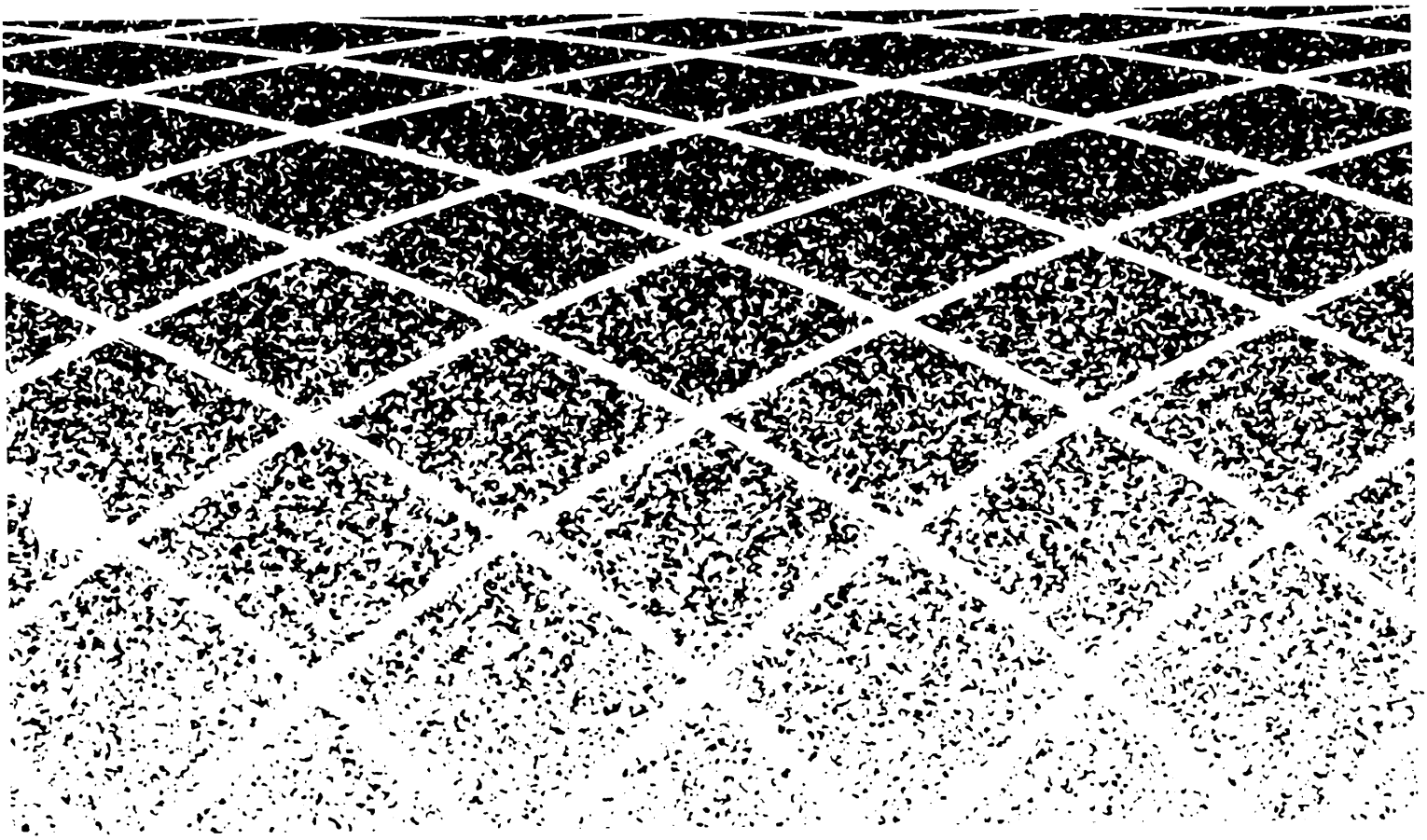
AT&T 555-620-144
Issue 1
October 1992

MERLIN LEGEND™ Communications System Release 2.0

Programming Summary



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Notice

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

Federal Communications Commission (FCC) 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 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 radioélectriques dépassant les limites applicable aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Trademarks

MERLIN LEGEND is a trademark of AT&T in the U.S. and other countries.

Support Telephone Number

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

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CUSTOMER WARNING

This manual is designed for use **by qualified service technicians only.** Technician qualification includes completion of an AT&T hands-on instructor-led course covering installation and maintenance for this product. Installation or maintenance of this product by anyone other than a qualified service technician may void the warranty. **Hazardous electrical voltages are present inside this product.**

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 (511A) 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.

Customer Support Information

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. Call the Helpline, or your authorized dealer, if you need assistance when installing, programming, or using your system.

Outside the U.S.A., if you need assistance when installing, programming, or using your system, contact your authorized AT&T dealer.

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 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 depassant les limites applicable aux appareils numériques de la class A prescribes clans le reglernent sur le brouiilage radioelectrique 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 stations 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.

  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 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 for all three systems is 1.5A.

  — 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.

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

  The REN is used to determine the number of devices that maybe 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.

  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).**
  a. This equipment returns answer supervision signals to the Public Switched Telephone Network when:
     (1) answered by the called station
     (2) answered by the attendant
     (3) routed to a recorded announcement that can be administered by the customer premises equipment user
     (4) routed to a dial prompt

b. This equipment returns answer supervision on all DID calls forwarded back to the Public Switched Telephone Network. Permissible exceptions are when:
   (1) a call is unanswered
   (2) a busy tone is received
   (3) 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 may be 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 materiel 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 telecommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. Dans certains cas, les fils intérieurs de l'enterprise utilises 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 degradation du service dans certaines situations. Actuellement, les entreprises de telecommunication ne permettent pas que l'on raccorde leur matériel à des jacks d'abonné, sauf clans 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 telecommunications peut demander à l'utilisateur de débrancher un appareil à la suite de reparations 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 importance dans les régions rurales.

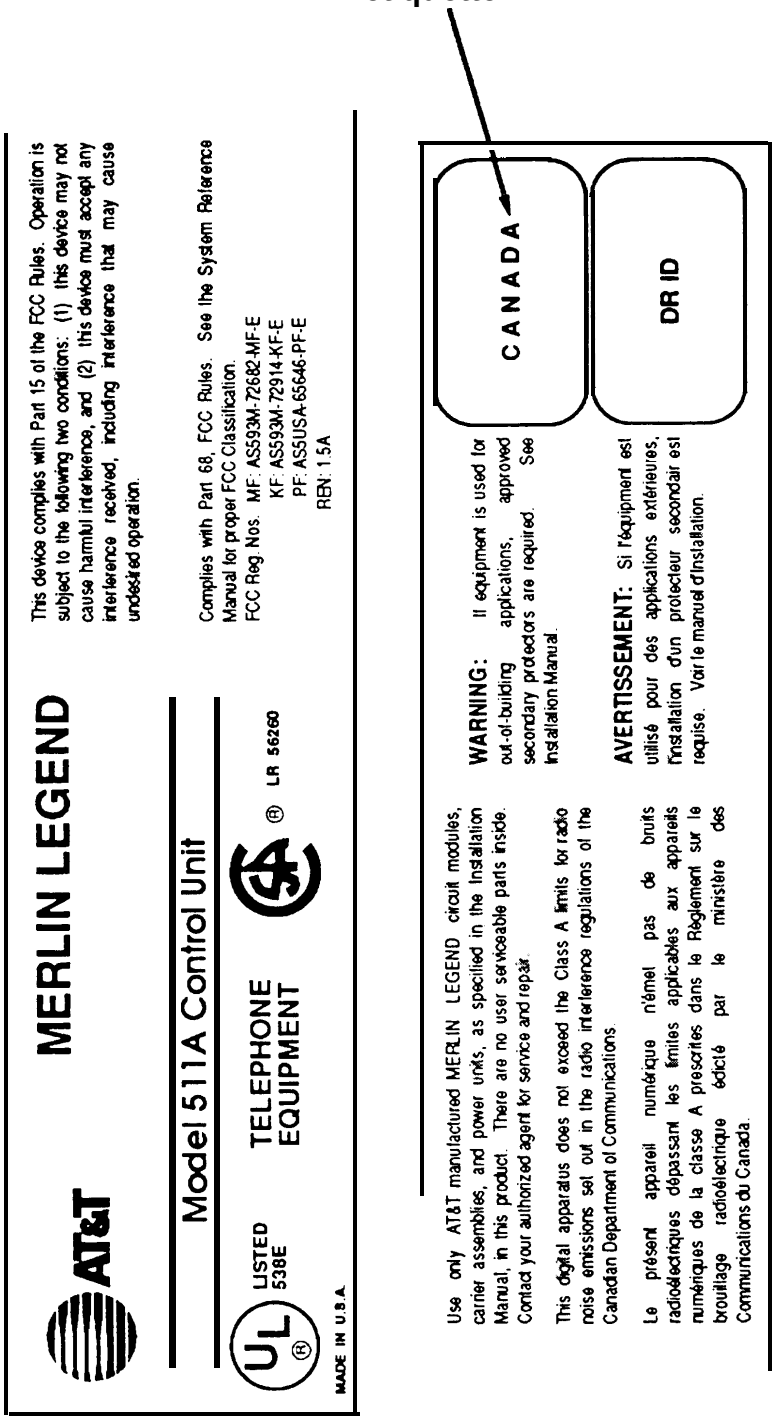
AVERTISSEMENT: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un electrician, selon le cas.

L'indite 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 constitute de n'importe quelle combinaison de dispositifs, pourvu que la somme des indices de charge de l'ensemble des dispositifs ne dépasse pas 100.

