do the following:
  - — Block direct access to outgoing lines and force the use of account codes/authorization codes.
  - — Disallow trunk-to-trunk transfer unless required.
  - — Assign toll restriction levels to all AUDIX Voice Power ports or other voice mail ports.
  - — If you do not need to use the Outcalling feature, completely restrict the outward calling capability of the AUDIX Voice Power ports. Use voice mail application features to do this.

- Monitor SMDR reports or Call Accounting System reports for outgoing calls that might be originated by AUDIX Voice Power ports or other voice mail ports.

## Remote Administration and Maintenance

The Remote Administration and Maintenance feature of your telecommunications system, if you choose to use it, permits users to change the system features and capabilities from a remote location.

The Remote Administration and Maintenance feature, through proper administration, can help you reduce the risk of unauthorized persons gaining access to the network. However, telephone numbers and access codes can be compromised when overheard in a public location, are lost through theft of a wallet or purse containing access information, or through carelessness (for example, writing codes on a piece of paper and improperly discarding them). Additionally, hackers may use a computer to dial an access code and then publish the information to other hackers. Substantial charges can accumulate quickly. It is your responsibility to take appropriate steps to implement the features properly, evaluate and administer the various restriction levels, and protect and carefully distribute access codes.

Under applicable tariffs, you will be responsible for payment of toll charges. AT&T cannot be responsible for such charges and will not make any allowance or give any credit resulting from unauthorized access.

To reduce the risk of unauthorized access through Remote Administration and Maintenance, please observe the following procedures:

- The System Administration and Maintenance capability of a Hybrid/PBX or Key system is protected by a password.
  - — Change the default password immediately.
  - — Continue to change the password regularly.

— Only give the password to people who need it and impress upon them the need to keep it secret.

— If anyone who knows the password leaves the company, change the password immediately.

- If you have a special telephone line connected to your Hybrid/PBX or Key system for Remote Administration and Maintenance, you should do one of the following:

  — Unplug the line when it is not being used.

  — Install a switch in the line to turn it off when it is not being used.

  — Keep the Remote Administration and Maintenance telephone number secret. Only give it to people who need to know it, and impress upon them the need to keep it a secret. Do not write the telephone number on the Hybrid/PBX or Key system, the connecting equipment, or anywhere else in the system room.

- If your Remote Administration and Maintenance feature requires that someone in your office transfer the caller to the Remote Administration and Maintenance extension, you should impress upon your employees the importance of only transferring authorized individuals to that extension.

# Menu Hierarchy

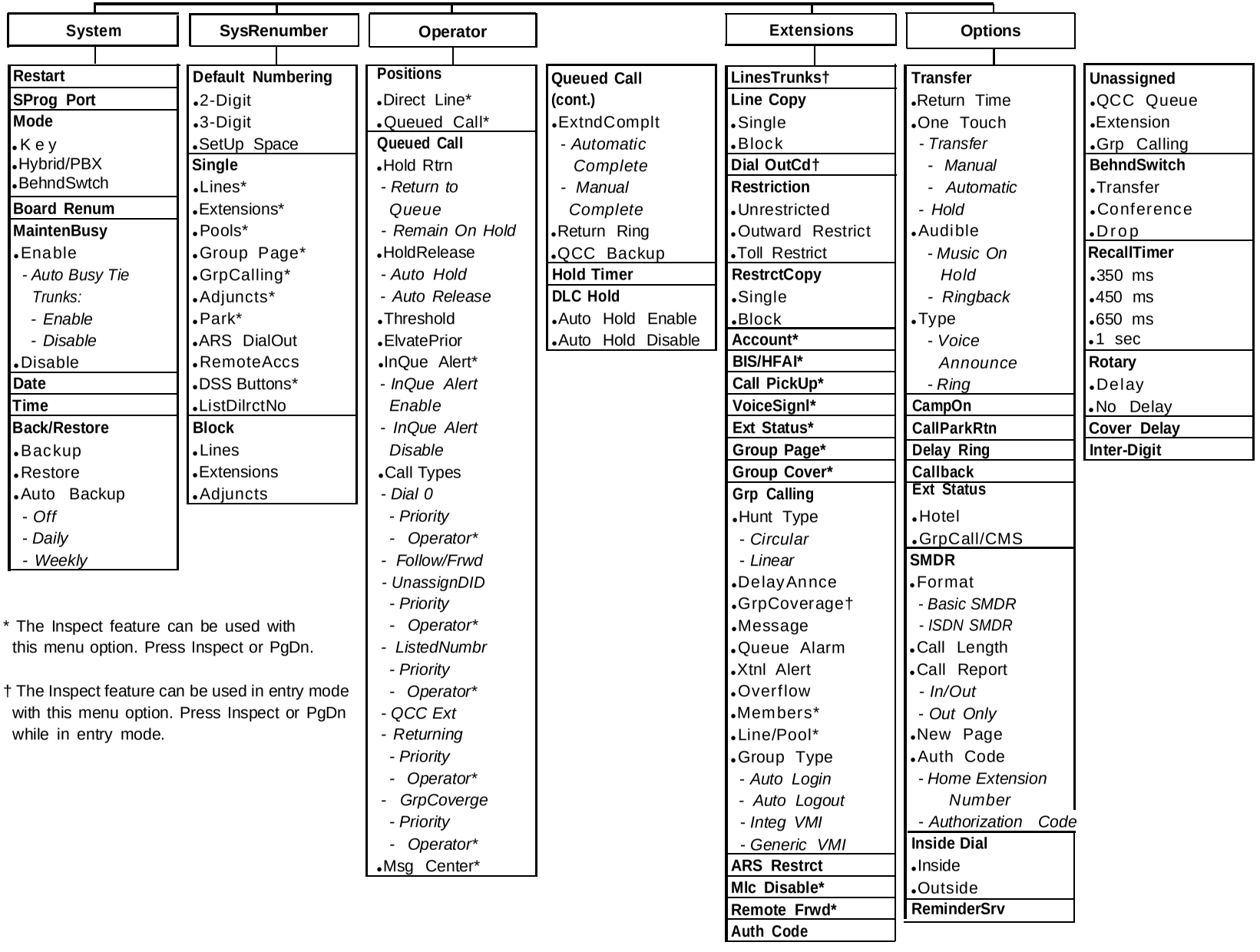
# B

The system programming menu hierarchy details the sequence of menu screens that appear when you select the system programming options. The choice of an option on the first menu screen leads to either a second menu screen or a data-entry screen. A secondary menu screen may lead to still another menu screen, and soon up to six screens, as shown in the following pages.

You can use the Inspect feature in system programming to display the telephone or line/trunk numbers that are programmed with a specific feature. Inspect is helpful when you must assign a feature to many lines/trunks or extensions and you do not have a Direct Station Selector (DSS) attached to the system programming console, or when you are programming using a PC with SPM.

Inspect can be used with the menu options on the following pages that have an asterisk **(*)** next to them. To use Inspect in system programming, choose an eligible option, and press **Inspct** or [PgDn].

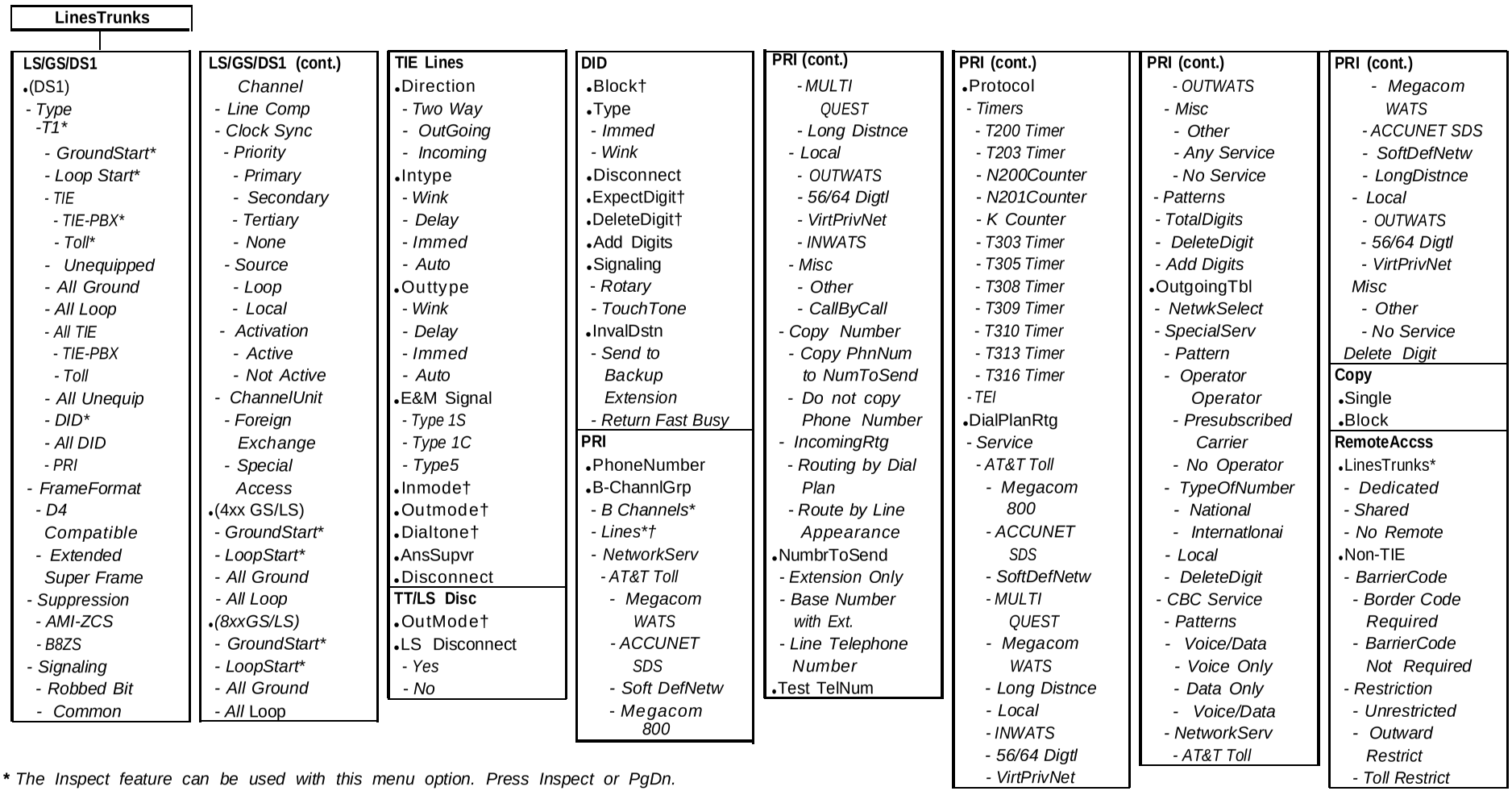
# System Programming




* The Inspect feature can be used with this menu option. Press Inspect or PgDn.

† The Inspect feature can be used in entry mode with this menu option. Press Inspect or PgDn while in entry mode.