No d'homologation: 230 4095A
No de certification: CSA LR 56260
L'indice de charge: 6

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

The Remote Access feature of your system, if you choose to use it, permits off-premises callers to access the system from a remote telephone by using an 800 number or a 7- or 10-digit telephone number. The system returns an acknowledgement signaling the user to key in his or her authorization code, which is selected and administered by the system manager. After the authorization code is accepted, the system returns dial tone to the user. If you do not program specific egress 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 (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 authorization 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 authorization 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 authorization codes secure.
- When possible, restrict the off-network capability of off-premises callers, via use of 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.

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 LIABILIlY 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 back-up 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 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.
  - If you do not need to use the Outcalling feature, completely restrict the outward calling capability of the AUDIX Voice Power ports.
- Monitor SMDR reports or Call Accounting System reports for outgoing calls that might be originated by AUDIX Voice Power 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 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, 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 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 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 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.

About This Book

This book, which provides summaries of each procedure for programming the MERLIN LEGEND™ Communications System, is intended for qualified service personnel and technicians. The material is presented in the order in which you would program a new system. 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 the 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 information on how to choose among the many options provided for each feature can be found in *System Planning.*

Conventions

The following typographical conventions are used in this book:

- **Bold type** is used for telephone buttons.

  Press **Drop** to delete the current entry.

- *Italic type* is used for substitutable values for which you must supply a specific value.

  Specify extension: dial/type *[nnnn].*
  Specify slot and port: dial/type *[sspp].*

- `Constant width` type is used for information on telephone display screens or on a PC screen.

  Select `Sys Program.`

- **`Bold constant width`** type indicates information that you enter exactly as shown.

  Dial **`#55.`**

- Keys on the PC are shown in boxes.

  Press [F7] .

- When two keys are to be pressed at the same time, the keys are connected by a plus sign.

  Press [Alt] + [P] .

- The Enter (Return) key on a PC is shown as ↵ .

Product Safety Labels

Throughout this book, hazardous situations are indicated by an exclamation point inside a triangle along with the word warning or caution.

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 will or can cause minor personal jnjury or property damage if the hazard is not avoided.

Related Documents

Document No.	Title
	System Documents
555-620-114	*System Overview*
555-620-110	*Feature Reference*
555-620-115	*Equipment and Operations Reference*
555-620-116	*Pocket Reference*
555-620-111	*System Programming*
555-620-112	*System Planning*
555-620-113	*System Planning Forms*
	Telephone User Support
555-620-122	*MLX-10D™, MLX-28D™, and MLX-20L™ Display Telephones User's Guide*
555-620-123	*MLX-10D™, MLX-28D™, and MLX-20L™ Display Telephones Quick Reference*
555-620-150	MLX-10D™ Telephone Tray Cards (6 cards)
555-620-152	MLX-28D™ and MLX-20L™ Telephone Tray Cards (5 cards)
555-620-124	*MLX-10™ Non-Display Telephone User's Guide*
555-620-125	*MLX-10™ Non-Display Telephone Quick Reference*
555-620-151	MLX-10™ (non-display) Telephone Tray Cards (6 cards)
555-620-120	*Analog Multiline Telephones User's Guide*
555-620-121	*Analog Multiline Telephones Quick Reference*
555-620-128	*MLC-5 Cordless Telephone Quick Reference*
555-620-126	*Single-Line Telephones User's Guide*
555-620-127	*Single-Line Telephones Quick Reference*
	System Operator Support
555-620-134	*MLX Direct-Line Consoles Operator's Guide*
555-620-135	*MLX Direct-Line Consoles Quick Reference*
555-620-132	*Analog Direct-Line Consoles Operator's Guide*
555-620-133	*Analog Direct-Line Consoles Quick Reference*
555-620-136	*MLX Queued Call Console Operator's Guide*
555-620-137	*MLX Queued Call Console Quick Reference*

Document No.	Title
	Miscellaneous User Support
555-620-130	*Calling Group Supervisor's Guide*
555-620-131	*Calling Group Supervisor's Quick Reference*
555-620-129	*Data User's Guide*
	Documentation for Qualified Technicians
555-620-140	*Installation, Programming, & Maintenance (IP&M) Binder* (consists of 555-620-141,555-620-142, 555-620-143, and 555-620-1 44)
555-620-141	*Installation*
555-620-142	*System Programming & Maintenance (SPM)*
555-620-143	*Maintenance and Troubleshooting*
555-620-144	*Programming Summary*

How to Comment on This Document

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

A. Sherwood
AT&T
99 Jefferson Road
Room 2A25
Parsippany, NJ 07054

Introduction

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

It describes the following:

- system programming console, buttons, and overlay
- types of programming
- programming summary contents
- programming basics
- programming menu options
- idle states

System Programming Console

The system programming console is an MLX-20L telephone connected to the system programming jack. When you enter 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. After you enter programming, 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.

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

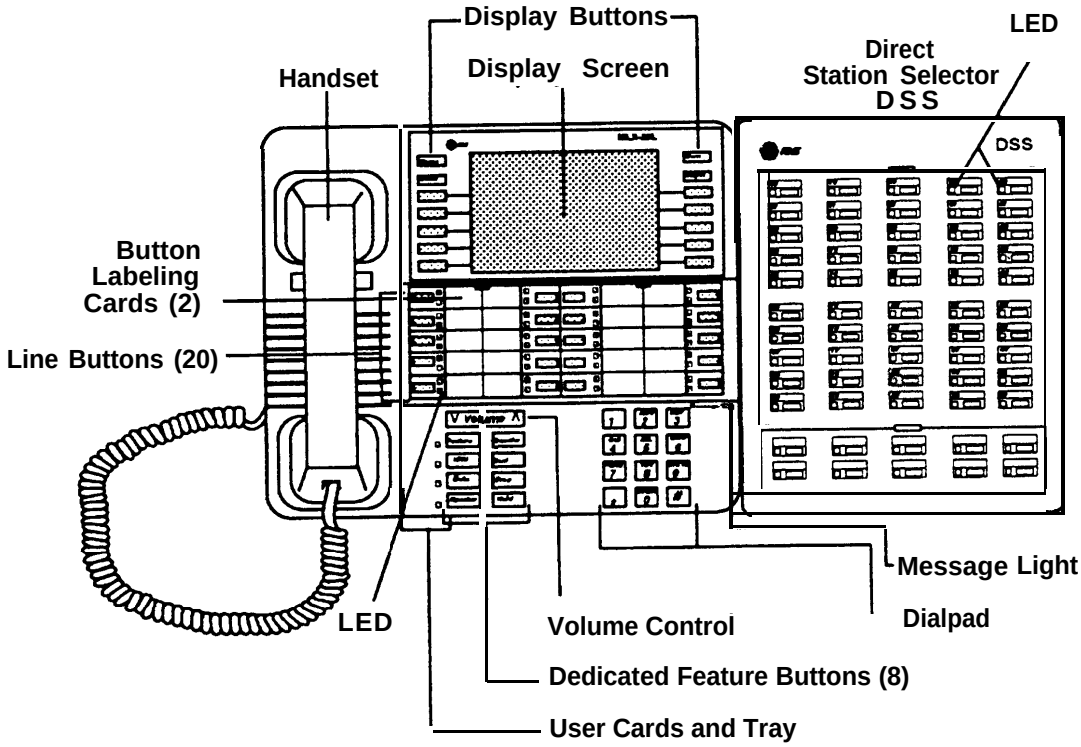


Figure 1. MLX-20L Telephone

Console Buttons

System programming can be done 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 display. Table 1 describes these functions.

Table 1. Display Button Descriptions

Button	Function
Home	Return to normal call-handling mode after you finish programming. This button displays the Home screen.
Menu	Display the Main Menu shown in Figure 1-2.
More	Display more menu items when a menu is continued on more than one screen (indicated by a ">").
Inspct	(Inspect) View a list of lines or telephones on which a feature is programmed.

Console Overlay

The programmable lines and buttons are on the main part of the console. There are 20 physical buttons on the console itself but you can use the overlay to program up to 34 lines. Some of the unlabeled buttons on the lower part of the console may also be used for programming features. You can also use the dialpad for entering feature and programming codes.

Figure 2 illustrates the system console overlay.

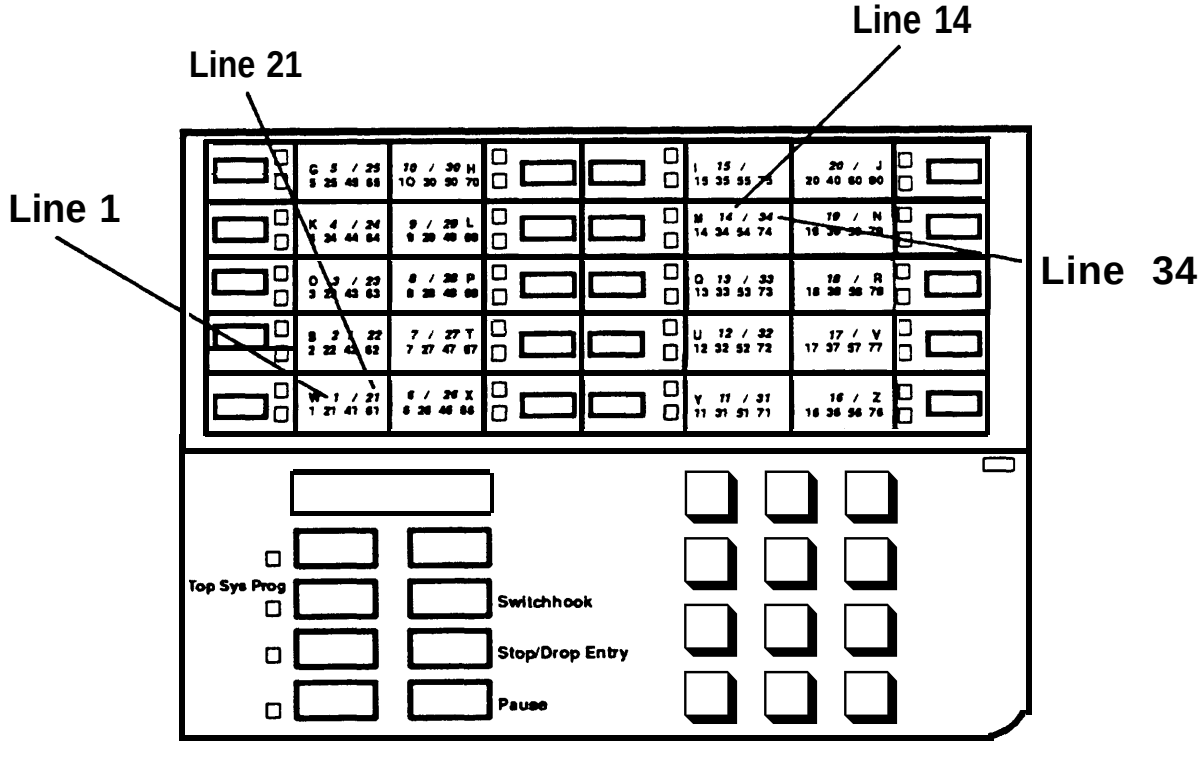


Figure 2. Console Overlay

Appendix D 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

There are three types of programming for the communications system:

- **System Programming** — enables the System manager to program features that affect all or most system users. System programming requires one the following:
  - — an MLX-20L™ telephone connected to one of the first five ports of the first MLX module in the control unit
  - — a PC with System Programming and Maintenance (SPM) software connected to the lower RS-232 port on the processor, with a built-in modem in the processor. The modem permits remote programming and maintenance via the public network. SPM emulates a system programming console on your PC.

NOTE:
If your system has the AT&T Integrated Solution II (IS II)—UNIX® application, you have a Master Controller equipped with the UNIX version of SPM. See Chapter 2 in *System Programming* for more information.

- **Extension Programming** enables individual telephone users and system operators (except for QCC operators) to change their telephone features to meet individual needs. For details on extension programming, see the appropriate user and operator guides.
- **Centralized Telephone Programming** enables the System manager to program any feature that can be programmed by individual telephone users or system operators. Centralized Telephone Programming can be done on the programming console or on a PC with the SPM software. For details on Centralized Telephone Programming, see Chapter 4 in *System Programming.*

Programming Summary Contents

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

- Programmable by—indicates who has system permission to use the procedure
- Mode—specifies which system mode supports the procedure
- Idle condition—specifies the idle state required before the procedure can be performed
- Planning form—indicates which planning forms 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 or numbers 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 procedure can be copied to another system component
- Console Procedure—provides a summary of the procedure steps if using the system console
- PC Procedure—provides a summary of the procedure steps if using SPM

Programming Basics

To begin programming, do the following:

On the console:	Select **Menu** → `Sys Program` → `Exit:` The System Programming menu is displayed.
On the PC:	Type **SPM** → [↵] → Press any key → [F1] → [F5] : 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 a group of 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.

Programming Menu Options

Table 2 lists the options that display on the System Programming menu.

Table 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 telephones (such as restrictions, line assignments).
Opt ions	Program system-wide features (such as Transfer Return, Delay Ring).
Tables	Program features that require entering information in a table (such as Allowed Lists, Disallowed Lists).
AuxEquip	Program auxiliary equipment connected to the system (such as loudspeaker paging, fax).
NightSrvce	Program Night Service features.
Labeling	Program the labels shown on display telephones (such as System Directory, Posted Messages).

Continued on next page

Table 2.- *Continued*

Option	Description
Data	Specify telephones that need simultaneous voice and data capability.
Print	Print system programming reports (such as system configuration, extension assignments).
Cntrl Prog	Do centralized telephone programming (assign features to specific buttons on telephones).
Language	Select the language that your console uses to display text on the screens. Selections are English (default), French, and Spanish.
Exit	Exit system programming.

Idle States

Some programming procedures can be started only when the entire system, or some part of the system (such as a trunk or an extension), is idle, that is, 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 be forced into remaining idle until programming is completed. These procedures wait for the system or trunk or extension to become idle and then prevent the initiation of any new calls—a condition called *forced idle.*

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

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

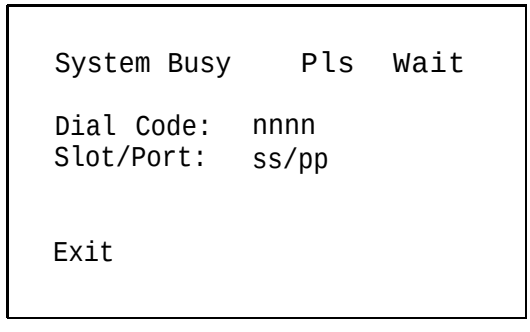


Figure 3. System Busy Screen

When the system is no longer busy, the screen changes to the appropriate programming screen.

System Forced Idle

When the entire system is forced idle, no calls can be made or received. The following procedures can be done only when the entire system (all lines and telephones) is idle:

- select system mode
- identify system operator positions
- renumber system
- renumber modules
- identify telephones with voice signal pairs for Voice Announce to Busy feature
- identify telephones needing Simultaneous Voice and Data feature
- restore system programming information
- identify Music-on-Hold jack

When the system is forced idle, all multiline telephone users hear a signal, indicating that the telephone cannot be used. On a display telephone, the message

```
Wait: System Busy
```

appears. Single-line telephones do not get a dial tone.

Line or Trunk Idle

The following procedures can be done only when the line or trunk being programmed is idle. Since these procedure require the line or trunk to be idle only at the instant of programming, the line or trunk is not forced idle as described above.

- identify loudspeaker paging line jack
- assign trunks to pools
- specify incoming or outgoing DID or tie-trunk type
- specify tie-trunk direction
- specify tie-trunk E&M signal

Extension Forced Idle

When 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 started only when the telephone or data terminal being programmed is idle.

- assign call restrictions
- assign pool dial-out restrictions
- copy telephone assignments
- assign lines, trunks, or pools to extensions
- assign labels to a Personal Directory
- use centralized telephone programming

When the telephone is forced idle, a multiline telephone user hears a signal, indicating that the telephone cannot be used. On a display telephone, the message

```
Wait:  System Busy
```

appears. Single-line telephone user does not get a dial tone.

100D Module Idle

The following can be done 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

Forced idle reminder tones are provided in the following situations:

- At the telephone, to remind an extension that the system or the extension is in the forced idle state.
- At the programming console or SPM, to remind the system manager that the system or at least one extension is in the forced idle state because of administrative activity.

  This tone is a high-low “doorphone” tone (400 ms of 667 Hz tone followed by 400 ms of 571 Hz tone).

In a Release 1.1 or Release 2.0 system, all three tones occur every 20 seconds. You can adjust the volume of these tones with the volume control.

Basic System Operating Conditions

1

The procedures in this chapter are all related to the system rather than to the operation of telephones, operator positions, or trunks. These are conditions that have to be set only when the system is new or, sometimes, after a frigid start.

NOTE:
You have to reset the system time when Daylight Savings Time begins and ends.

This chapter contains the following programming procedures:

- System Restart
- System Programming Position Assignment
- Mode of Operation
- Board Renumbering
- Automatic Maintenance Busy
- System Date
- System Time
- System Language

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 can lose toll restrictions as a result of a cold start.

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 station jack used for system programming. This jack should *not* be the same jack used for the operator position.

The system programming position can be reassigned only to one of the first five jacks on the first MLX module. Only one system programming console is allowed per system.

If you are programming on the console:

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

Summary: Assign System Programming Position

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form,	Form 1, System Planning
Factory Setting	First jack on first MLX module (also set as an operator position)
Valid Entries	Extension number of one of the first five 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

Release 1.1 and 2.0 Only
Your communications system offers you a choice of three languages (English, French, and Spanish) for the following options:

- System language (set first)
- 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.

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. Note that this is *not* the same procedure as the Boards option, available to qualified service personnel with SPM only. This procedure restarts the system (system programming is not lost).

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. More specifically, the system mode determines:

- how lines 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 re-enter system programming to program other features.

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

These options cannot be programmed for Key or Behind Switch systems:

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

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

Summary: Mode of Operation

Programmable by	System manager
Mode	All
Idle Condition	System idle
Planning Form	Form 1, System Planning
Factory Setting	Key
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 protects against disruptions in outgoing calling patterns that are caused by faulty outside facilities.

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

NOTE:
No more than 50% 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 user-imposed maintenance-busy state).

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:
	`System → MaintenBusy → Disable → Enter → Exit`
	
	To enable Automatic Maintenance Busy – no tie trunks:
	`System → MaintenBusy → Enable → Enter → Exit`
	
	To enable/disable with tie trunks:
	`System → MaintenBusy → Enable → Enter → Enable/Disable → Enter → Exit`

PC Procedure	To disable Automatic Maintenance Busy: [F1] → [F6] → [F2] → [F10] → [F5] To enable Automatic Maintenance Busy -no tie trunks: [F1] → [F6] → [F1] → [F10] → [F5] To enable/disable with tie trunks: [F1] → [F6] → [F1] → [F10] → [F1] / [F2] → [F10] → [F5]

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: 01-12 Day: 01-31 Year: 00-99
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]

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
Planning Form	Form 1, System Planning
Factory Setting	0000
Valid Entries	0000-2359
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

2

The procedures in this chapter 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-Station 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 chapter 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 station 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 station jacks after the empty slots.