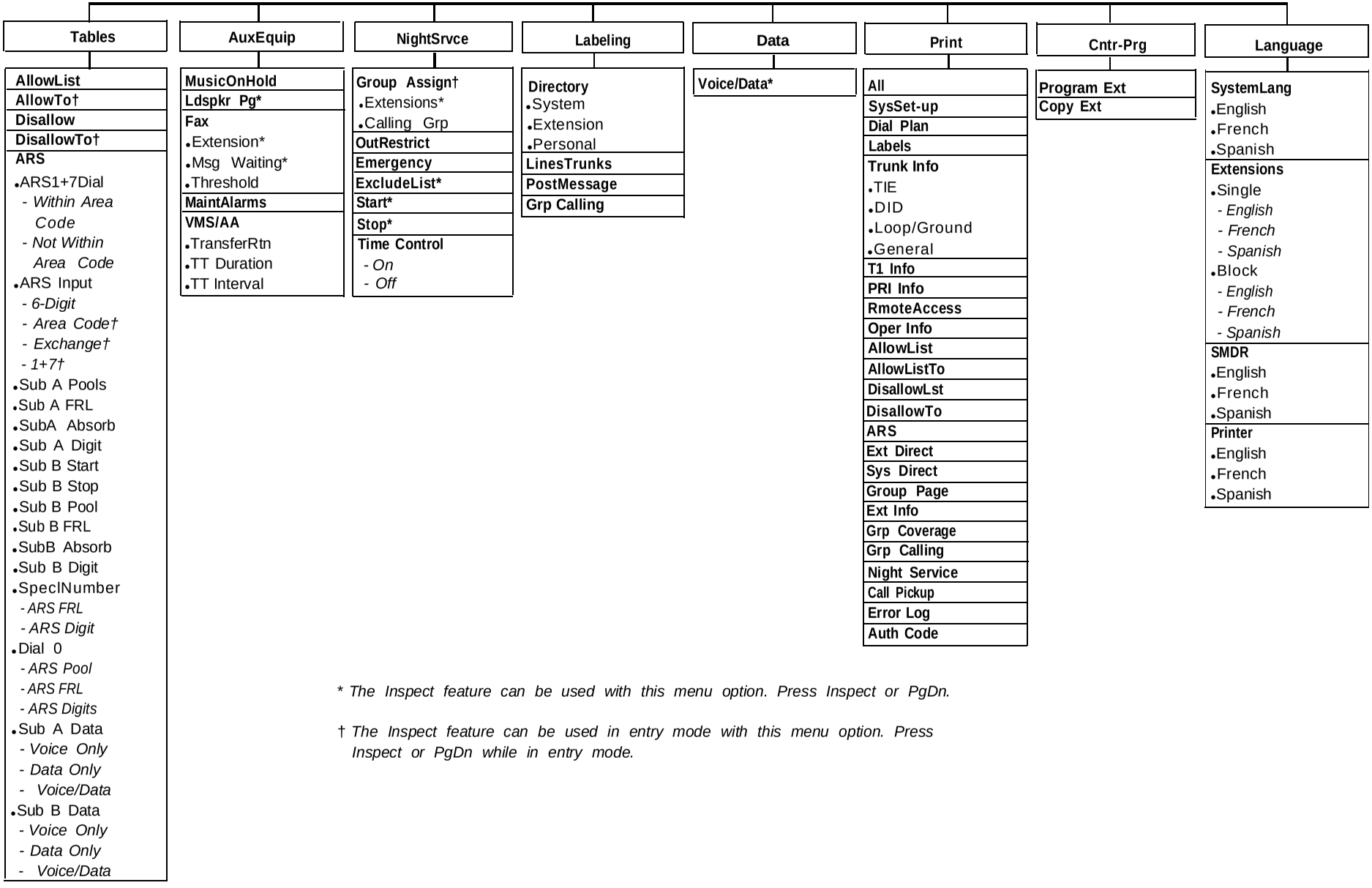
# System Programming (cont.)




***** *The Inspect feature can be used with this menu option. Press Inspect or PgDn.*

† *The Inspect feature can be used in entry mode with this menu option. Press Inspect or PgDn while in entry mode.*

# System Programming (cont.)




** The Inspect feature can be used with this menu option. Press Inspect or PgDn.*

*† The Inspect feature can be used in entry mode with this menu option. Press Inspect or PgDn while in entry mode.*

# LED Displays

# C

Table C-1 indicates LED status on the MLX-20L console. LED status is indicated on the LEDs next to the 20 buttons below the display area on the system programming console. LED status is simulated on the computer screen when you use SPM.

Table C-2 indicates LED status on the DSS console. LED status is indicated on the red LED next to the 50 extension buttons.

## Table C-1. Line or Trunk Feature Status

| System Programming Menu Option | Option | LED Status* | | | |
|---|---|---|---|---|---|
| | | Green LED | | Red LED | |
| | Option | ON | OFF | ON | OFF |
| Lines Trunks | Tie Lines | | | | |
| | Inmode | Incoming tie line is touch-tone | Incoming tie line is rotary dial† | | |
| | Outmode | Outgoing tie line is touch-tone | Outgoing tie line is rotary dial† | | |
| | Dialtone | Remote dial tone† | Local dial tone | | |
| Lines Trunks | TT/LS Disc | | | | |
| | Outmode | Line/Trunk is touch-tone† | Line/trunk is rotary dial | | |
| Lines Trunks | Pools | | | Trunk is in pool | Trunk is not in pool |
| Lines Trunks | Toll Type | Must dial 1 + area code † | 1 + dialing is not needed | | |
| Lines Trunks | Hold Disconc | Long-450 ms† | Short-50 ms | | |
| Lines Trunks | LS-ID Delay | LS-ID Delay is on | LS-ID Delay is Off† | | |
| Extensions | Lines Trunks | Line/trunk or pool is assigned to button | Line/trunk or pool is not assigned to button | Trunk is assigned to a pool | |

* LED Status is indicated on LEDs next to the 20 buttons below the display area of the system programming console or simulated on the computer screen when using SPM.

† This is the factory setting.

## Table C-2. Telephone Feature Status for DSS Console Only

| System Programming Menu Option | Option | Red LED Status | | |
|---|---|---|---|---|
| | | ON | OFF | FLASHING |
| Extensions | Account (FACE) | Forced Account Code Entry assigned | Forced Account Code Entry not assigned† | |
| Extensions | BIS/HFAI | Telephone has BIS/HFAI capability (factory setting for analog multiline telephones) | other | |
| Extensions | Call Pickup | Telephone is assigned to Call Pickup Group | Telephone is not assigned to Call Pickup Group† | |
| Extensions | VoiceSignl | Voice Announce to Busy assigned | Voice Announce to Busy not assigned† | |
| Extensions | Ext Status | Extension Status assigned | Extension Status not assigned | Extension Status can be assigned |
| Extensions | Group Page | Telephone is in group | Telephone is not in group† | |
| Extensions | Group Cover | Telephone is in coverage group | Telephone is not in coverage group† | |
| Extensions | Group Calling Members | Telephone is assigned to group | Telephone is not assigned to group† | |
| Extensions | Mic Disable | Telephone microphone is disabled | Telephone microphone is enabled | |
| Extensions | Remote Frwd | Telephone can transfer calls to a remote telephone number | Telephone cannot transfer calls to a remote telephone number† | |

† This is the factory setting.

*Continued on next page*

## Table C-2, *Continued*

| System Programming Menu Option | Option | Red LED Status | | |
|---|---|---|---|---|
| | | ON | OFF | FLASHING |
| Night Service | Group Assign | Telephone is in group | Telephone is not in group† | |
| Night Service | Exclude List | Telephone is excluded | Telephone is not excluded† | |
| Aux Equip | Msg Waiting | Station is a fax message-waiting station | Station is not a fax message-waiting station | |
| Aux Equip | Fax Extension | Extension is a fax machine | Extension is not a fax machine | |
| Tables | AllowTo | Allowed List assigned to telephone | Allowed List is not assigned to telephone† | |
| Tables | DisallowTo | Disallowed list assigned to telephone | Disallowed list is not assigned to telephone† | |
| Data | Voice/Data | Voice/Data pair | Not Voice/Data pair† | |
| Operator | Direct Trunk Queued Call | Operator position | Other | Can be assigned as operator position |
| Operator | Queued Call Message Center | Message Center position | Other | Can be assigned as Message Center |
| Operator | In Queue Alert | Position receives In-Queue Alert | Other | Position can receive In-Queue Alert |
| | Call Types- Dial 0, LDN Unassigned DID, Grp Coverage | Position receives call type | Other | Position can receive call type |

† This is the factory setting.

# General Feature Use and Telephone Programming

# D

This appendix contains information on the general use of features for the MLX, analog multiline, and single-line telephones. It covers telephone and operator features and the acceptable programming codes for each. It also describes how to program these features on MLX and analog multiline telephones.



## General Feature Use Information

The following provides general instructions for feature use on MLX, analog multiline, and single-line telephones. Features can be used in the following ways:

- By pressing a dedicated feature button
- By pressing a programmed button
- By dialing a feature code
- By selecting the feature from the display (MLX display telephones only)

## Dedicated Feature Buttons

All multiline telephones have a group of dedicated feature buttons that are programmed and labeled at the factory. The functions of these buttons, which include **Conference, Transfer,** and **Speaker,** cannot be changed. Press the button for the feature you want to use.

## Programmed Buttons

Any unlabeled line button on multiline telephones can be programmed with a feature for one-touch activation. See Tables D-1 through D-4 for more information on programming features onto line buttons.

Some features, such as Auto Dial, must be programmed onto line buttons in order to use them. Other features, such as Privacy, are best used if programmed onto line buttons—the LED next to the line button provides visual indication that the feature is in use. The following features must be programmed onto line buttons:

- Auto Answer All
- Auto Answer Headset
- Auto Dial
- Barge-In
- Coverage
  - — Group Coverage
  - — Primary Coverage
  - — Secondary Coverage
  - — Coverage Off
- Do Not Disturb
- Extension Status—Agent Login/Logout

- Feature Button (analog multiline telephones only)
- Headset/Handset Mute
- Headset Status
- Headset Hang Up
- Notify
- Posted Messages (available from display on MLX display telephones)
- Saved Number Dial
- Signaling

## Feature Codes

Feature codes are 1-, 2-, and 3-digit codes that activate features, A feature code is used by first pressing the dedicated **Feature** button on MLX telephones; pressing a programmed **Feature** button on analog multiline telephones; dialing # on single-line telephones. Each of these methods sends a signal to the system that a feature code is about to be dialed. When the code is dialed, the feature is activated

**NOTE:**
Queued Call Console (QCC) system operators cannot use the feature codes.

The following features can be used only by dialing feature codes:

- Call Pickup
- Forward/Follow Me—Cancel One
- Forward/Follow Me—Cancel All
- Message Cancel
- Personal Speed Dial
- System Speed Dial

**NOTE:**
Pressing the **Conference, Transfer, Speaker,** or **Feature** button while activating a feature cancels the process. Pressing any other button, such as the **Mute, HFAI, Message Status, DSS Page, More, Message, Clock,** analog multiline display keys, or analog multiline disconnect button does not cancel the feature activating process.

# Feature Table

Table D-1 lists the telephone and operator features that can be assigned to telephones or consoles through Centralized Telephone Programming or by users from their telephones.

## Table D-1. Telephone and Operator Features

| Feature | Prog. Code | Display Label | Single-Line | Analog Multi-line | MLX-10 | MLX-10D | MLX-28D | MLX-20L |
|---|---|---|---|---|---|---|---|---|
| Account Code Entry | ***82** | **Account Code** | KP | KPB | KPB | KPB | KPB | KPB |
| Alarm† | ***759** | **Alarm** | | KPB | | | KPB | KPB |
| Authorization Code | ***80** | **Auth Code** | KP | KPB | KPB | KPB | KPB | KPB |
| Auto Answer All | ***754** | **AutoAns All** | | KPB | | | | |
| Auto Answer Intercom | ***753** | **AutoAnsIcom** | | KPB | | | | |
| Auto Dial<br>Inside<br>Outside | <br>***22** *+ ext no.*<br>***21** *+ tel. no.* | **Auto Dial**<br>**Inside**<br>**Outside** | | KPB | KPB | KPB | KPB | KPB |
| Automatic Line Selection<br>On<br>Off | <br>***14**<br>****14** | **AutoLineSel** | | KPB | KPB | KPB | KPB | KPB |
| Barge-In†‡ | ***58** | **Barge In** | | KPB | KPB | KPB | KPB | KPB |
| Callback<br>Automatic<br>On<br>Off<br>Selective | <br><br>***12**<br>****12**<br>***55** | <br>**Cback Auto**<br>**On**<br>**Off**<br>**Cback Sel** | KP | KPB | KPB | KPB | KPB | KPB |
| Call Waiting<br>On<br>Off | <br>***11**<br>****11** | **CallWaiting**<br>**On**<br>**Off** | KPB | KPB | KPB | KPB | KPB | KPB |
| Camp-On | ***57** | **Camp On** | | KPB | KPB | KPB | KPB | KPB |
| Conference | ***772** | **Conference** | | B | B | B | B | B |

† Operator console
‡ Centralized Telephone Programming only

K Key mode
P PBX mode
B Behind Switch mode

***Continued on next page***

## Table D-1, *Continued*

| Feature | Prog. Code | Display Label | Single-Line | Analog Multi-line | MLX-10 | MLX-10D | MLX-28D | MLX-20L |
|---|---|---|---|---|---|---|---|---|
| Coverage | | Coverage | | KPB | KPB | KPB | KPB | KPB |
| Receiver buttons | | | | | | | | |
| Group | *42 + ext. no. | Group | | | | | | |
| Primary | *40 + ext. no. | Primary | | | | | | |
| Secondary | *41 + ext. no. | Secondary | | | | | | |
| Sender buttons | | | | | | | | |
| Cover inside & outside calls | *48 | CoverInside, On | KPB | | | | | |
| Cover outside calls only | **48 | CoverInside, Off | KPB | | | | | |
| Coverage off | *49 | CoverageOff | KPB | | | | | |
| VMS off | *46 | | KPB | | | | | |
| Data Status | *83 + ext. no. | | | KPB | KPB | KPB | KPB | KPB |
| Directory | | | | | | | | |
| System Directory (system programming) | | | | | | KPB | KPB | KPB |
| Extension Directory (display only) | | | | | | KPB | KPB | KPB |
| Personal Directory (display only) | | | | | | | | KPB |
| Direct Voice Mail | *56 | Direct VoiceMail | KPB | KPB | KPB | KPB | KPB | KPB |
| Do Not Disturb | *47 | DoNotDistrb | | KPB | KPB | KPB | KPB | KPB |
| Drop | *773 | Drop | | B | B | B | B | B |

† Operator console
‡ Centralized Telephone Programming only

K Key mode
P PBX mode
B Behind Switch mode

*Continued on next page*

## Table D-1, *Continued*

| Feature | Prog. Code | Display Label | Single-Line | Analog Multi-line | MLX-10 | MLX-10D | MLX-28D | MLX-20L |
|---|---|---|---|---|---|---|---|---|
| Extension Status | | | | KPB | | | KPB | KPB |
| Direct Line Console | | | | | | | | |
| Status Off | *760 | OperatorES, ESOff | | | | | | |
| Status 1 | *761 | OperatorES, ES1 | | | | | | |
| Status 2 | *762 | OperatorES, ES2 | | | | | | |
| Telephones (rooms or agents) | | | KPB | KPB | KPB | KPB | KPB | KPB |
| Status 1 | *45 | ES Status, ES1 | | | | | | |
| Status 2 | *44 | ES Status, ES2 | | | | | | |
| Feature button | *20 | Feature Btn | | KPB | | | | |
| Forward<br>Forward (Inside)<br>Remote Call Forward (Outside) | *33 | Forward | KPB | KPB | KPB | KPB | KPB | KPB |
| Group Calling | *22 + calling group ext no. | Group Call | | KPB | KPB | KPB | KPB | KPB |
| In-Queue Alarm button | | | | | | | | |
| Calling group supervisor | | | | KPB | | | KPB | KPB |
| Available (ES Status 2) | *762 | OperatorES, ES2 | | | | | | |
| Unavailable (ES Status Off) | *760 | OperatorES, ES Off | | | | | | |
| Calling group members | | | KPB | KPB | KPB | KPB | KPB | KPB |
| Sign (Available) | *44 | ES Status, ES2 | | | | | | |
| After-call work state (CMS only) | *45 | ES Status, ES1 | | | | | | |

† Operator console
‡ Centralized Telephone Programming only

K Key mode
P PBX mode
B Behind Switch mode

*Continued on next page*

## Table D-1, *Continued*

| Feature | Reg. Code | Display Label | Single-Line | Analog Multi-line | MLX-10 | MLX-10D | MLX-28D | MLX-20L |
|---|---|---|---|---|---|---|---|---|
| Group Page Auto Dial button | **22 + paging group ext. no.* | Group Page | | KPB | KP8 | KPB | KPB | KPB |
| Headset | | Hdset | | | KP | KB | KB | KB |
| Auto Answer | **780* | Auto Answer | | | | | | |
| Hang Up‡ | **781* | Hang Up | | | | | | |
| Mute (Headset/Handset) | **783* | Mute | | | | | | |
| Status | **782* | Status | | | | | | |
| Intercom buttons | | | | KB | KB | KB | KB | KB |
| Assign buttons‡ (factory-set type is Ring) | | | | | | | | |
| Intercom | **16* | SysAccess | KB | | | | | |
| Originate Only | **18* | SysAcc-00 | KB | | | | | |
| Change type of Intercom button | | | | | | | | |
| Ring | ***19* | Voice Annce, Place Ring | | | | | | |
| Voice | **19* | Voice Annce, Place Voice | | | | | | |
| Last Number Dial | **84* | LastnumDial | KP | KPB | KPB | KPB | KPB | KPB |
| Messaging | | | | | | | | |
| Leave Message | **25* | Leave Msg | KPB | KPB | KPB | KPB | KPB | KPB |
| Message LED off | **54* | | | KPB | KPB | KPB | KPB | KPB |
| Posted Message | **751* | Posted Msg | | KPB | KPB | KPB | KPB | KPB |
| Send/Remove† Message | **38* | Send/RmvMsg | | KPB | | | KPB | KPB |
| Receiving messages: | | Messages | | | | | | |
| Delete Message* | **26* | Delete Msg | | KPB | | KPB | KPB | KPB |
| Next Message* | **28* | Next Msg | | KPB | | KPB | KPB | KPB |
| Return Cal* | **27* | Return Call | | KPB | | KPB | KPB | KPB |
| Scroll* | **29* | | | KPB | | | | |

† Operator console
‡ Centralized Telephone Programming only
* Display telephones only.

K Key mode
P PBX mode
B Behind Switch mode

***Continued on next page***

## Table D-1, *Continued*

| Feature | Prog Code | Display Label | Single-Line | Analog Multi-line | MLX-10 | MLX-10D | MLX-28D | MLX-20L |
|---|---|---|---|---|---|---|---|---|
| Night Service† | ***39** | **Night srvc** | | KPB | | | KPB | KPB |
| Notify<br>Send<br>Receive | <br>***757** + ext. no<br>***758** + ext. no | **Notify**<br>**Send**<br>**Receive** | | KPB | KPB | KPB | KPB | KPB |
| Park | ***86** | **Park** | KP | KPB | KPB | KPB | KPB | KPB |
| Park Zone Auto Dial† | ***22** + park zone | **Park Zone** | | KPB | | | KPB | KPB |
| Personal Speed Dial | # + ***01-24*** + ***21** + tel. no. + # | | KP | KPB | KPB | KPB | | |
| Personalized Ringing | ***32** + ring ***(1-8)*** | **PersonalRng, Pattern #1... Pattern #8** | | KPB | KPB | KPB | KPB | KPB |
| Pickup<br>General use<br>Specific extension<br>Specific line<br>Group | <br>***9**<br>***9** + ext no.<br>***9** + line no.<br>***88** | **Pickup**<br>**General**<br>**Extension**<br>**Line**<br>**Group** | KP | KPB | KPB | KPB | KPB | KPB |
| Privacy | ***31** | **Privacy** | KP | KPB | KPB | KPB | KPB | KPB |
| Recall | ***775** | **Recall** | | KPB | KPB | KPB | KPB | KPB |
| Reminder Service<br>Set<br>Cancel<br>Missed† | <br>***81**<br>****81**<br>***752** | **Reminder**<br>**Set**<br>**Cancel**<br>**Missed** | KPB | KPB | KPB | KPB | KPB | KPB |
| Ringing/Idle Line Preference<br>Cancel | ***343**<br><br>***344** | **Line Prefer, On**<br>**Line Prefer, Off** | | KPB | KPB | KPB | KPB | KPB |

† Operator console

K Key mode
P PBX mode
B Behind Switch mode

***Continued on next page***

## Table D-1, *Continued*

| Feature | Prog. Code | Display Label | Single-Line | Analog Multi-line | MLX-10 | MLX-10D | MLX-28D | MLX-20L |
|---|---|---|---|---|---|---|---|---|
| Ringing Options | | Ring Options | | | | | | |
| Individual Lines | | One Line | | KPB | KPB | KPB | KPB | KPB |
| Immediate Ring | *37 | Immed Ring | | | | | | |
| Delay Ring | *36 | Delay Ring | | | | | | |
| No Ring | *35 | No Ring | | | | | | |
| All Lines | | All lines | | | | | | |
| Immediate Ring | *347 | Immed Ring | | | | | | |
| Delay Ring | *346 | Delay Ring | | | | | | |
| No Ring | *345 | No Ring | | | | | | |
| Abbreviated Ring | | Abbreviated | | | | | | |
| On | *341 | On | | | | | | |
| Off | *342 | Off | | | | | | |
| Send Ring (Shared SA) | | SharedSARng | P | P | P | P | P | P |
| On | *15 | On | | | | | | |
| Off | **15 | Off | | | | | | |
| Saved Number Dial | *85 | SaveNumDial | | KPB | KPB | KPB | KPB | KPB |
| Send/Remove Message† | *38 | Send/RmvMsg | | KPB | | | KPB | KPB |
| Signaling (manual) | *23 + ext. no. | Signal | | KPB | KPB | KPB | KPB | KPB |
| System Access buttons | | | | P | P | P | P | P |
| Assign buttons‡ | | | | | | | | |
| System Access | *16 | SysAccess | P | | | | | |
| Originate Only | *18 | SysAcc-00 | P | | | | | |
| Shared System Access | *17 + primary ext. no. | ShareSysAcc | P | | | | | |
| Change type of System Access button | | | | | | | | |
| Ring | **19 | Voice Annce, Place, Ring | | | | | | |
| Voice | *19 | Voice Annce, Place, Voice | | | | | | |

‡ Centralized Telephone Programming only
† Operator console

K Key mode
P PBX mode
B Behind Switch mode

*Continued on next page*

**Table D-1, Continued**

| Feature | Prog. Code | Display Label | Single-Line | Analog Multi-line | MLX-10 | MLX-10D | MLX-28D | MLX-20L |
|---|---|---|---|---|---|---|---|---|
| System Speed Dial | ***24** + code (600 729)* | **SysSpeedD1** | KP | KPB | KPB | KPB | KPB | KPB |
| Transfer | ***774** | **Transfer** | | B | B | B | B | B |
| Voice Announce | | **Voice Annce** | | KPB | KPB | KPB | KPB | KPB |
| | | **Receive** | | | | | | |
| On | ***10** | **On** | | | | | | |
| Off | ***10** | **Off** | | | | | | |

K Key mode
P PBX mode
B Behind Switch mode

# Telephone Programming

The following describes how to program features on MLX and analog multiline telephones. Since Personal Speed Dial is the only feature that single-line telephone users can program, general programming instructions for single-line telephones are not provided.

**NOTE:**
Features cannot be programmed on QCCs in system operator positions. Features assigned to these consoles are fixed and cannot be changed.

## Programming Methods

Telephones can be programmed by dialing programming codes or on MLX display phones by selecting features from the display. An analog multiline telephone cannot be programmed by selecting features from the display.

To program a telephone, first enter programming mode:

- On analog multiline telephones, slide the Test/Program (T/P) switch on the side of the telephone to **P,** or lift the handset, or press Speakerphone and dial ***#00.***
- On MLX-10 telephones, press the **Feature** button and dial ***00.***
- On MLX display telephones, use the same procedures as the MLX-10 or enter programming mode by selecting **`Ext Program`** from the menu screen on the display.

See the appropriate user or operator guide for more information.

**NOTE:**
Features can also be programmed onto individual telephones through Centralized Telephone Programming. The steps for using programming codes vary depending on the telephone. Tables D-2 through D-4 list the basic steps for programming each telephone type.