Select System Numbering Plan

CAUTION:
To a void possible loss of system programming information, renumber the system before you program the rest of the options described in this book.

Three system numbering plans are available. The choice should appear on System Planning Form 2a. The three plans are as follows:

- The 2-digit plan (for systems with fewer than 50 extensions and no plans to exceed that number within two or three years): Each of the first 58 station jacks is assigned a 2-digit extension number, beginning with 10 and ending with 67. Any remaining extensions are assigned 4-digit numbers, beginning with 6800 and ending with 6885.
- The 3-digit plan (for systems with 50 or more extensions or plans to grow to that number within the next year or so): All extensions are assigned a 3-digit number, beginning with 100 and ending with 243.
- The Set Up Space plan (for systems with a need to customize their extension numbers or use extension numbers of varying lengths—1 to 4 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 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 – 880) are not considered to be extensions and cannot 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,* [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 – Station 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).

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

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

Summary: Single Renumbering

Programmable by	System manager
Mode	All
Idle Condition	System idle
Planning Forms	Form 2a, System Numbering – Station Jacks Form 2b, System Numbering – Digital Adjuncts Form 2d, System Numbering – Special Renumbers
Factory Setting	Not applicable
Valid Entries	Old and new extension numbers
Inspect	Yes
Copy Option	No
Console Procedure	`SysRenumber` → `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,* [F5] *on the PC, when you have 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 - Station Jacks Form 2b, System Numbering - Digital Adjuncts Form 2d, System Numbering - Special Renumbers
Factory Setting	Not applicable
Valid Entries	Old and new extension numbers
Inspect	Yes
Copy Option	No
Console Procedure	`SysRenumber` → `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.

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

NOTE:
If two DSSs are attached, 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,* [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

3

A system operator position—for the Queued Call Console operator or the Direct-Line Console operator— should be programmed before you program lines or trunks.

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 ports. Table 2-1 shows the maximum number of operator positions allowed for any one system.

Table 3-1. Maximum Number of Operator Positions

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

Any combination of operator positions can be assigned as long as no more than 4 operator positions are QCCs and the total combined number does not exceed eight. If you want to designate a new operator position and the system already has the maximum number, you must change an existing operator position to a non-operator telephone before you designate a new operator position.

NOTE:
All settings return to factory settings for the port type that you are designating on a telephone when you change it to an operator position or vice versa. Therefore, you need to reassign lines and features to 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 position to which your call is directed when you dial 0 on a System Access button.

The first 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 position of the primary operator cannot be changed from the first jack on the first MLX module.)

QCC System Operator positions

This procedure applies to Hybrid/PBX systems only. Note that both QCC and DLC operator positions can be assigned with this procedure, although its primary purpose is to assign QCC operator positions.

QCC operators serve as central answering positions for all incoming calls. Incoming calls are held in the QCC queue and are directed to each QCC operator in a prioritized sequence. The calls are received one at a time, regardless of the number of incoming calls to the system.

QCC Operator Positions

Additional QCC operator positions can be assigned only to the firsl and fifth jacks of MLX modules. A maximum of four QCC operator positions can be assigned. Use this procedure to specify QCC operator positions that serve as central answering positions for all incoming calls.

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

- *The primary QCC operator position cannot be removed if other QCC positions remain in your system.*
- *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 - Station Jacks
Factory Setting	Type - DLC
Valid Entries	first or fifth ports on MLX module (maximum—2 per module, maximum—4 QCCs per system)
Inspect	Yes
Copy Option	No
Console Procedure	`Operator` → `Positions` → `Queued Call` → Dial ext. no. → `Enter` → `StoreAll`
PC Procedure	[F3] → [F1] → [F2] → Type ext. no. → [F10] → [F3]

DLC Operator Positions

DLC operator positions can be assigned to the first and fifth ports on the first modules with digital or analog multiline station 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 operators and no more than 8 operators in total.

Use this procedure to specify telephones that serve as central answering positions for all incoming calls, for Call Management Systems connected to operator ports, or as calling group supervisors. (You do not need to use this procedure in a Key or Behind Switch system unless you have more than one DLC position.) Trunks are assigned on individual buttons. The system programming console can have several incoming calls ringing simultaneously. For a new system, remove the factory set DLC operator position assignment for any telephone not used as an operator position.

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

Summary: DLC Operator Positions

Programmable by	System manager
Mode	All
Idle Condition	System idle
Planning Form	Form 2a, System Numbering - Station Jacks
Factory Setting	Type - DLC
Valid Entries	First or fifth ports (maximum—2 per module, maximum—8 DLCs per system)
Inspect	Yes
Copy Option	No
Console Procedure	Operator → Positions → Direct Line → Dial ext. no. → Enter → StoreAll
PC Procedure	[F3] → [F1] → [F1] → Type ext. no. → [F10] → [F3]

Lines and Trunks

4

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

- 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
- Trunks to Pools Assignment

In addition, there is a Copy Options feature (described at the end of this chapter) that allows you to copy optional features from an idle trunk instead of entering the information an item at a time.

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 these modules:

- 400 GS/LS
- 408 GS/LS
- 800 GS/LS
- 408 GS/LS-MLX

Any combination of trunk types (all loopstart, all groundstart, 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
Planning Form	Form 2c, System Numbering – 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 each loop- or ground-start trunk.

NOTE:
This procedure is not required if your system has only touch-tone lines/trunks.

Summary: Outmode Signaling for Loop or Ground Trunks

Programmable by	System manager
Mode	Loop Start - All; Ground Start – Hybrid/PBX only
Idle Condition	Not required
Planning Form	Form 2c, System Numbering – Trunk Jacks
Factory Setting	Touch-tone
Valid Entries	Touch-tone, rotary
Inspect	No
Copy Option	Yes
Console Procedure†	To program a single extension: `LinesTrunks` → `TT/LS Disc` → `Outmode` → Select entry mode → Dial no. of the line → `Enter` → `Exit` → `Exit` → `Exit` → To program a block of extensions: `LinesTrunks` → `TT/LS Disc` → `OutMode` → Select block of lines → Toggle LED On/Off → `Enter` → `Exit` → `Exit` → `Exit`

† Entry mode available

PC Procedure†

To program a single extension:
[F4] → [F3] → [F1] → [F6] → Type no. of the line → [F10] → [F5] → [F5] → [F5]

To program a block of extensions:
[F4] → [F3] → [F1] → Select block of lines → Toggle letter G On/Off → [F10] → [F5] → [F5] → [F5]

† Entry mode available

Rotary Trunk Digit Transfer

Use this procedure to designate whether dialed digits on rotary dial trunks are sent one-by-one as they are dialed (no delay), or are stored and sent when dialing is completed (delay).

Summary: Rotary Trunk Digit Transfer

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6f, System Features
Factory Setting	Delay
Valid Entries	Delay and No Delay
Inspect	No
Copy Option	No
Console Procedure	`Options` → **More** → → Select `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; trunks cannot be programmed individually. The reliable/unreliable setting does not apply to ground-start trunks emulated on a T1 facility.

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

If you specify a reliable disconnect for trunks programmed with a short hold disconnect interval, active calls as well as trunks on hold may be disconnected.

For more information about reliable and unreliable disconnect and its implications, see the *Feature Reference.*

Summary: Disconnect Signaling Reliability

Programmable by	System manager, Integrated Administration
Mode	All
Idle Condition	Not required
Planning Form	Form 2c, System Numbering – Trunk Jacks
Factory Setting	Unreliable
Valid Entries	Unreliable, Reliable
Inspect	No
Copy Option	No
Console Procedure	`LinesTrunks` → `TT/LS Disc` → `LS Disconnect` → `Yes/No` → `Enter` → `Exit` → `Exit`
PC Procedure	[F4] → [F3] → [F2] → [F1] / [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 trunk.)

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

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 - Trunk Jacks
Factory Setting	Toll prefix required
Valid Entries	Required, not required
Inspect	No
Copy Option	Yes
Console Procedure†	To program a single telephone: `LinesTrunks` → `Toll Type` → Select entry mode → Dial no. of the line → `Enter` → `Exit` → `Exit` → To program a block of telephones: `LinesTrunks` → `Toll Type` → Select block of lines → Toggle LED On/Off → `Enter` → `Exit` → `Exit`

† Entry mode available

PC Procedure†

To program a single telephone:
[F4] → [F10] → [F6] → Type no. of the line → [F10] → [F5] → [F5]

To program a block of telephones:
[F4] → [F10] → Select block of lines → Toggle letter G On/Off → [F10] → [F5] → [F5]

† Entry mode available

Hold Disconnect Interval

Use this procedure to specify the number of milliseconds before a loop-start 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).

NOTE:
If the disconnect interval is longer than the telephone company setting, the line is not released when a caller on hold hangs up. Do not program a short interval unless the local telephone company's central office is the crossbar type.

Do not program a reliable disconnect for trunks with a short hold disconnect interval. This can cause active calls as well as trunks on hold to be disconnected. See "Disconnect Signaling Reliability."