**Table D-2. Programming Analog Multiline Telephones**

| Step | | Action |
|---|---|---|
| 1 | Label the button.<br>**Note:** Skip this step if the feature will not be programmed onto a button. | ■ Remove the clear label cover from the telephone by inserting the end of a paper clip in the notch at the top of the cover.<br>■ Write the feature name on the card next to the button to be programmed.<br>■ Replace the cover. |
| 2 | Begin programming. | ■ Slide the T/P switch on the side of the telephone to **P.** |
| 3 | Select the feature. | ■ Press the button you labeled.<br>*If you have a display, it shows the name of the feature currently programmed on the button. If no feature is programmed, the display indicates that the button is blank.*<br>**Note:** if the feature does not get programmed onto a button, press any line button. This does not affect the button in any way.<br>Dial the programming code.<br>*The feature is programmed.* |
| 4 | End programming. | ■ Slide the T/P switch to the center position. |

**Table D-3. Programming MLX 10 Telephones**

| Step | | Action |
|---|---|---|
| 1 | Label the button.<br>**Note:** Skip this step if the feature will not be programmed onto a button. | ■ Remove the clear label cover from the telephone by pulling upon the tab that extends from the top of the cover.<br>■ Write the feature name on the card next to the button to be programmed.<br>■ Replace the cover. |
| 2 | Begin programming. | ■ Press the **Feature** button and then dial ***00.*** |
| 3 | Select the feature. | ■ Press the button you labeled.<br>**Note:** If the feature does not get programmed onto a button, press any line button. This does not affect the button in any way.<br>■ Dial the programming code.<br>*The feature is programmed.* |
| 4 | End programming. | ■ Press the **Feature** button and dial ****00.*** |

**Table D-4. Programming MLX Display Telephones Using the Display**

| Step | | Action |
|---|---|---|
| 1 | Label the button to be programmed.<br>**Note:** Skip this step if the feature will not be programmed onto a button. | ■ Remove the clear label cover from the telephone by pulling upon the tab that extends from the top of the cover.<br>■ Write the feature name on the card next to the button to be programmed.<br>■ Replace the cover. |
| 2 | Begin programming. | ■ Press **Menu.**<br>■ Select **`Ext Program`** from the display.<br>■ Select **`Start`** from the display. |
| 3 | Identify the button to be programmed. | ■ Press the button you labeled.<br>**Note:** If the feature does not get programmed onto a button, press any line button. This does not affect the button in any way.<br>*The display identifies the feature currently programmed on the button. If no feature is programmed, the display indicates that the button is blank.* |

***Continued on next page***

**Table D-4, *Continued***

| Step | | Action |
|---|---|---|
| | To delete the feature currently programmed on the button: | ■ Select **Delete** from the display.<br>*The button is now blank.*<br>■ Press the button you labeled again to continue programming.<br>**Note:** If the currently programmed feature was not deleted from the button, the new feature programmed onto it will replace it. |
| | To continue programming: | ■ Select **List Feature** from the display.<br>*The screen lists feature names in alphabetical order* |
| 4 | Select the feature. | |
| | If the feature name is on the display: | ■ Press the button next to or below the name of the feature to be programmed. |
| | If the feature name is not on the display: | ■ Press **More** to move through the list of features page by page. |

***Continued on next page***

**Table D-4, *Continued***

| Step | | Action |
|---|---|---|
| | or: To jump to the screen that displays the feature name. | ■ Select **Find Feature** from the display.<br>■ Select the range of letters from the display that corresponds to the first letter of the feature name (for example, if the feature begins with A, select **ABC).**<br>■ If the feature is not displayed on the page that you jumped to, press **More.**<br>■ When you find the feature you want, press the button next to or below it. |
| 5 | Respond to any additional prompts on the display. | ■ Select appropriate prompt (for example, select **on** or **off** to turn Inside Coverage on or off), and/or enter required information (for example, dial a phone number for Auto Dial).<br>■ Select **Enter.** |

***Continued on next page***

**Table D-4, *Continued***

| Step | Action |
|---|---|
| 6 | End programming. |
| | To return to the Home screen: ■ Press **Home** or lift and replace the handset. |
| | To return to the Menu screen: ■ Press **Menu.** |

**NOTE:**
MLX display telephones can also be programmed using the method described for MLX-10 telephones. For example, the programming mode can be entered by pressing the **Feature** button and dialing ***00,*** then referring to the display to continue the programming process. Or, enter programming through the display and then dial a programming code to select the feature rather than selecting it from the display.

# Button Diagrams

# E

This appendix contains the button diagrams for Hybrid/PBX systems as well as button diagrams for Key and Behind Switch systems.

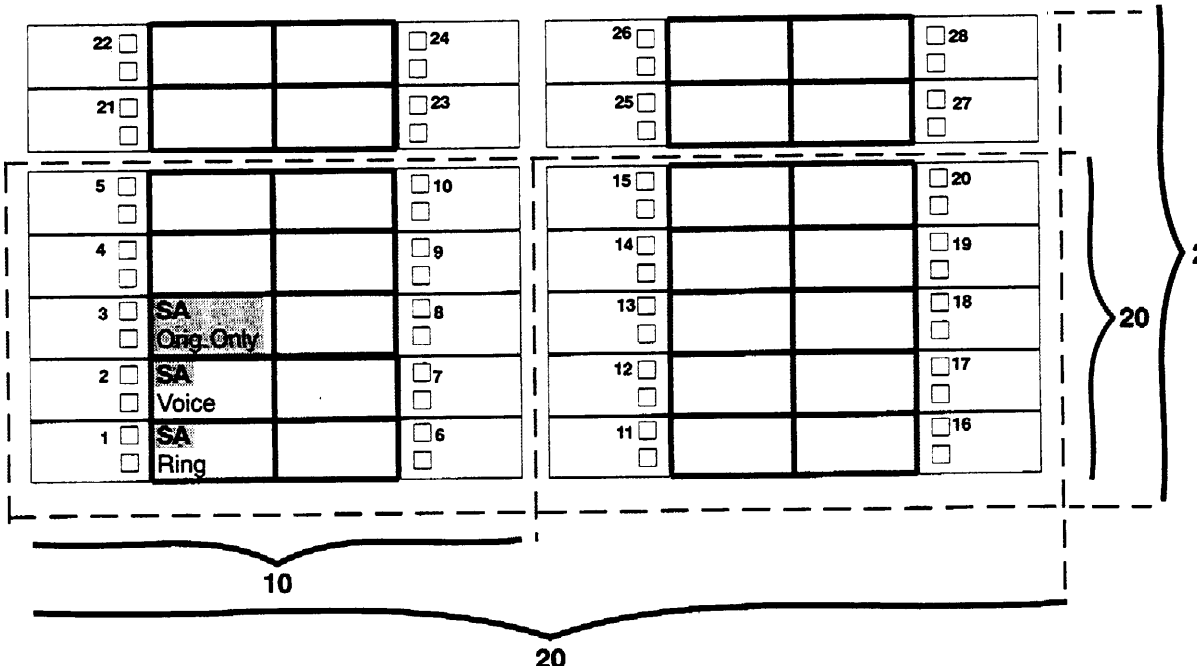



**Figure E-1. MLX Telephone Button Diagram (Hybrid/PBX Mode)**

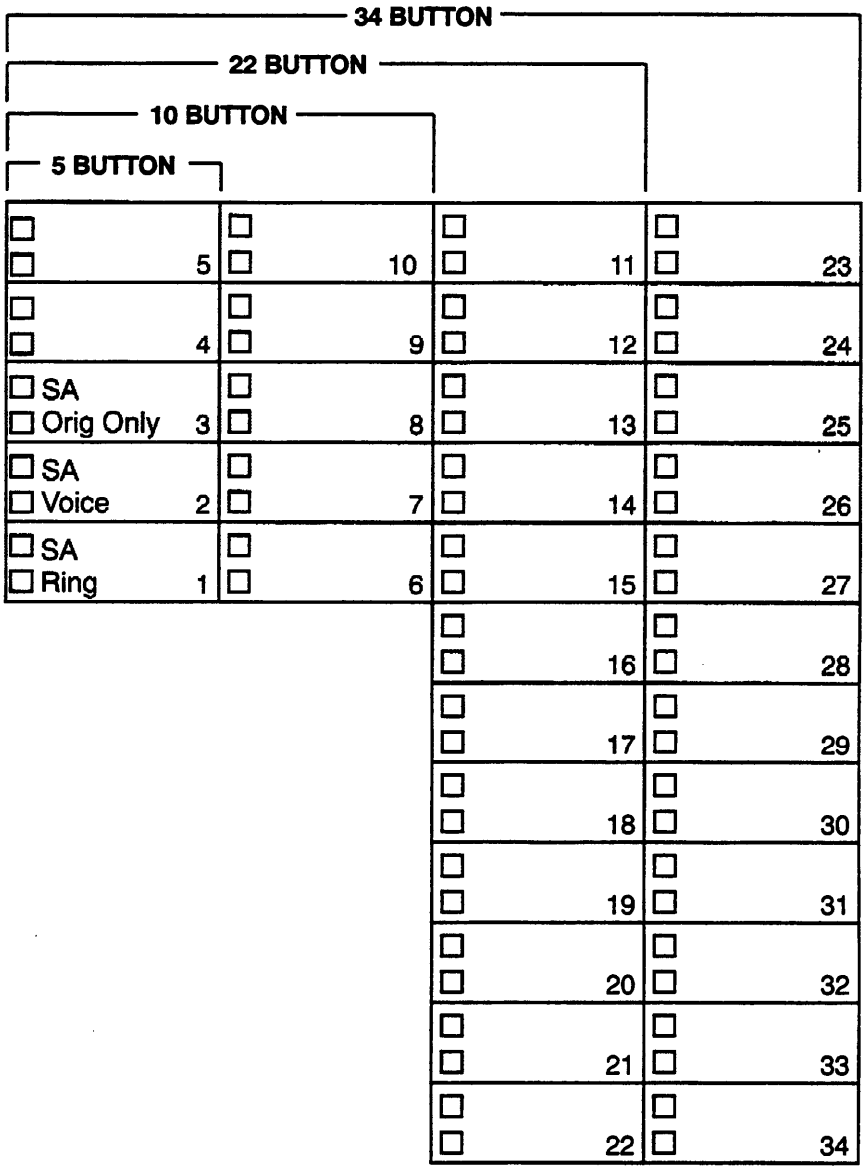
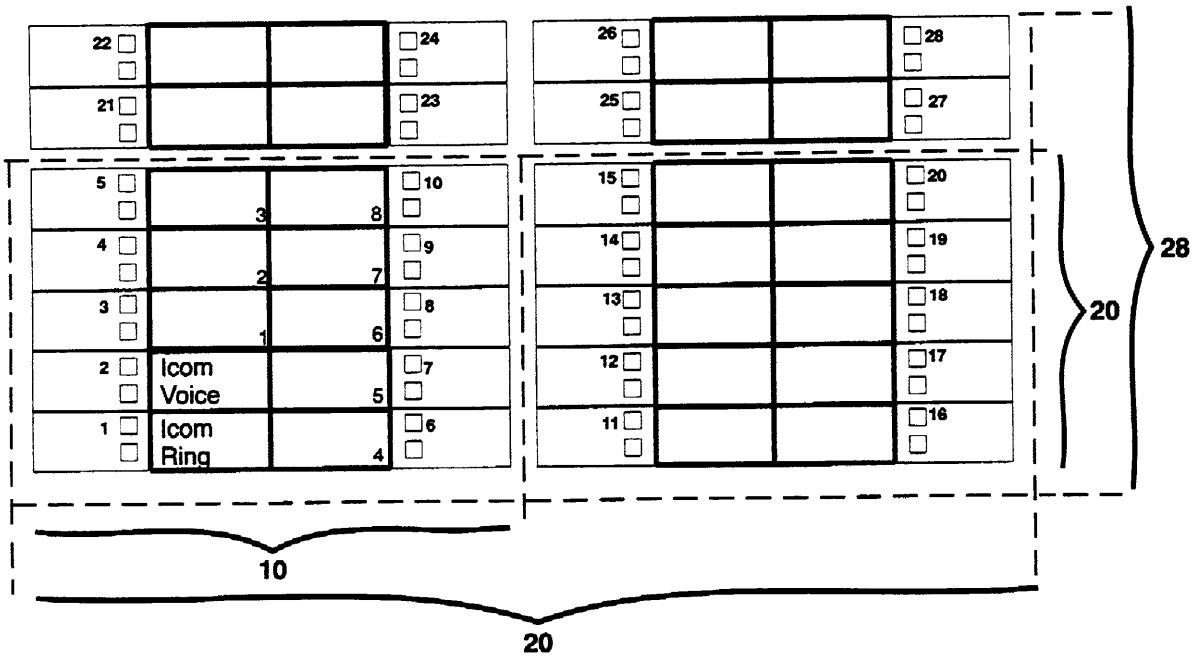



Figure E-2. Analog Multiline Telephone Button Diagram (Hybrid/PBX Mode)




**Key Mode:**
Up to 8 personal line buttons are assigned beginning at button 3.

**Behind Switch Mode:**
One prime line button is assigned to button 3.

**Figure E-3. MLX Telephone Button Diagram (Key and Behind Switch Mode)**

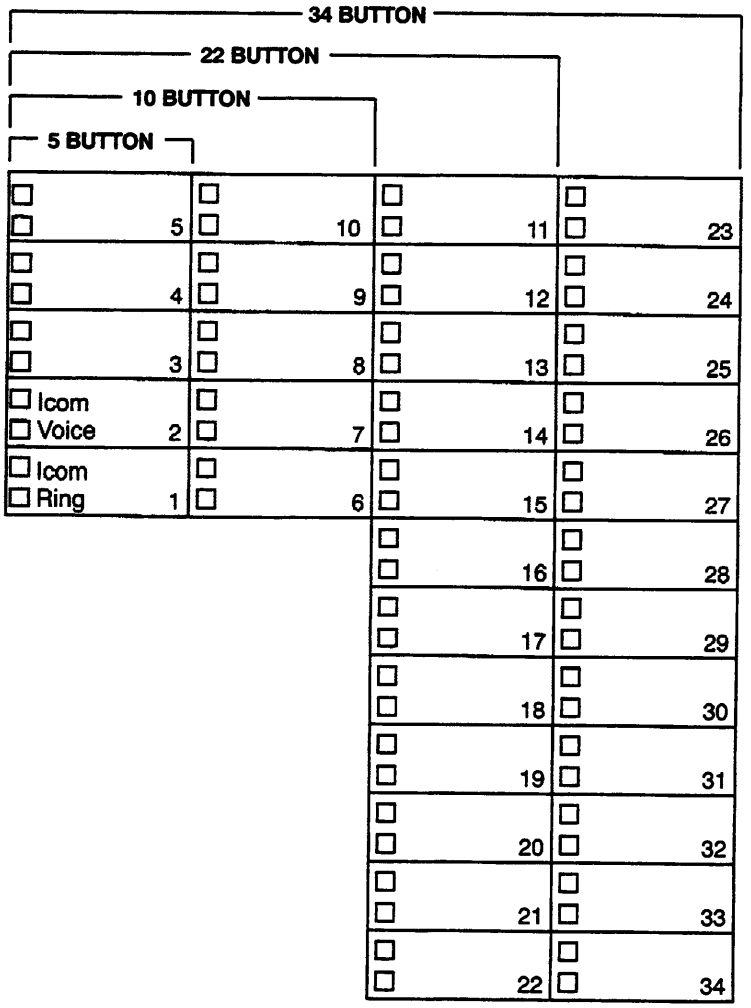



**Figure E-4. Analog Multiline Telephone Button Diagram (Key and Behind Switch Mode)**

# Sample Reports

# F

This appendix includes samples of the print reports generated by the communications system. Table F-1 lists the system reports and the pages in this appendix where samples can be found.

**Table F-1. Report Contents**



***Continued on next page***

**Table F-1, *Continued***



Table F-2 lists all of the system reports and includes: the print menu option used to print each report; the report name; and a brief description of each report.

The menu options referred to in Table F-2 are accessed by selecting the **`Print`** option on the System Programming menu. Refer to the "Print Reports" section of this guide for details on the **`Print`** option.

**Table F-2. System Reports**

| Menu Option | Report Name | Description |
|---|---|---|
| **All** | | Prints each of the reports available on the Print menu, from SysSet-up to Error Log. **Note:** When **All** is selected, the four Trunk Information reports automatically print. See **Trunk Info.** |
| **SysSet-up** | System Information | Systemwide information such as return intervals, system mode, system programming port, slot assignments, etc. |
| **Dial Plan** | Dial Plan | Extensions assigned to pools, paging zones, calling groups, lines or trunks, and stations; labels for lines/trunks and stations. |
| **Labels** | Label Information | Labels assigned to stations Posted Messages, and names and telephone numbers included in MLX-20L user's Personal Directory. |
| **Trunk Info** | | Select to display four trunk options: Tie, DID, Loop/Ground, General. |
| **TIE** | TIE Trunk Information | Extensions assigned to and signaling attributes associated with Tie trunks. |
| **DID** | DID Trunk Information | Extensions assigned to and signaling attributes associated with DID trunks. |
| **Loop/ Ground** | GS/LS Trunk Information | Extensions assigned to and signaling attributes associated with ground- and loop-start trunks. |

***Continued on next page***

**Table F-2, *Continued***

| Menu Option | Report Name | Description |
|---|---|---|
| **General** | General Trunk Information | All identified extensions and feature-related attributes of each extension. |
| **T1 Info** | DS1 information | Options (line, signal, etc.) assigned to T1 trunks or lines. |
| **PRI Info** | PRI Information | PRI trunks/lines assigned to B-channel groups. |
| **Rmote Access** | Remote Access (DISA) Information | Remote access dial code, class of restriction, barrier code information. |
| **Oper Info** | Operator Information | For each system operator position; the logical ID, extension number, label, type (DLC or QCC); all general system operator options, such as backup position, etc.; call types and priorities. |
| **AllowList** | Allowed Lists | Telephone numbers included in Allowed Lists. Lists are numbered 0-7, and entries are numbered 0-9. |
| **AllowListTo** | Access to Allowed Lists | Lists are numbered 0-7. If the Allowed List is assigned to Remote Access users and barrier-codes are used, the barrier codes are numbered 0-16. If no barrier codes are used, 17 means the Allowed List is assigned to tie-trunk users, and 18 means the Allowed List is assigned to non-tie-trunk users. |

***Continued on next page***

**Table F-2, *Continued***

| Menu Option | Report Name | Description |
|---|---|---|
| **DisallowLst** | Disallowed Lists | Telephone numbers included in Disallowed Lists. Lists are numbered 0-7, and entries are numbered 0-9. |
| **DisallowTo** | Access to Disallowed Lists | Telephones to which Disallowed Lists are assigned. Lists are numbered 0-7. If the Disallowed List is assigned to Remote Access users and barrier codes are used, the barrier codes are numbered 0-16. If no barrier codes are used, 17 means the Disallowed List is assigned to tie-trunk users, and 18 means the Disallowed list is assigned to non-tie-trunk users. |
| **ARS** | Automatic Route Selection | Access code; table types with area codes and exchanges; routes for sub-patterns A and B, FRL, absorb digit, delete digit, Dial 0, and N11 tables. |

***Continued on next page***

**Table F-2, *Continued***

| Menu Option | Report Name | Description |
|---|---|---|
| **Ext Direct** | Extension Directory | Slot/port addresses, extensions, labels and feature-related attributes. Column headings are printed on the first page only and are not carried over to subsequent pages. Column headings 4 through 10 (and 14 through 20) should be read vertically. That is: FACE (Forced Account Code Entry); HBIS (HFAI/BIS); RCFW (Remote Call Forward); MICD (Microphone Disable); SIG (Voice Signal); RSTR (Calling Restrictions); ARSR (ARS Restriction Level). |
| **Sys Direct** | System Directory | System Speed Dial number, label and telephone number in System Directory, and whether number should display. |
| **Group Page** | Group Paging | Extension number for each group and the extension number of each telephone assigned to the group. |
| **Ext Info** | Extension Information | For each specified extension, type of equipment connected, features assigned to station, and features assigned to each button on the station. |

***Continued on next page***

**Table F-2, *Continued***

| Menu Option | Report Name | Description |
|---|---|---|
| **GrpCoverage** | Group Coverage Information | Extension number for each group and the extension number for each telephone assigned to the group. Information is printed only for calling groups with members and/or lines/trunks assigned. |
| **GrpCalling** | Direct Group Calling Information | Group calling options (hunt, type, message waiting, station, etc.), the extension number for each telephone assigned to the group, and the lines or trunks assigned to the group. |
| **Night Service** | Night Service Information | The operator, password required, time-of-day, and Emergency Allowed List extension numbers. |
| **Call Pickup** | Group Call Pickup | Extension numbers for telephones assigned to each group. Pickup groups are numbered 1-30. |
| **Error Log** | Error Log | Error message and code, time and day error occurred, frequency of error. See the Maintenance and Troubleshooting guide. |
| **Auth Code** | Authorization Code Information | Authorization Code and permissions for extensions to which authorization codes are assigned. |

# System Reports

## System Information Report

**Print Menu Option:** SysSet-up

```
SYSTEM INFORMATION
Current Date:     01/04/00
Current Time:     00:21:15

System :    Mode          AutoMaintBusy   AutoBusyTie
       :    Hybrid/PBX    Disable         Disable

Language:     SystemLang        SMDR            Printer
              English           English         English

Direct Line Operators          :    14  18  22  42
Queued Call Operators          :    10
SysProg Port                   :    10     Password :  craft

Transfer : Type    Audible      OneTouch(Complete    ReturnTimer
         : Ring    MusicOnHold  Transfer(Auto)       5 rings

VMS Transfer Return Interval   : 4
Paging System Lines            :
Music On Hold Line             : 804
Camp On Time                   : 90 sec
Call Park Return Time          : 180 sec
Delay Rings                    : 2
Coverage Delay                 : 3
Auto Callback Rings            : 3
Extension Status (ESS)         : Group Call / CMS
ESS Operators                  :

SMDR :    Min.CallTime      CallReport      Format
     :     40 sec           In/Out          Basic

Intercom Dial Tone             :  Inside
Reminder Service Cancel        :     :
```

**System Information Report — *Continued***

```
Behind Switch Code              :  Drop    Transfer   Conference
                                :

Recall Timer                    :  450 msec
Rotary Line Cut Through         :  Delay
Unassigned Extension            :    10

Automatic Backup                :  Weekly - 04:30 Sunday

Slot # 1:          008 MLX
Slot # 2:          408
Slot # 3:          008
Slot # 4:          408
Slot # 5:          800 GS/LS
Slot # 6:          008 GS/LS-MLX
Slot # 7:          800
Slot # 8:          008
Slot # 9:          012
Slot #10:          408 GS/LS
Slot #11:          008
Slot #12:          800
Slot #13:          800 DID
Slot #14:          400 EM
Slot #15:          012
Slot #16:          008 MLX
Slot #17:          408                    * Not Present *
```

## Dial Plan Report

**Print Menu Option:** `Dial plan`
**Sections:** Pools; Telephone Paging Zones; Direct Group Calling Group; Lines/Trunks; Stations

```
DIAL PLAN FOR POOLS

POOL.# 1:    70
POOL.# 2:   890
POOL.# 3:   891
POOL.# 4:   892
POOL.# 5:   893
POOL.# 6:   894
POOL.# 4:   895
POOL.# 8:   896
POOL.# 9:   897
POOL.# 10:  898
POOL.# 11:  899

DIAL PLAN FOR TELEPHONE PAGING ZONES

TPZ # 1:   793
TPZ # 2:   794
TPZ # 3:   795
TPZ # 4:   796
TPZ # 5:   797
TPZ # 6:   798
TPZ # 7:   799

DIAL PLAN FOR DIRECT GROUP CALLING GROUP

DGCG # 1:   770
DGCG # 2:   771
DGCG # 3:   772
DGCG # 4:   773
DGCG # 5:   774
```

## Dial Plan Report — *Continued*

```
DIAL PLAN FOR LINES/TRUNKS

LINE # 1:      801      OUTSIDE      LINE #      2:       802    OUTSIDE
LINE # 3:      803      OUTSIDE      LINE #      4:       804    OUTSIDE
LINE # 5:      805      OUTSIDE      LINE #      6:       806    OUTSIDE
LINE # 7:      807      OUTSIDE      LINE #      8:       808    OUTSIDE
LINE # 9:      809      OUTSIDE      LINE #     10:       810    OUTSIDE

DIAL PLAN FOR STATIONS

STN #: 1    10     OPERATR        STN #:     2    710
STN #: 3    11                    STN #:     4    711
STN #: 5    12                    STN #:     6    712
STN #: 7    13     EXT 13         STN #:     8    713
STN #: 9    14     EXT 14         STN #:    10    714
STN #: 11   15                    STN #:    12    715
STN #: 13   16                    STN #:    14    716
STN #: 15   17                    STN #:    16    717
STN #: 17   18     EXT 18         STN #:    18     19
STN #: 19   20                    STN #:    20     21
STN #: 21   22     OPERATR        STN #:    22     23
STN #: 23   24                    STN #:    24     25
STN #: 25   26                    STN #:    26     21
STN #: 27   28                    STN #:    28     29
STN #: 29   30     AUDIXVP        STN #:    30     31       AUDIXVP
STN #: 31   32     AUDIXVP        STN #:    32     33       AUDIXVP
STN #: 33   34                    STN #:    34     35
STN #: 35   36                    STN #:    36     31
STN #: 37   38                    STN #:    38     39
STN #: 39   40                    STN #:    40     41
STN #: 41   42     EXT 42         STN #:    42    742
•
•
•
STN #: 53   54     EXT 54         STN #:    54    754      AUDIXVP
```