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

Summary: Hold Disconnect Interval

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 2c, System Numbering – 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 telephone:
	`LinesTrunks` → **More** → `HoldDiscnct` → Select entry mode → Dial no. of the trunk → `Enter` → `Exit` → `Exit`
	
	To program a block of telephones:
	`LinesTrunks` → **More** → `HoldDiscnct` → Select block of lines → Toggle LED On/Off → `Enter` → `Exit` → `Exit`

PC Procedure	To program a single telephone: [F4] → [PgUp] → [F1] → [F6] Type no. of the trunk → [F10] → [F5] → [F5] To program a block of telephones: [F4] → [PgUp] → [F1] → Select block of lines → Toggle letter G On/Off → [F10] → [F5] → [F5]

† Entry mode available

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 and 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 Form 4d, MLX Telephone Form 4e, MFM Adjunct-MLX telephone Form 4f, Tip/Ring Equipment Form 5a, Direct-Line Console (DLC) – Analog Form 5b, Direct-Line Console (DLC) – Digital Form 5c, MFM Adjunct-DLC
Factory Setting	No principal user
Valid Entries	Not applicable
Inspect	No
Copy Option	No
Console Procedure	`LinesTrunks` → **More** → `PrncipalUsr` → Dial trunk no. → `Enter` → Dial ext. no. → `Enter` → `Exit` → `Exit`
PC Procedure	[F4] → [PgUp] → [F2] → Type trunk no. → [F10] → Type ext. no. → [F10] → [F5] → [F5]

QCC Queue Priority Level

Use this procedure to assign QCC queue priority level values (1-7) 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, 7 is the lowest priority.

NOTE:
This procedure applies only in Hybrid/PBX mode 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 - Trunk Jacks
Factory Setting	4
Valid Entries	1 - 7
Inspect	Yes
Copy Option	No

Console Procedure†	To program a single extension:
	`LinesTrunks` → **More** → `QCC Prior` → Dial priority level → `Enter` → Select entry mode → Dial trunk no. → `Enter` → `Exit` → `Exit`
	
	To program a block of extensions:
	`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 extension: [F4] → [PgUp] → [F3] → Type priority level → [F10] → Select entry mode → Type trunk no. → [F10] → [F5] → [F5] To program a block of extensions: [F4] → [PgUp] → [F3] → Type priority level → [F10] → Select block of lines → Toggle letter G On/Off → [F5] → [F5] → [F5]

† Entry mode available

QCC Operator to Receive Calls

Use this procedure to do the following:

- determine whether or not incoming calls on each trunk ring into the QCC queue

- identify the QCC system operator positions to receive incoming calls on each trunk

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

Each ground-start, loop-start, or automatic-in tie trunk programmed to ring into the QCC queue can be associated with one or more QCC operator positions.

If a trunk assigned to ring into the QCC queue is also used for shared Remote Access, use the “Remote Access Trunk Assignment” procedure to assign remote access before you assign a QCC system operator to receive calls.

NOTE:
Do not change the factory setting of No QCC Operator Assigned to Receive Calls for trunks dedicated to incoming calls for Calling Groups, trunks used as personal lines, DID trunks, unequipped DS1 trunks, or dial-in tie trunks.

Summary: QCC Operator to Receive Calls

Programmable by	System manager
Mode	Hybrid/PBX
Idle Condition	Not required
Planning Form	Form 2c, System Numbering – Trunk Jacks
Factory Setting	No QCC operator is assigned to receive calls
Valid Entries	Extension number of first or fifth port
Inspect	Yes
Copy Option	No

Console Procedure†	To program a single extension:
	`LinesTrunks` → **More** → `QCC Oper` → Dial ext. no. → `Enter` → `Entry Mode` → Dial trunk no. → `Enter` → `Exit` → `Exit`
	
	To program a block of extensions:
	`LinesTrunks` → **More** → `QCC Oper` → Dial ext. no. → `Enter` → Select block of lines → Toggle LED On/Off → `Enter` → `Exit` → `Exit`

PC Procedure†	To program a single extension: [F4] → [PgUp] → [F4] → Type ext. no. → [F10] → [F6] → Type trunk no. → [F10] → [F5] → [F5] To program a block of extensions: [F4] → [PgUp] → [F4] → Type ext. no. → [F10] → Select block of lines → Toggle letter G On/Off → [F10] → [F5] → [F5]

† Entry mode available

Trunks to Pools Assignment

NOTE:
This procedure applies in the Hybrid/PBX mode only.

Use this procedure to create pools (groups of outside trunks connected to the system). Pools are used to specify preferred routes for Automatic Route Selection. In addition, pools enable users to select a trunk by dialing a pool dial-out code or by pressing a single button on the telephone. (A separate button for each 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 pools is allowed; a trunk can be assigned to only one pool.

Do not mix different bands of WATS trunks or FX lines to different cities. Do not include both incoming only and outgoing only trunks in a pool.

If you want to reassign a 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 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 and/or trunks used for paging loudspeakers, Music-on-Hold, or maintenance alarms cannot be grouped in pools. Any such trunks that are loop start are automatically placed in pools and must be manually removed.

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 lines.

The system provides an error tone when a 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.

Summary: Trunks to Pools Assignment

Programmable by	System manager
Mode	Hybrid/PBX
Idle Condition	Trunk idle
Planning Form	Form 2c, System Numbering — Trunk Jacks
Factory Setting	All loop-start trunks are assigned to the Main Pool (factory-set extension number 70); all tie trunks are assigned to the pool with the factory-set extension number 891; no factory-set extension assigned to ground-start trunks.
Valid Entries	Line numbers
Inspect	Yes
Copy Option	Yes
Console Procedure†	`LinesTrunks` → `Pools` → Dial pool dial-out code → `Enter` → Select block of lines → Toggle LED On/Off → `Enter` → `Exit` → `Exit`
PC Procedure†	[F4] → [F9] → Type pool dial-out code → [F10] → Select block of lines → Toggle letter R On/Off → [F10] → [F5] → [F5]

† Entry mode available

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 type:

- For loop-start or ground-start trunks (including those emulated on T1 facilities): toll type, signaling type, and pool assignment (Hybrid/PBX only)
- For tie trunks: direction, tie trunk type, E&M signal, dial mode, dial tone, answer supervision time, disconnect time, and 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.

NOTE:
You can copy options to a block of trunks only if they are all the same type (loop-start, ground-start, tie trunks, or DID trunks). If you attempt to copy assignments and a mismatch in type is found, information is copied to that point only. You receive no error message.

If you are copying options to a block of lines/trunks, they must be sequentially numbered.

If the block you are copying to includes an invalid trunk type, the copying process stops at the invalid type. Only the trunks that were copied to before the invalid type was found are copied successfully.

If you are copying assignments to a block of trunks and one of the trunks is in use, you see the message `Trunk Busy - Pls Wait` on your display. The copy for the rest of the trunks in the block is delayed until the busy trunk becomes idle. If you exit without waiting for the copying to be completed, 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 – Trunk Jacks Form 3c, Incoming Trunks – Tie Form 3d, Incoming Trunks – DID
Factory Setting	Not applicable
Valid Entries	Not applicable
Inspect	No
Copy Option	Not applicable

Console Procedure	To copy individual lines/trunks:
	`LinesTrunks` → `Copy` → `Single` → Dial copy from trunk no. → `Enter` → Dial copy to trunk no. → `Enter` → `Exit` → `Exit` → `Exit`
	
	To copy blocks of lines/trunks:
	`LinesTrunks` → `Copy` → `Block` → Dial copy from trunk no. → `Enter` → Dial first copy to trunk no. in block → `Enter` Dial last copy to trunk no. in block → `Enter` → `Exit` → `Exit` → `Exit`

PC Procedure	To copy individual trunks: [F4] → [F7] → [F1] → Type copy to trunk no. → [F10] → Type copy from trunk no. → [F10] → [F5] → [F5] → [F5] To copy blocks of trunks: [F4] → [F7] → [F2] → Dial copy from trunk no. → [F10] → Dial first copy to trunk no. in block → [F10] → Dial last copy to trunk no. in block → [F10] → [F5] → [F5] → [F5]

DS1 Facilities

5

Use the procedures in this chapter 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 anti/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 setting. The two valid settings are:

- **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.

Summary: Type of DS1 Facility

Programmable by	System manager
Mode	All
Idle Condition	100D module idle
Planning Form	Form 2c, System Numbering - Trunk Jacks 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:
	`LinesTrunks` → `LS/GS/DS1` → Dial slot no. → `Enter` → `Type` → `PRI` → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`
	
	To select T1 - All Ground, All Loop, All DID, All Unequip:
	`LinesTrunks` → `LS/GS/DS1` → Dial slot no. → `Enter` → `Type` → `T1` → `Enter` → **More** → Select type of emulation → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`
	
	To select T1 - TIE:
	`LinesTrunks` → `LS/GS/DS1` → Dial slot no. → `Enter` → `Type` → `T1` → `Enter` → `TIE-PBX` or `Toll` → `Enter` → Dial channel no. → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`
	
	To select T1 - Ground Start, Loop Start, All Tie, DID, or Unequip:
	`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] → [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] → [F1] → 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 Super Frame. 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] → [F5] → [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 (B82S). 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` → `LS/GS/DS1` → Dial slot no. → `Enter` → `Suppression` → select zero code suppression → `Enter` → `Exit` → `Exit` →
PC Procedure	[F4] → [F1] → Type slot no. → [F10] → [F3] → Select zero code suppression → [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; 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 based on the length of cable between the 100D module and the channel service unit or far end. The choices are as follows:

- 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 - 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. In addition, you can specify whether the clock is synchronized to the external end point (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 and loop/local
Inspect	No
Copy Option	No
Console Procedure	`LinesTrunks` → `LS/GS/DS1` → Dial slot no. → `Enter` → `Clock Sync` → `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` → Select type of channel Unit → `Enter` → `Exit` → `Exit`
PC Procedure	[F4] → [F1] → Type slot no. → [F10] → [F8] → Select type of channel unit → [F10] → [F5] → [F5]

Tie Trunks

6

The procedures in this chapter tell you how to program the following options for tie trunks:

- Direction
- Tie Trunk Type
- E&M Signal
- Dial Mode
- Tie Trunk Dial Tone
- Tie 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 Type

Use this procedure to specify whether the signaling 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.
- 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. Check with the network service provider for proper settings.)
- When DNIS is not used for incoming calls, assign the automatic signaling type. The network is also 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/Outtype` → Dial trunk no. → `Enter` → Specify trunk type → `Enter` → `Exit` → `Exit`
PC Procedure	[F4] → [F2] → [F2] / [F3] → Type trunk no. → [F10] → Specify trunk type → [F10] → [F5] → [F5]

E&M Signal

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

- 1S - tie trunks are connected through the local telephone company
- 1C - tie trunks are connected directly to a system using 1S signaling
- 5 - tie trunks 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.