## Label Information Report

**Print Menu Option:** Labels
**Sections:** Telephone Personal Directory; Posted Messages and Numbers

LABEL INFORMATION

Executive Telephone # 10: Personal Directory
Name Number Display
Executive Telephone # 14: Personal Directory
Name Number Display
Executive Telephone # 15: Personal Directory
Name Number Display

| MSG # | POSTED MESSAGE |
|---|---|
| 1 | DO NOT DISTURB |
| 2 | OUT TO LUNCH |
| 3 | AT HOME |
| 4 | OUT SICK |
| 5 | IN A MEETING |
| 6 | IN CONFERENCE |
| 7 | WITH A CLIENT |
| 8 | WITH A CUSTOMER |
| 9 | AWAY FROM DESK |
| 10 | OUT ALL DAY |
| 11 | CUSTM MSG11 |
| 12 | CUSTM MSG12 |
| 13 | CUSTM MSG13 |
| 14 | CUSTM MSG14 |
| 15 | CUSTM MSG15 |
| 16 | CUSTM MSG16 |
| 17 | CUSTM MSG17 |
| 18 | CUSTM MSG18 |
| 19 | CUSTM MSG19 |
| 20 | CUSTM MSG20 |

## Tie Trunk Information Report

**Print Menu Option:** `Trunk Info` and `TIE`

```
TIE TRUNK INFORMATION

TRUNK     849        Slot/Port : 14/ 1       TIE-PBX
Direction: 2 Way     E&M Signal: Type1S      Dialtone  : Remote
InType    : Wink     InMode    : Rotary      AnsSupvr  : 300 ms
OutType   : Wink     OutMode   : Rotary      Disconnect: 300 ms

TRUNK     850        Slot/Port : 14/ 2       TIE-PBX
Direction: 2 Way     E&M Signal: Type1S      Dialtone  : Remote
InType    : Wink     InMode    : Rotary      AnsSupvr  : 300 ms
OutType   : Wink     OutMode   : Rotary      Disconnect: 300 ms

TRUNK     851        Slot/Port : 14/ 3       TIE-PBX
Direction: 2 Way     E&M Signal: Type1S      Dialtone  : Remote
InType    : Wink     InMode    : Rotary      AnsSupvr  : 300 ms
OutType   : Wink     OutMode   : Rotary      Disconnect: 300 ms

TRUNK     852        Slot/Part : 14/ 4       TIE-PBX
Direction: 2 Way     E&M Signal: Type1S      Dialtone  : Remote
InType    : Wink     InMode    : Rotary      AnsSupvr  : 300 ms
OutType   : Wink     OutMode   : Rotary      Disconnect: 300 ms
```

## DID Trunk Information Report

**Print Menu Option:** `Trunk Info` and `DID`

DID TRUNK INFORMATION

| Trk | SS/PP | Blk | DiscTime | Type | ExpDig | DelDig | AddDig | Signal | InvDest |
|---|---|---|---|---|---|---|---|---|---|
| 841 | 13/ 1 | 1 | 500ms | Wink | 4 | 3 | 1 | TouchTone | BkupExt |
| 842 | 13/ 2 | 1 | 500ms | Wink | 4 | 3 | 1 | TouchTone | BkupExt |
| 843 | 13/ 3 | 2 | 500ms | Wink | 3 | 0 | | Rotary | BkupExt |
| 844 | 13/ 4 | 2 | 500ms | Wink | 3 | 0 | | Rotary | BkupExt |
| 845 | 13/ 5 | 1 | 500ms | Wink | 4 | 3 | 1 | TouchTone | BkupExt |
| 846 | 13/ 6 | 1 | 500ms | Wink | 4 | 3 | 1 | TouchTone | BkupExt |
| 847 | 13/ 7 | 2 | 500ms | Wink | 3 | 0 | | Rotary | BkupExt |
| 848 | 13/ 8 | 1 | 500ms | Wink | 4 | 3 | 1 | TouchTone | BkupExt |

## GS/LS Trunk Information Report

**Print Menu Option:** `Trunk Info` and `Loop/Ground`

GS/LS TRUNK INFORMATION

| Trk | SS/PP | Type | OutMode | RelDisc | ChannelUnit | LS-ID Delay |
|---|---|---|---|---|---|---|
| 801 | 2/ 1 | Loop | TouchTone | Yes | N/A | N/A |
| 802 | 2/ 2 | Loop | TouchTone | Yes | N/A | N/A |
| 803 | 2/ 3 | Loop | TouchTone | Yes | N/A | N/A |
| 804 | 2/ 4 | Loop | TouchTone | Yes | N/A | N/A |
| 805 | 4/ 1 | Loop | Rotary | Yes | N/A | NIA |
| 806 | 4/ 2 | Loop | Rotary | Yes | N/A | N/A |
| 807 | 4/ 3 | Loop | Rotary | Yes | N/A | N/A |
| 808 | 4/ 4 | Loop | Rotary | Yes | N/A | N/A |
| 809 | 5/ 1 | Ground | TouchTone | N/A | N/A | N/A |
| 810 | 5/ 2 | Ground | TouchTone | N/A | N/A | N/A |
| 811 | 5/ 3 | Loop | Rotary | Yes | N/A | N/A |
| 812 | 5/ 4 | Loop | Rotary | Yes | N/A | N/A |
| 813 | 5/ 5 | Loop | Rotary | Yes | N/A | N/A |
| 814 | 5/ 6 | Loop | Rotary | Yes | N/A | N/A |
| 815 | 5/ 7 | Loop | TouchTone | Yes | N/A | N/A |
| 816 | 5/ 8 | Loop | Rotary | Yes | N/A | N/A |
| 817 | 6/ 1 | Ground | Rotary | N/A | N/A | N/A |
| • | | | | | | |
| • | | | | | | |
| 879 | 15/ 7 | LS-ID | Rotary | Yes | N/A | Yes |
| 880 | 15/ 8 | LS-ID | Rotary | Yes | N/A | No |

## General Trunk Information Report

**Print Menu Option:** `Trunk Info` and `General`

GENERAL TRUNK INFORMATION

| Trk | SS/PP | RemAccess | Pool | TlPrfx | HldDisc | Principal | QCC Prty | QCC Oper |
|---|---|---|---|---|---|---|---|---|
| 801 | 2/ 1 | No Remote | 70 | Yes | Long | | 4 | |
| 802 | 2/ 2 | No Remote | 70 | Yes | Long | | 4 | |
| 803 | 2/ 3 | No Remote | 70 | Yes | Long | | 4 | |
| 804 | 2/ 4 | No Remote | | Yes | Long | | 4 | |
| 805 | 4/ 1 | No Remote | | Yes | Long | | 4 | |
| 806 | 4/ 2 | No Remote | | Yes | Long | | 4 | |
| 807 | 4/ 3 | No Remote | | Yes | Long | | 4 | |
| 808 | 4/ 4 | No Remote | | Yes | Long | | 4 | |
| 809 | 5/ 1 | No Remote | 890 | Yes | Long | | 4 | 10 |
| 810 | 5/ 2 | No Remote | | Yes | Long | | 4 | |
| 811 | 5/ 3 | No Remote | | Yes | Long | | 4 | |
| 812 | 5/ 4 | No Remote | | Yes | Long | | 4 | |
| 813 | 5/ 5 | No Remote | | Yes | Long | | 4 | |
| 814 | 5/ 6 | No Remote | | Yes | Long | | 4 | |
| 815 | 5/ 7 | No Remote | | Yes | Long | | 4 | |
| 816 | 5/ 8 | No Remote | | Yes | Long | | 4 | |
| 817 | 6/ 1 | Dedicated | | Yes | Long | 42 | 4 | |

## DS1 Information Report

**Print Menu Option:** `T1 info`

```
DS1 SLOT ATTRIBUTES

Slot   Type   Format   Supp     Signal   LineComp   ClkSync Src   Active
  3    T1      D4      ZCS     Rob Bit      1         Prim   Loop    Yes
  3    T1      D4      ZCS     Rob Bit      1         None   Local   Yes
```

## PRI Information Report

**Print Menu Option:** PRI Info
**Sections:** Network Selection, Special Service, Call-by-Call and Dial Plan Routing Tables; PRI Information

PRI INFORMATION

System: By line

| BchnlGrp #: | Slot : | TestTelNum: | NtwkServ: | Incoming Routing: |
|---|---|---|---|---|
| 1 | 9 | 00011 | | By Line Appearance |

Channel ID: 1

Line PhoneNumber NumberToSend

Network Selection Table

| Entry Number: | 0 | 1 | 2 |
|---|---|---|---|
| Pattern to Match: | 101**** | 10*** | 101**** |

Special Service Table

| Entry Number: | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| Pattern to Match: | 011 | 010 | 01 | 00 | 0 | 1 | | |
| Operator: | none | none | OP | OP | OP/P | none | none | none |
| Type of Number: | I | I | I | N | N | I | I | N |
| Digits to Delete: | 3 | 1 | 3 | 2 | 1 | 1 | 0 | 0 |

Call-By-Call Service Table

| Entry Number: | 0 | 1 | | 3 | 4 |
|---|---|---|---|---|---|
| Pattern 0: | 777 | | | | |
| Pattern 1: | | 212555 | | | |
| Pattern 2: | | 212 | | | |
| Call Type: | BOTH | BOTH | BOTH | BOTH | BOTH |
| NtwkServ: | | No Service | | OUT WATS | |
| DeleteDigits: | 0 | 1 | 2 | 0 | 0 |
| Entry Number: | 5 | 6 | 7 | 8 | 9 |
| Call Type: | BOTH | BOTH | BOTH | BOTH | BOTH |
| NtwkServ: | No Service | | 00111 | | |
| DeleteDigits: | 0 | 0 | 0 | 0 | 0 |

**PRI Information Report — *Continued***

Dial Plan Routing Table

| Entry Number: | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| NtwkServ: | | OUT WATS | Any service | |
| 11100 | | | | |
| Expected Digits: | 0 | 0 | 11 | 0 |
| Pattern to Match: | | 222 | | |
| Digits to Delete: | 0 | 1 | 0 | 0 |
| Digits to Add: | | 22 | | |

| Entry Number: | 4 | 5 | 6 | 7 |
|---|---|---|---|---|
| NtwkServ: | 11100 | | | |
| Expected Digits: | 2 | 1 | 0 | 0 |
| Pattern to Match: | 2 | | | |
| Digits to Delete: | 0 | 1 | 2 | 0 |
| Digits to Add: | 2 | | | |

| Entry Number: | 8 | 9 | 10 | 11 |
|---|---|---|---|---|

PRI INFORMATION

| NtwkServ: | | | | |
|---|---|---|---|---|
| Expected Digits: | 0 | 0 | 0 | 0 |
| Pattern to Match: | | | | |
| Digits to Delete: | 0 | 0 | 0 | 0 |
| Digits to Add: | | | | |

| Entry Number: | 12 | 13 | 14 | 15 |
|---|---|---|---|---|
| NtwkServ: | | | | |
| Expected Digits: | 0 | 0 | 0 | 0 |
| Pattern to Match: | | | | |
| Digits to Delete: | 0 | 0 | 0 | 0 |
| Digits to Add: | | | | |

## Remote Access (DISA) Information Report

**Print Menu Option:** Rmote Access
**Sections:** General Options; System Default Class of Restrictions (Non-TIE); System Default Class of Restrictions (TIE); Barrier Code Administration

```
GENERAL OPTIONS (ACCESS CODE 889)

Barrier Code required for Non-TIE DISA lines: Yes
Barrier Code required for TIE DISA lines    : No
Automatic Queuing enabled for DISA lines    : Yes
System Wide Barrier Code Length: 07
Date And Time of Last Barrier Code Length Change: 09:23:94, 09:45 PM
SYSTEM DEFAULT CLASS OF RESTRICTIONS (NON-TIE)

Restriction          : UNRESTRICTED
ARS Restriction Level: 3
Allowed Lists        :
Disallowed Lists     :
SYSTEM DEFAULT CLASS OF RESTRICTIONS (TIE)

Restriction          : UNRESTRICTED
ARS Restriction Level: 3
Allowed Lists        :
Disallowed Lists     :
BARRIER CODE ADMINISTRATION

Barrier Code number  : 1
Barrier Digits       : 2468345
Restriction          : OUTWARD RESTRICTED
ARS Restriction Level: 3
Allowed Lists        :
Disallowed Lists     :
Barrier Code number  : 2
Barrier Digits       : 1234693
Restriction          : UNRESTRICTED
ARS Restriction Level: 3
Allowed Lists        :
Disallowed Lists     :
Barrier Code number  : 16
Barrier Digits       : 9876115
Restriction          : OUTWARD RESTRICTED
ARS Restriction Level: 0
Allowed Lists        :
Disallowed Lists     :
```

## Operator Information Report

**Print Menu Option:** `Oper Info`
**Sections:** Operator Positions; General Options; DSS Options; QCC Operator Options: QCC Call Types

```
OPERATOR POSITIONS

PORT                                          CALL ALERT
ADDR.    EXT #     LABEL      TYPE           (QCC ONLY)
====     =====   =======      ====           ==========
1/ 1        10   OPERATR       QCC              No
1/ 5        14   EXT 14        DLC              N/A
2/ 1        18   EXT 18        DLC              N/A
2/ 5        22   OPERATR       DLC              N/A
6/ 1        42   EXT 42        DLC              N/A

GENERAL OPTIONS

Length of hold reminder timer: 60 sec
DLC Automatic hold enabled    : No

DIRECT STATION SELECTOR (DSS) OPTIONS

BUTTON        FIRST
NUMBER      DIAL CODE
======      =========
  1              0
  2             50
  3            100
Operator Call Park codes:  881 882 883 884 885 886 884 888
QCC OPERATOR OPTIONS

Listed Directory Number for queue : 800
Held calls return to queue        : No
Automatic hold enabled            : No
Calls-in-queue alarm threshold    : 0
Time until priorities are elevated: 0 sec
Message Center Operators          :
One Touch Extend                  : AUTOMATIC
Rings before extended calls return: 4
Backup operator station           :
```

## Operator Information Report — *Continued*

QCC CALL TYPES:

| CALL TYPE | PRIORITY | OPERATORS |
|---|---|---|
| Dial 0 Operator | 4 | 10 |
| Follow Forward | 4 | N/A |
| Unassigned DID | 4 | 10 |
| Listed Directory Number | 4 | 10 |
| Operator's Extension | 4 | N/A |
| Returning | 4 | 0 |
| Group Coverage | | |
| Group # 1 | 4 | |
| Group # 2 | 4 | |
| Group # 3 | 4 | |
| Group # 4 | 4 | |
| Group # 5 | 4 | |
| Group # 6 | 4 | |
| Group # 7 | 4 | |
| Group # 8 | 4 | |
| Group # 9 | 4 | |
| Group # 10 | 4 | |
| Group # 11 | 4 | |
| Group # 12 | 4 | |
| Group # 13 | 4 | |
| Group # 14 | 4 | |
| Group # 15 | 4 | |
| Group # 16 | 4 | |
| Group # 17 | 4 | |
| Group # 18 | 4 | |
| Group # 19 | 4 | |
| Group # 20 | 4 | |
| Group # 21 | 4 | |
| Group # 22 | 4 | |
| Group # 23 | 4 | |
| Group # 24 | 4 | |
| Group # 25 | 4 | |
| Group # 26 | 4 | |
| Group # 27 | 4 | |
| Group # 28 | 4 | |
| Group # 29 | 4 | |
| Group # 30 | 4 | |

## Allowed Lists Report

**Print Menu Option:** `AllowList`
**Sections:** Lists 1 through 7

```
ALLOWED LISTS

List : 0

Entry 0:    ------
Entry 1:    ------
Entry 2:    ------
Entry 3:    ------
Entry 4:    ------
Entry 5:    ------
Entry 6:    ------
Entry 7:    ------
Entry 8:    ------
Entry 9:    ------
   •
   •
   •
List : 7

Entry 0:    ------
Entry 1:    ------
Entry 2:    ------
Entry 3:    ------
Entry 4:    ------
Entry 5:    ------
Entry 6:    ------
Entry 7:    ------
Entry 8:    ------
Entry 9:    ------
```

## Access to Allowed Lists Report

**Print Menu Option:** `AllowListTo`

```
ACCESS TO ALLOWED LISTS

FOR REMOTE ACCESS 17 & 18 MEAN TIE & NON-TIE RESTRICTIONS

List  1    STNS       10

           RACC        1       17      18

List  3    STNS       33

           RACC
```

## Disallowed Lists Report

**Print Menu Option:** `DisallowLst`
**Sections:** Lists 1 through 7

```
DISALLOWED  LISTS

List :   0

Entry 0:    ------------
Entry 1:    ------------
Entry 2:    ------------
Entry 3:    ------------
Entry 4:    ------------
Entry 5:    ------------
Entry 6:    ------------
Entry 7:    ------------
Entry 8:    ------------
Entry 9:    ------------
   •
   •
   •
List :   7

Entry 0:    ------------
Entry 1:    ------------
Entry 2:    ------------
Entry 3:    ------------
Entry 4:    ------------
Entry 5:    ------------
Entry 6:    ------------
Entry 7:    ------------
Entry 8:    ------------
Entry 9:    ------------
```

## Access to Disallowed Lists Report

**Print Menu Option:** DisallowTo

```
ACCESS TO DISALLOWED LISTS

FOR REMOTE ACCESS 17 & 18 MEAN TIE & NON-TIE RESTRICTIONS

List     1   STNS       33

             RACC        9

List     3   STNS       33

             RACC
```

## Automatic Route Selection Report

**Print Menu Option:** ARS
**Sections:** Tables

```
AUTOMATIC ROUTE SELECTION

ARS IS: ACTIVE       ACCESS CODE: 9

TABLE 17: Default Toll Output Table
Pool    Absorb    Other Digits         FRL   Call type  Start   Pattern
1)70--     00     ------------------    3    BOTH       --:--   A
2)----     --     ------------------    -    -----      --:--   A
3)----     --     ------------------    -    -----      --:--   A
4)----     --     ------------------    -    -----      --:--   A
5)----     --     ------------------    -    -----      --:--   B
6)----     --     ------------------    -    -----      --:--   B

Pool    Absorb    Other Digits         FRL   Call type  Start   Pattern
1)70--     00     ------------------    3    BOTH       --:--   B
2)----     --     ------------------    -    -----      --:--   B
3)----     --     ------------------    -    -----      --:--   B
4)----     --     ------------------    -    -----      --:--   B
5)----     --     ------------------    -    -----      --:--   B
6)----     --     ------------------    -    -----      --:--   B

TABLE 18: Default Local Output Table
Pool    Absorb    Other Digits         FRL   Call type  Start   Pattern
1)70--     00     ------------------    3    BOTH       --:--   A
2)----     --     ------------------    -    -----      --:--   A
3)----     --     ------------------    -    -----      --:--   A
4)----     --     ------------------    -    -----      --:--   A
5)----     --     ------------------    -    -----      --:--   B
6)----     --     ------------------    -    -----      --:--   B

Pool    Absorb    Other Digits         FRL   Call type  Start   Pattern
1)70--     00     ------------------    3    BOTH       --:--   B
2)----     --     ------------------    -    -----      --:--   B
3)----     --     ------------------    -    -----      --:--   B
4)----     --     ------------------    -    -----      --:--   B
5)----     --     ------------------    -    -----      --:--   B
```

## Automatic Route Selection Report— *Continued*

TABLE 19: Dial 0 Output Table

| Pool | Absorb | Other Digits | FRL | Call type | Start | Pattern |
|---|---|---|---|---|---|---|
| 1)70-- | 00 | ---------- | 3 | BOTH | --:-- | A |

TABLE 20: N11 Output Table
01)411 02)611 03)811 04)911

| Pool | Absorb | Other Digits | FRL | Call type | Start | Pattern |
|---|---|---|---|---|---|---|
| 1)70-- | 00 | ---------- | 3 | BOTH | --:-- | A |
| 1)70-- | 00 | ---------- | 3 | BOTH | --:-- | A |

## Extension Directory Report

**Print Menu Option:** `Ext Direct`

EXTENSION DIRECTORY

| Port Addr | Ext # | Label | F H R M V R A A B C I S S R C I F C I T S E S W D G R R | Port Addr | Ext# | Label | F H R M V R A A B C I S S R C I F C I T S E S W D G R R |
|---|---|---|---|---|---|---|---|
| 1/ 1 | 10 | OPERATR | N N N N U 3 | 1/21 | 710 | | N N N N U 3 |
| 1/ 2 | 11 | | N N N N O 3 | 1/22 | 711 | | N N N N U 3 |
| 1/ 3 | 12 | | N N N N U 3 | 1/23 | 712 | | N N N N U 3 |
| 1/ 4 | 13 | EXT 13 | N N N N U 3 | 1/24 | 713 | | N N N N U 3 |
| 1/ 5 | 14 | EXT 14 | N N N N U 3 | 1/25 | 714 | | N N N N U 3 |
| 1/ 6 | 15 | | N N N N U 3 | 1/26 | 715 | | N N N N U 3 |
| 1/ 7 | 16 | | N N N N U 3 | 1/27 | 716 | | N N N N U 3 |
| 1/ 8 | 17 | | N N N N U 3 | 1/28 | 717 | | N N N N U 3 |
| 2/ 1 | 18 | EXT 18 | N Y N N U 3 | 2/ 2 | 19 | | N Y N N U 3 |
| 2/ 3 | 20 | | N Y N N U 3 | 2/ 4 | 21 | | N Y N N U 3 |
| 2/ 5 | 22 | OPERATR | N Y N N U 3 | 2/ 6 | 23 | | N Y N N U 3 |
| 2/ 7 | 24 | | N Y N N U 3 | 2/ 8 | 25 | | N Y N N U 3 |
| 3/ 1 | 26 | | N Y N N U 3 | 3/ 2 | 27 | | N Y N N U 3 |
| 3/ 3 | 28 | | N Y N N U 3 | 3/ 4 | 29 | | N Y N N U 3 |
| 3/ 5 | 30 | AUDIXVP | N Y N N U 3 | 3/ 6 | 31 | | N Y N N U 3 |
| 3/ 7 | 32 | AUDIXVP | N Y N N U 3 | 3/ 8 | 33 | | N Y N N U 3 |
| 4/ 1 | 34 | | N Y N N U 3 | 4/ 2 | 35 | AUDIXVP | N Y N N U 3 |
| 4/ 3 | 36 | AUDIXVP | N Y N N U 3 | 4/ 4 | 37 | | N Y N N U 3 |
| 4/ 5 | 38 | | N Y N N U 3 | 4/ 6 | 39 | | N Y N N U 3 |
| 4/ 7 | 40 | | N Y N N U 3 | 4/ 8 | 41 | | N Y N N U 3 |
| 6/ 1 | 42 | EXT 42 | N N N N U 3 | 6/21 | 742 | | N N N N U 3 |
| • | | | | | | | |
| • | | | | | | | |
| • | | | | | | | |
| 7/ 1 | 54 | EXT 54 | N N N N U 3 | 7/2 | 754 | | N N N N U 3 |

## System Directory Report

**Print Menu Option:** `Sys Direct`

```
SYSTEM  DIRECTORY

 Code  Name                Number           Display
  600  ABC Company         555-9999           YES
  601  Jacques Smith       5551212            YES
  605  Travel Agency       912015556677       YES
```

## Group Paging Report

**Print Menu Option:** `Group Page`

```
GROUP PAGING

Group #   793   STNS  :  20  21  22  23  24  25

Group #   794   STNS  :  15  16  17  18  19
```

## Extension Information Report

**Print Menu Option:** Ext Info plus extension number

```
EXTENSION INFORMATION

Extn     SS/PP     Type
  10     1/ 1      MLX-20L + 1 DSS

Pool Access          : 70 890 891 892 893 894 895 896 897 898 899
Page Group           :
Primary Coverage     :
Secondary Coverage   :
Coverage Group       : 5
Group Coverers       : 773
NS Groups            : 10
Group Calling Member:
Pickup Groups        :
Allowed Lists        :
Disallowed Lists     :
Restrictions         : UNRESTRICTED
Auto Callback        : OFF
Call Waiting         : ON
Abbreviated Ring     : ON
Line Preference      : ON
Shared SA Ring       : ON
Receive Voice Calls  : ON
Coverage Inside      : OFF
Forwarding to        :
ARS Restriction      : 3
Forced Account Code  : No
Microphone Disable   : No
Remote Forward Allow: No
NS Exclusion         : No
Voice Announce Pair  : No
Voice/Data Pair      : No
BIS/HFAI             : No
Language             : English
Authorization Code   : 3134
```