NOTE:
Touch-tone cannot be programmed for incoming immediate tie trunks.

Users of touch-tone single-line telephones cannot make calls by using individual trunks programmed for rotary operation.

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†	`LinesTrunks` → `TIE Lines` → `Inmode/Outmode` → Select block of lines → Toggle LED On/Off → `Exit` → `Exit` → `Exit`
PC Procedure†	[F4] → [F2] → [F6] / [F7] → Select block of lines → Toggle letter G On/Off → [F5] → [F5] → [F5]

† Entry mode available

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	`LinesTrunks` → `TIE Lines` → `Dialtone` → Select block of lines → Toggle LED On/Off → `Exit` → `Exit` → `Exit`
PC Procedure	[F4] → [F2] → [F8] → Select block of lines → Toggle letter G On/Off → [F5] → [F5] → [F5]

† Entry mode available

Tie Trunk Answer Supervision Time

Use this procedure to specify the tie-trunk answer supervision time in milliseconds.

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 - 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 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 - 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 n. of ms → [F10] → [F5] → [F5]

DID Trunks

7

These procedures detail the steps for programming DID trunks. The following procedures are included:

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

NOTE:
These procedures apply only in the Hybrid/PBX mode.

Block Assignment

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

NOTE:
DID trunks apply only in Hybrid/PBX mode.

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	`LinesTrunks` → `DID` → `Block` → Dial trunk block no. → `Enter` → Select trunk lines → Type trunk block no. → `Enter` → Toggle LED On/Off → `Enter` → `Exit` → `Exit` → `Exit`
PC Procedure	[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 type of DID trunk as either immediate-start or wink-start.

NOTE:
DID trunks apply only in Hybrid/PBX mode.

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/Wink` → `Enter` → `Exit` → `Exit`
PC Procedure	[F4] → [F4] → [F2] → Type trunk block no. → [F10] → [F1] / [F2] → [F10] → [F5] → [F5]

Disconnect Time

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

NOTE:
DID trunks apply only in Hybrid/PBX mode.

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 - 2400 ms, in increments of 10 ms
Inspect	No
Copy Option	Yes
Console Procedure	`Lines Trunks` → `DID` → `Disconnect` → Dial trunk no. → **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 specify the number of digits sent by the local telephone company.

NOTE:
DID trunks apply only in Hybrid/PBX mode.

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 - 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 digits to be deleted from the digits sent by the local telephone company.

NOTE:
DID trunks apply only in Hybrid/PBX mode.

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 - 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. → [F10] → [Alt] + [P] → Type no. of digits → [F10] → [F5] → [F5]

Add Digits

Use this procedure to specify the specific digits that must be added to the digits sent by the local telephone company.

NOTE:
DID trunks apply only in Hybrid/PBX mode.

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 - 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. → [F10] → [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.

NOTE:
DID trunks apply only in Hybrid/PBX mode.

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/TouchTone` → `Enter` → `Exit` → `Exit`
PC Procedure	[F4] → [F4] → [F8] → Type trunk block no. → [F10] → [F1] / [F2] → [F10] → [F5] → [F5]

Invalid Destination

Use this procedure to specify whereto direct outside calls (received on DID trunks) to unassigned extension numbers. Calls can be directed to a backup position (normally the primary system operator) or given a fast busy signal,

NOTE:
DID trunks apply only in Hybrid/PBX mode.

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/Return Fast Busy` → `Enter` → `Exit` → `Exit`
PC Procedure	[F4] → [F4] → [F9] → [F1] / [F2] → [F10] → [F5] → [F5]

PRI Facilities

8

The procedures in this chapter 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, *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.

Your system will not operate properly if these values are not correctly set. To inspector change these values, see Chapter 5.

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 under Automatic Route Selection section.

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, thus 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	All
Idle Condition	Not required
Planning Form	Form 3b, Incoming Trunks – DS1 Connectivity (100D Module)
Factory Setting	No digits
Valid Entries	Up to 12 digits in any combination of the digits 0 - 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 assign B-channels to a group and to associate individual ISDN channels that can place and receive calls on the B-channels in each group.

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

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 number since they are not associated with a line/trunk number or a logical ID. Up to 69 B-channel groups can be established.

Summary: B-Channel Groups

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 3b, Incoming Trunks - DS1 Connectivity (100D Module)
Factory Setting	Not applicable
Valid Entries	Group numbers
Inspect	Yes
Copy Option	No
Console Procedure	`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 → Turn green LEDs on/off → `Exit` → `Exit` → `Exit`
PC Procedure	[F4] → [F6] → [F2] → [F1] → Type group no. → [F10] → Type B channel slot and port nos. → [F10] → [F2] → Type group no. → [F10] → Select specific lines/trunks → Toggle G on/off → [F5] → [F5] → [F5]

† Entry mode available

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).

MultiQuest or any other service not shown on the Network Service screen can be indicated by entering the 5-digit binary code that represents the service in the Network Facilities Information Element of ISDN PRI layer 3 signaling protocol. The code for MultiQuest is 10000.

Summary: Network Service

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 3b, Incoming Trunks - DS1 Connectivity (100D Module)
Factory Setting	Not applicable
Valid Entries	AT&T Toll, Local, Mist
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 no telephone number is assigned to each channel in the B-channel group by using the “Telephone Number to Send” procedure.

Summary: Copy Telephone Number to Send

Programmable by	System manager
Mode	All
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

Mode	Line appearance – All; 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 in any combination of the digits 0-9
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 100odule 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 as the number provided by the PRI service provider.

Summary: Test Telephone Number

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 3b, Incoming Trunks – DS1 Connectivity (100D Module)
Factory Setting	Not applicable
Valid Entries	Telephone number
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.

When no response is received from the network before the programmed setting, the system takes the appropriate corrective action.

The timers and counters are the following:

- 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 3 octets the system can send or receive in a single D-channel message
- K Counter – counts the number of layer 3 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 proceeding 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 – 30, 4 is recorded.

The following table 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 8-1

Table 8-1. Timers and Counters

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

Valid Entries

See Table 8-1

Inspect

No

Copy Option

No

Console Procedure

`Lines Trunks` → `PRI` → `Protocol` → `Timers` → Dial slot no. → `Enter` → Select timer/counter → **Drop** → Dial no. of ms/octets/etc. → `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/etc. → [F10] → [F5] → [F5] → [F5] → [F5]

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 - 6 3
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 is available only in Hybrid/PBX mode. Key and Behind Switch systems route incoming calls by line.

Dial Plan Routing provides a way of routing 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.

Summary: Dial Plan Routing

Programmable by	System manager
Mode	Hybrid/PBX
Idle Condition	Not required
Planning Form	System Form 3b, Incoming Trunks - DS1 Connectivity (100D Module)
Factory Setting	Not applicable
Valid Entries	Not applicable
Inspect	No
Copy Option	No

Console Procedure	To specify Service:
	`LinesTrunks` → `PRI` → `DialPlanRtg` → `Service` → Dial entry no. → `Enter` → Select service → `Exit` → `Exit` → `Exit`
	
	To specify Patterns:
	`LinesTrunks` → `PRI` → `DialPlanRtg` → `Patterns` → Dial entry no. → `Enter` → **Drop** → Dial pattern → `Enter` → `Exit` → `Exit` → `Exit`
	
	To specify Total Digits:
	`LinesTrunks` → `PRI` → `DialPlanRtg` → `Total Digits` → Dial entry no. → `Enter` → **Drop** → Dial digits → `Enter` → `Exit` → `Exit` → `Exit`
	
	To specify Delete Digits:
	`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] → [F1] → 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 enrty no. → [F10] → [Alt] + [P] → Type specify 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 pools and ARS tables to route calls. The following tables specify services for outgoing calls:

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 Call by Call tables.
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 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 and stand for 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 will match 10 ⋆⋆⋆ or 101 ⋆⋆⋆⋆ .

Summary: Network Selection Tables

Programmable by	System manager
Mode	All
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	All
Idle Condition	Not required
Planning Form	Form 3b, Incoming Trunks - DS1 Connectivity (100D Module)
Factory Setting	See Table 8-2

Table 8-2. Special Services Table

Table	Pattern (up to 4 digits)	Operator Local Op=Op Presubscribed carrier=p	Delete Digits (0-4)
0	011	none	3
1	010	OP	3
2	01	OP	2
3	00	OP/P	2
4	0	OP	1
5	1	none	1

Valid Entries	Prefix for international or operator-assisted calls
Inspect	No
Copy Option	No

Console Procedure	To specify Pattern:
	`LinesTrunks` → `PRI` → `OutgoingTbl` → `SpecialServ` → `Pattern` → Dial entry no. → `Enter` → **Drop** → Dial pattern → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`
	
	To specify Operator:
	`LinesTrunks` → `PRI` → `OutgoingTbl` → `SpecialServ` → `Operator` → Dial entry no. → `Enter` → Select type of operator → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`
	
	To specify Type of Number:
	`LinesTrunks` → `PRI` → `OutgoingTbl` → `SpecialServ` → `TypeOfNumbr` → Dial entry no. → `Enter` → Select type → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`
	
	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]

Call by Call Service Table

When a call is placed on a Call by Call B-channel group, a specific service is selected, depending 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. That is, 212555 matches both 212555 and 212; however, the longer pattern is deemed the matching pattern. In addition to patterns, the Call by Call table can specify from 0 through 8 digits to be deleted (the default is 0).