**Extension Information Report — *Continued***

```
EXTENSION INFORMATION

Extn      SS/PP       Type
  10       1/ 1       MLX-20L + 1 DSS
Button       34       Blank                          Status None
Button       33       Blank                          Status None
Button       32       Blank                          Status None
Button       31       Blank                          Status None
Button       30       Blank                          Status None
Button       29       Blank                          Status None
Button       28       Blank                          Status None
Button       27       Blank                          Status None
Button       26       Blank                          Status None
Button       25       Blank                          Status None
Button       24       Blank                          Status None
Button       23       Blank                          Status None
Button       22       Blank                          Status None
Button       21       Blank                          Status None
Button       20       Forced Release                 Status None
Button       19       Pool Inspect                   Status None
Button       18       Headset Auto Answer            Status Off
Button       17       Join                           Status None
Button       16       Cancel                         Status None
Button       15       Alarm Status                   Status Off
Button       14       Night Service                  Status Off
Button       13       Headset Status                 Status Off
Button       12       Destination                    Status None
Button       11       Release                        Status None
Button       10       Position Busy                  Status Off
Button        9       Send/Remove Message            Status None
Button        8       Handset/Headset Mute           Status Off
Button        7       Source                         Status None
Button        6       Start                          Status None
Button        5       Call 5                         Status None
Button        4       Call 4                         Status None
Button        3       Call 3                         Status None
Button        2       Call 2                         Status None
Button        1       Call 1                         Status None
```

## Group Coverage Information Report

**Print Menu Option:** GrpCoverage

```
GROUP COVERAGE INFORMATION

Group #   2     Senders :    6802 6804
Group #   5     Senders :   10   11   12   13   14   18   19   20   42
                            44   45   47   6810

DIRECT GROUP CALLING INFORMATION

Group #   :         770         Group Type : AutoLogOut
Call Distribution Type : CIRCULAR
Delay Announcement Ext # : 11
Message Waiting Station : 20
Calls_in_queue Threshold : 1
External Alert ext # : 21
Overflow Threshold       : 1
Overflow to DGC group # :

Group Coverage : 1

No.    EXT #         LABEL
 1
 2
 3
 4
 5
 6
 7
 8
 9
10
11
12
13
14
15
16
17
18
19
20
```

## Direct Group Calling Information Report

**Print Menu Option:** `Grp Calling`
**Sections:** Each programmed group

```
DIRECT GROUP CALLING INFORMATION

Group # : 782          Group Type  : AutoLogOut
Call Distribution Type    : CIRCULAR
Delay Announcement Ext # :
Message Waiting Station :
Calls_in_queue Threshold : 1
External Alert ext # :
Overflow Threshold       :1
Overflow to DGC group # :

Group Coverage : 1

No.     EXT #          LABEL
 1      12
 2      13
 3
 4
 5
 6
 7
 8
 9
10
11
12
13
14
15
16
17
18
19
20

LINES :
```

## Night Service Information Report

**Print Menu Option:** `Night Service`

```
NIGHT SERVICE INFORMATION

OPERATOR      10 DGCG      #:
                 STNS       :   10
OPERATOR      14 DGCG      #:
                 STNS       :   14
OPERATOR      18 DGCG      #:
                 STNS       :   18
OPERATOR      22 DGCG      #:
                 STNS       :   22
OPERATOR      42 DGCG      #:
                 STNS       :   42
Password    :
Current Day : OFF
              Turn off at:       Turn on at:
  Sunday            :                  :
  Monday            :                  :
  Tuesday           :                  :
  Wednesday         :                  :
  Thursday          :                  :
  Friday            :                  :
  Saturday          :                  :
Emergency Allowed List:
 0)
 1)
 2)
 3)
 4)
 5)
 6)
 7)
 8)
 9)
NS Excluded STNS:
  61  62  63  64  65
```

## Group Call Pickup Report

**Print Menu Option:** `Call Pickup`

```
GROUP CALL PICKUP

Group # 1  STNS : 10 11 12 13 14 15 16
Group # 2  STNS : 17 18 19 20
Group # 3  STNS : 21 22 23 24 25 26 27 28 29 30
Group # 4  STNS : 31
Group # 5  STNS : 32
Group # 6  STNS : 33
Group # 7  STNS : 34
Group # 8  STNS : 35
Group # 9  STNS : 36
Group #10  STNS : 37
```

## Error Log Report

**Print Menu Option:** `Error Log`

ERROR LOG

Last 10 System Errors:

| Message | ss/pp | Cnt | First | Last | Code |
|---|---|---|---|---|---|
| PRI SVC AUDIT TIMEOUT | 00/00 | - | - | 01/08 00:00:53 | 7001 |
| TIMEOUT COLD START | 00/00 | - | - | 01/11 00:04:08 | 0001 |
| PRI SVC AUDIT TIMEOUT | 00/00 | - | - | 01/11 00:04:14 | 7001 |
| TIMEOUT COLD START | 00/00 | - | - | 01/21 00:22:14 | 0001 |
| PRI SVC AUDIT TIMEOUT | 00/00 | - | - | 01/03 00:22:14 | 7001 |
| PRI SVC AUDIT TIMEOUT | 00/00 | - | - | 01/04 00:22:14 | 7001 |
| SOFTWARE COLD START | 00/00 | - | - | 01/04 00:21:14 | 0003 |
| SOFTWARE COLD START | 00/00 | - | - | 01/04 00:21:14 | 0003 |
| PRI SVC AUDIT TIMEOUT | 00/00 | - | - | 01/04 00:21:14 | 7001 |
| SOFTWARE COLD START | 00/00 | - | | | |

## Authorization Code Information Report

**Print Menu Option:** Auth Code

SMDR Option for the Account Code Field is Home Extension

| Extension | Authorization Code |
|---|---|
| 10 | 3124 |
| 15 | 1357921 |
| 20 | 6578 |
| 23 | 443796 |

# General System Programming Sequence

# G

## System Programming Sequence

This appendix lists the basic procedures, in the order in which they must be performed, to program a new system. In some instances, you may need to rearrange the system planning forms to match this order.

### Basic System Operating Conditions

- Select the system programming position

  **System → SProg Port**

- Select the system language

  **More → Language → SystemLang**

- Select the system mode

  **System → Mode**

- Enable Automatic Maintenance Busy

  **System → MaintenBusy**

- Set the system time

  **System → Time**

- Set the system date

  **System → Date**

- Schedule automatic backups

  **System → Backup/Restore → Auto Backup**

### System Renumbering

- Select the system numbering plan

  **SysRenumber → Default Numbering**

- Single renumbering

  **SysRenumber → Single**

- Block renumbering

  **SysRenumber → Block**

- DSS console page buttons

  **SysRenumber → Single → More → DSS Buttons**

### Identify System Operator Positions

- Identify QCC system operator positions

  **Operator → Positions → Queued Call**

- Identify DLC system operator positions

  **Operator → Positions → Direct Line**

### Lines and Trunks

- Specify type of trunk on 400 or 800 GL/LS module

**LinesTrunks → LS/GS/DS1**

- Identify dial signaling for loop-start/ground-start trunks

  **LinesTrunks → TT/LS Disc → Outmode**

- Classify disconnect signaling reliability for loop-start trunks

  **LinesTrunks → TT/LS Disc → LS Disconnect**

- Specify toll prefix requirements

  **LinesTrunks → Toll Type**

- Specify Hold Disconnect interval

  **LinesTrunks → More → HoldDiscnct**

- Assign the QCC queue priority

  **LinesTrunks → More → QCC Prior**

- Identify QCC operator to receive calls

  **LinesTrunks → More → QCC Oper**

- Assign trunks to pools

  **LinesTrunks → Pools**

### Complex Lines

- Program DS1 trunks

  **LinesTrunks → LS/GS/DS1**

- Program tie lines

  **LinesTrunks → TIE Lines**

- Program DID trunks

  **LinesTrunks → DID**

- Program PRI trunks

  **LinesTrunks → PRI**

### Telephones

Many programmers prefer to program Auxiliary Equipment before programming Telephones.

- Assign trunks to telephones

  **Extensions → LinesTrunks**

- Copy trunk assignments

  **Extensions → Line Copy**

- Identify Principal User for Personal Line

  **LinesTrunks → More → PrncipalUsr**

- Assign ring, voice, outgoing only, shared buttons

  **More → Cntr-Prg**

- Copy telephone button assignments

  **More → Cntr-Prg**

- Identify analog multiline telephones with BIS or HFAI

  **Extensions → BIS/HFAI**

- Identify analog multiline telephones requiring Voice Announce to Busy

  **Extensions → VoiceSingl**

### Auxiliary Equipment

- Program Music on Hold

  **AuxEquip → MusicOnHold**

- Program loudspeaker paging

  **AuxEquip → Ldspkr Pg**

- Program a fax port

  **AuxEquip → Fax**

- Identify the jack used for maintenance alarms

  **AuxEquip → MaintAlarms**

- Program Voice Mail and Automated Attendant

  **AuxEquip → VMS/AA → TransferRtn**

### Print Reports

- Print system reports to simplify checking your work and to provide a paper copy of system configuration

  **More → Print**

# Programming Special Characters

# H

This appendix provides the special characters used in dialing sequences for numbers dialed automatically. The characters allowed depend on the type of telephone. Ask your system manager which special characters are needed and when to use them.

# Single-Line Telephones

Some dialing sequences need special characters. For example, you would press and release either the **Recall** or **Flash** button or the switchhook to insert a pause in a dialing sequence after a dial-out code to allow the system to seize an outside line before dialing the number.

**Table H-1. Special Characters for Single-Line Telephones**

| Press... | Means... |
|---|---|
| **Recall, Flash** or **switchhook** | Pause. Inserts 1.5 second pause in the dialing sequence. Multiple consecutive pauses are allowed. |
| # | End of Dialing. Used to signal the end of the dialing sequence or to separate group digits, for example, account code from number dialed. |

# Analog Multiline Telephones

Some dialing sequences need special characters. For example, you would press **Hold** to insert a pause **(p)** after the dial-out code in a dialing sequence to allow the system to seize an outside line before dialing the number. A pause can also be used to separate a phone number from an extension number.

**Table H-2. Special Characters for Analog Multiline Telephones**

| Press... | See*... | Means... |
|---|---|---|
| **Drop†** | **s** | Stop. Inserts a stop within a sequence of automatically dialed numbers. For example, an outside **Auto Dial** button may be programmed with a password then a Stop, followed by a phone number. To use Auto Dial with a Stop in the sequence, press the button to dial the password, listen for the dialing and connection, and press the button again to dial the phone number. |
| **Hold** | **p** | Pause. Inserts 1.5 second pause in the dialing sequence. Multiple consecutive pauses are allowed. |
| **Conference†** | **f** | Flash. Sends a switchhook flash. Must be the first entry in the dialing sequence. |
| ## | # | End of Dialing for **Auto Dial** buttons. Used at the end of a dialing sequence to indicate you have finished dialing or to separate one group of dialed digits from another. |
| # | # | End of Dialing. Used at the end of a dialing sequence to indicate you have finished dialing or to separate one group of dialed digits from another. |

* Display phones only.
† Not available on MLC-5 cordless phones.

# MLX Non-Display Telephone

Some dialing sequences need special characters. For example, you would press **Hold** to insert a pause in a dialing sequence after a dial-out code to allow the system to seize an outside line before dialing the number. A pause can also be used to separate a phone number from an extension number.

**Table H-3. Special Characters for MLX Non-Display Telephone**

| Press... | Means... |
|---|---|
| **Drop** | Stop. Halts the dialing sequence to allow the system to respond. |
| **Hold** | Pause. Inserts 1.5 second pause in the dialing sequence. Multiple consecutive pauses are allowed. |
| **Conf** | Flash. Sends a switchhook flash. Must be the first entry in the dialing sequence. |
| ## | End of Dialing for Extension Programming only. Used at the end of a dialing sequence to indicate you have finished dialing or to separate one group of dialed digits from another, for example, account codes from number dialed. |
| # | End of Dialing. Used to signal the end of the dialing sequence or to separate group digits, for example, account code from number dialed. |

# MLX Display Telephones

When you program Personal Directory listings, Auto Dial buttons, or Personal Speed Dial codes, you are storing a sequence of numbers to be dialed automatically.

Some dialing sequences need special characters. For example, you would press **Hold** to insert a pause in a dialing sequence after a dial-out code to allow the system to seize an outside line before dialing the number. A pause can also be used to separate a phone number from an extension number.

**Table H-4. Special Characters for MLX Display Telephones**

| Press... | See... | Means... |
|---|---|---|
| **Drop** | **s** | Stop. Halts dialing sequence to allow for system response. |
| **Hold** | **p** | Pause. Inserts 1.5 sec. pause in dial sequence. Multiple consecutive pauses allowed. |
| **Conf** | **f** | Flash. Sends switchhook flash. Must be first entry in sequence. |
| ## | # | End of Dialing for Extension Programming only. Used at the end of a dialing sequence to indicate you have finished dialing or to separate one group of dialed digits from another, for example, account codes from number dialed. |
| # | # | End of Dialing. Used to signal end of dial sequences or to separate group digits, for example, account code from number dialed. |

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