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

Summary: Call by Call Service Table

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 3b, Incoming Trunks – DS1 Connectivity (100D Module)
Factory Setting	Not applicable
Valid Entries	Pattern — up to eight digits Call — voice, data, both Service — AT&tT Toll, Local, Misc. Delete — 0-8
Inspect	No
Copy Option	No
Console Procedure	To specify Patterns: `LinesTrunks` → `PRI` → `OutgoingTbl` → `CBC Service` → `Patterns` → Dial list no. → `Enter` → **Drop** → Dial pattern → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`

To specify Voice/Data:
`LinesTrunks` → `PRI` → `OutgoingTbl` → `CBC Service` → `Voice/Data` → Dial list no. → `Enter` → Select voice, data, or both → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`

To specify Network Service:
`LinesTrunks` → `PRI` → `OutgoingTbl` → `CBC Service` → `NetwkServ` → Dial list no. → `Enter` → select Service → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`

To specify Delete Digits:
`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

9

The procedures in this chapter detail the steps for the following:

- assigning outside lines or trunks to the buttons on a telephone (including line and trunks used for loudspeaker paging)
- copying line button assignments from one telephone to an individual telephone or block of telephones
- **For Hybrid/PBX systems only:**
  assigning the following buttons on telephones
  - — 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 or Hands Free Answer on Intercom capability
- identifying analog multiline telephones that require pairing of station jacks to provide the Voice Announce to Busy or to provide Simultaneous Voice and Data features

Assign Trunks or Pools to Telephones

Use this procedure to assign outside trunks connected to the control unit to specific buttons on each telephone. In the Hybrid/PBX mode, the trunks assigned to a button on a telephone are called personal lines.

This procedure is used only to change or add trunks, Loudspeaker Page, or pool buttons (Hybrid/PBX only) to telephones. Use the “Assign intercom or System Access Button” procedures to add or change Intercom or System Access buttons.

Individual 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 your authorized dealer.

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 trunks assigned to a pool can be assigned to a button only on a DLC operator position. If one of the 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.

Key only - For MLC-5 cordless multiline telephones, 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 no more than three lines are assigned to buttons on an MLC-5 telephone.

Trunks are assigned to buttons in the order that you press each trunk button on the system programming console or keyboard. Existing trunk assignments can be rearranged by removing all current assignments and then pressing the trunk 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 trunk buttons, a line must be assigned as a placeholder for each blank button. After ail trunks are assigned, remove the trunks used as placeholders on the buttons reserved for features.

Summary Assign Trunks or Pools to Telephones

Programmable by	System manager
Mode	All, but note differences in factory settings
Idle Condition	Telephone idle
Planning Form	Form 4b, Analog Multiline Telephone Form 4d, MLX Telephone Form 4e, MFM Adjunct — MLX Telephone Form 4f, Tip/Ring Equipment Form 5a, Direct-Line Console (DLC) - Analog Form 5b, Direct-Line Console (DLC) - Digital Form 5c, MFM Adjunct — DLC Data Form 2a, Analog Data Station Data Form 2b, Digital Data Station
Factory Setting	Key Mode: Intercom Ring button, Intercom Voice button, and the first eight lines connected to the control unit are assigned to all analog multiline telephones, MLX telephones (excluding operator positions), and MFMs connected to MLX telephones. Two Intercom Ring buttons are assigned to single-line telephones; no outside lines are assigned. Behind Switch Mode: Intercom Ring, Intercom Voice, and Prime Line buttons are assigned to all analog multiline telephones, MLX telephones (excluding operator positions), and MFMs connected to MLX telephones. Two Intercom Ring buttons are assigned to single-line telephones; no outside lines are assigned. When prime lines are assigned to MLX extensions, lines are not assigned to MFMs used to connect adjuncts. Lines for MFMs must be assigned separately.

	Hybrid/PBX Mode: System Access Ring, System Access Voice, and System Access Originate 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	`Extensions` → `Lines/Trunks` → Dial ext. no. → `Enter` → Select trunk range → Toggle LED On/Off → `Enter` → `Exit` → `Exit`
PC Procedure	[F6] → [F1] → Type ext. no. → [F10] → Select trunk range → Toggle letter G On/Off → [F10] → [F5] → [F5]

† Entry mode available

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 a telephone to another telephone or block of telephones with identical requirements.

If you are copying assignments to a block of telephones and one of the extensions in the block is in use, the `Station Busy– Pls Wait` message is shown on the display and the copy for the rest of the extensions in the block is delayed until the busy extension becomes idle. The busy number is not shown, but if you have a DSS attached, the LED associated with the busy extension is on. If you exit instead of waiting for the busy extension to become idle, the copy 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 telephones that includes both operator and non-operator telephones, the information is copied only to the operator positions; the non-operator positions are not affected. Similarly, if you are copying assignments from a non-operator position to a block of telephones that includes both operator and non-operator telephones, the information is copied only to the non-operator positions; the operator positions are not affected. The system provides no error tone to signal that the copy did not work for all extensions in the block.

Summary: Copy Line/Trunk Assignments

Programmable by	System manager
Mode	All
Idle Condition	Telephone idle
Planning Form	4a, Extension Copy — Analog Multiline Telephone Template 4c, Extension Copy — MLX Telephone Template
Factory Setting	Not applicable
Valid Entries	Not applicable
Inspect	Yes: lines/pools assigned to an extension
Copy Option	Not applicable

Console Procedure	To copy to a single extension:
	`Extensions` → `Line Copy` → `Single` → Dial copy from ext. no. → `Enter` → Dial copy to ext. no. → `Enter` → `Exit` → `Exit`
	
	To copy to a block of extensions:
	`Extensions` → `Line Copy` → `Block` → Dial copy from ext. no. → `Enter` → Dial ext. no of first telephone in block → `Enter` → Dial ext. no of last telephone in block → `Enter` → `Exit` → `Exit`

PC Procedure	To copy to a single extension: [F6] → [F2] → [F1] → Type copy from ext. no. → [F10] → Type copy to ext. no. → [F10] → [F5] → [F5] To copy to a block of extensions: [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 buttons used to make and receive inside calls. This includes the following types of Intercom buttons:

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

In the 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 includes the following types of System Access buttons:

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

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.

NOTE:
System Access or Intercom buttons can be assigned only to the first 10 buttons on a telephone.

You can assign a combination of up to 10 System Access or Intercom buttons to each telephone (excluding QCC operator positions).

You can remove System Access or Intercom buttons, but at least one must remain on the telephone.

Each System Access Ring or Voice on an individual telephone can be assigned as a System Access Shared button on up to 16 other telephones.

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

Summary: Assign Intercom or System Access Buttons

Programmable by	System manager
Mode	All, but note differences in factory settings
Idle Condition	Telephone idle
Planning Form	Form 4b, Analog Multiline Telephone Form 4d, MLX Telephone Form 4e, MFM Adjuncts — MLX Telephone Form 4f, Tip/Ring Equipment Form 5a, Direct-Line Console (DLC) - Analog Form 5b, Direct-Line Console (DLC) - Digital Form 5c, MFM Adjunct (DLC) Data Form 2a, Analog Data Station Data Form 2b, Digital Data Station
Factory Setting	Key Mode: An Intercom Ring, an Intercom 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 (Ring) button are assigned to tip/ring equipment connected by an MFM. No outside lines are assigned. Behind Switch Mode: An Intercom Ring, an Intercom Voice, and a Prime Line button are assigned to all analog multiline and MLX telephones, excluding operator positions. Two intercom Ring buttons and a Prime Line button are assigned to tip/ring equipment connected on 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, System Access Voice, and System Access Originate Only (Ring) buttons are assigned to all analog multiline and MLX telephones, excluding operator positions. Two System Access Ring buttons and a System Access Originate Only 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 station, but you cannot overwrite SA buttons that are already assigned.)
Console Procedure	To Program Extension: **More** → `Cntr-prg` → `program Ext.` → Dial ext. no. → `Enter` → `Start` → Program extension → `Enter` → `Exit` → `Exit` To Copy Extension Programming: **More** → `Cntr-Prg` → `Copy ext.` → Dial copy from ext. no. → `Enter` → Dial copy to ext. no. → `Enter` → `Exit` → `Exit`

PC Procedure

To Program Extension:

[PgUp] → [F4] → [F1] → Type ext. no. → [F10] → [F10] → Program extension → [F10] → [F5] → [F5]

To Copy Extension Programming:

[PgUp] → [F4] → [F2] → Type copy from ext. no. → [F10] → Type copy to ext. no. → [F10] → [F5] → [F5]

Analog Multiline Telephones without Built-in Speakerphones

Use this procedure to identify those telephones that do not have the built-in speakerphone or Hands Free Answer on Intercom (HFAI) capability for analog multiline telephones with flat membrane buttons. 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 needed for MLX or single-line telephones.

Summary: Analog Multiline Telephones without Built-in Speakerphones

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 4b, Analog Multiline Telephone Form 5a, Direct-Line Console (DLC) - Analog Data Form 2a, Analog Data Stations
Factory Setting	All models of analog multiline telephones (except the analog multiline display console) have the 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/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) station jack in the pair is the telephone's extension number. The extension number for the second (even-numbered) station jack is dedicated to the Voice Announce to Busy feature. Calls cannot be placed to the station jack reserved for the Voice Announce to Busy feature.

An extension number cannot be dedicated for both the Voice Announce to Busy feature and the Simultaneous Voice and Data feature.

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

Summary: Analog Multiline Telephones with Voice Announce to Busy

Programmable by	System manager
Mode	All
Idle Condition	System idle
Planning Form	Form 4b, Analog Multiline Telephone Form 5a, Direct-Line Console (DLC) — Analog Data Form 2a, Analog 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 with Simultaneous Voice/Data

See “Data Features.”

Auxiliary Equipment

10

The procedures in this chapter describe the steps needed to do the following:

- identify the trunk jacks used for Music-on-Hold, loudspeaker paging, and maintenance alarms
- identify the station jacks used for fax, MERLIN MAIL, Voice Messaging System, Automated Attendant, and AUDIX Voice Power

Music-on-Hold

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

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 [ASCAP], Artists, and Producers or Broadcast Music Incorporated [BMI]).

Magic on Hold® requires no such license and can be purchased from your authorized dealer.

Only one Music-on-Hold jack is allowed per system.

You cannot assign the trunk identified for Music-on-Hold to a trunk pool. If the trunk is currently assigned to a pool, you must remove it before you program this option.

You cannot assign the 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 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 trunk designated for Music-on-Hold cannot be assigned to a trunk pool.
Idle Condition	System idle
Planning Form	Form 2c, System Numbering - Trunk Jacks
Factory Setting	Not Applicable
Valid Entries	Line/trunk number
Inspect	No
Copy Option	No
Console Procedure	`AuxEquip` → `MusicOnHold` → Dial trunk no. → `Enter` → `Exit`
PC Procedure	[F9] → [F1] → Type trunk no. → [F10] → [F5]

Loudspeaker Paging

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

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.

A maximum of three single-zone or multizone loudspeaker paging systems can be connected to the system.

You cannot assign the trunk identified for use for loudspeaker paging equipment to a trunk pool. If the trunk is currently assigned to a pool, you must remove it before you program this option.

You cannot assign the trunk identified for use for loudspeaker paging equipment as a Remote Access 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 trunk designated for loudspeaker paging cannot be assigned to a trunk pool.
Idle Condition	Line/trunk idle
Planning Form	Form 2c, System Numbering - Trunk Jacks
Factory Setting	Not Applicable
Valid Entries	Line/trunk numbers
Inspect	Yes
Copy Option	No
Console Procedure	`AuxEquip` → `Ldspkr Pg` → Dial trunk no. → `Enter` → `Exit`
PC Procedure	[F9] → [F2] → Type trunk no. → [F10] → [F5]

Fax

Use this procedure to identify the station jacks used to connect fax machines. In addition, specify the telephones 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 via a General Purpose Adapter (GPA) because features cannot be assigned to the fax independently of the telephone in a GPA configuration.

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 Form 4d, MLX Telephone Form 4e, MFM Adjunct - MLX Telephone Form 4f, Tip/Ring Equipment Form 5a, Direct-Line Console (DLC) — Analog Form 5b, Direct-Line Console (DLC) - Digital Form 5c, MFM Adjunct - DLC
Factory Setting	10 seconds
Valid Entries	0 - 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] [F8] → [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 trunk jack that connects an external alerting device that sounds or flashes when major maintenance problems occur.

You cannot assign the trunk identified for the maintenance alarm to a button on any telephone or as a Remote Access trunk, and you cannot use its 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 trunk designated for the maintenance alarm cannot be assigned to a trunk pool.
Idle Condition	System idle
Planning Form	Form 2c, System Numbering – Trunk Jacks
Factory Setting	Not Applicable
Valid Entries	Trunk number
Inspect	No
Copy Option	No
Console Procedure	`AuxEquip` → `MaintAlarms` → Dial trunk no. → `Enter` → `Exit` → `Exit`
PC Procedure	[F9] → [F4] → Type 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 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 used for automated attendants, such as MERLIN Attendant or Integrated Voice Power Automated Attendant-IS II.

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 the “Optional Group-Assigned Features” chapter 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; intercal between digits – 50 ms; number of rings before transfer – 4
Valid Entries	Touch-tone duration: 50 – 200 ms in increments of 25 ms; interval between digits: 50 – 200 ms in increments of 25 ms; number of rings before transfer: 0 – 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 11

The procedures in this chapter detail the steps in programming the following optional features:

- Extension Language
- Pool Dial-Out Code
- Call Restrictions
- Copy Call Restrictions
- ARS Restriction Level for an Extension
- Forced Account Code Entry
- Microphone Operation
- Remote Call Forwarding

Extension Language

Release 1.1 and 2.0 Only
Use this procedure to change the language for an MLX telephone.

Summary: Extension Language

Programmable by	Users and system manager
Mode	All
Idle Condition	Not required
Planning Form	Form 4d, MLX Telephone Form 5b, Direct-Line Console (DLC)-Digital Data Form 2b, Digital Data Station
Factory Setting	English
Valid Entries	English, French, Spanish
Inspect	No
Copy Option	No
Console Procedure	To program a single extension: **More** → `Language` → `Extensions` → `Single` → Dial ext. no. → `Enter` → Select a language → `Enter` → `Exit` → `Exit` To program a block of extensions: **More** → `Language` → `Extensions` → `Block` → Dial starting ext. no. → `Enter` → Dial ending ext. no. → `Enter` → Select a language → `Enter` → `Exit` → `Exit`
PC Procedure	To program a single extension: [PgUp] → [F6] → [F2] → [F1] → Type ext. no. → [F10] → Select a language → [F10] → [F5] → [F5] To program a block of extensions: [PgUp] → [F6] → [F2] → [F2] → Type starting ext. no. → [F10] → Type ending ext. no. → [F10] → Select a language → [F10] → [F5] → [F5]

Pool Dial-Out Code

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

Summary: Pool Dial-Out Code

Programmable by	System manager
Mode	Hybrid/PBX
Idle Condition	Telephone idle
Planning Form	Form 4b, Analog Multiline Telephone Form 4d, MLX Telephone Form 4e, MFM Adjunct — MLX Telephone Form 4f, Tip/Ring Equipment Form 5a, Direct-Line Console (DLC) – Analog Form 5b, Direct-Line Console (DLC) – Digital Form 5c, MFM Adjunct (DLC) — Digital Form 5d, Queued Call Console (QCC) Data Form 2a, Analog Data Station Data Form 2b, Digital Data Station
Factory Setting	All telephones can dial any 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 Muitiline Telephone Form 4d, MLX Telephone Form 4e, MFM Adjunct — MLX Telephone Form 4f, Tip/Ring Equipment Form 5a, Direct-Line Console (DLC) – Analog Form 5b, Direct-Line Console (DLC) – Digital Form 5c, MFM adjunct-DLC Form 5d, Queued Call Console (QCC) Data Form 2a, Analog Data Station Data Form 2b, Digital 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” telephone and can be copied to an individual telephone or block of telephones with identical calling restriction requirements.

If you are copying restrictions to a block of telephones and one of the extensions in the block is in use, you will see the `Station Busy - Pls Wait` message on your screen. The copy for the rest of the extensions in the block is delayed until the extension becomes idle. The specific busy extension is not shown; however, if a DSS is attached, the LED associated with the busy extension is on. If you exit without waiting for the extension to become idle, copying for the rest of the extensions in the block is canceled, but the copying that has been completed is recorded.

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

The telephones you are copying to and from can be both operator and non-operator 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 Form 4d, MLX Telephone Form 4e, MFM Adjunct — MLX Telephone Form 5a, Direct-Line Console (DLC) – Analog Form 5b, Direct-Line Console (DLC) – Digital Form 5c, MFM Adjunct-DLC Form 5d, Queued Call Console (QCC) Data Form 2a, Analog Data Station Data Form 2b, Digital Data Station
Factory Setting	Not applicable
Valid Entries	Not applicable
Inspect	No
Copy Option	Not applicable

Console Procedure	To copy to a single telephone:
	`Extensions` → `RestrctCopy` → `Single` → Dial copy from ext. no. → `Enter` → Dial copy to ext. no. → `Enter` → `Exit` → `Exit` → `Exit`
	
	To copy to a block of telephones:
	`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 telephone:
[F6] → [F6] → [F1] → Type copy from ext. no. → [F10] → Type copy to ext. no. → [F10] → [F5] → [F5] → [F5]

To copy to a block of telephones:
[F6] → [F6] → [F2] → Type copy from ext. no. → [F10] → Type first no. in copy to block → [F10] → Type last 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. The wildcard character “pause” cannot be used in system programming to enter an area code.

Summary: Assigning ARS Restriction for an Extension

Programmable by	System manager
Mode	Hybrid/PBX only
Idle Condition	Not required
Planning Form	Form 4b, Analog Multiline Telephone Form 4d, MLX Telephone Form 4e, MFM Adjunct—MLX Telephone Form 4f, Tip/Ring Equipment Form 5a, Direct-Line Console (DLC) – Analog Form 5b, Direct-Line Console (DLC) – Digital Form 5c, MFM Adjunct—DLC Form 6i, 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 Restrct` → 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 Form 4d, MLX Telephone Form 4e, MFM Adjunct — MLX Telephone Form 4f, Tip/Ring Equipment Form 5a, Direct-Line Console (DLC) – Analog Form 5b, Direct-Line Console (DLC) – Digital Form 5c, MFM Adjunct — DLC Form 5d, Queued Call Console (QCC) Data Form 2a, Analog Data Station Data Form 2b, Digital 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 → Type ext. no. or [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 carry on 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 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]

Remote Call Forwarding

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

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

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	
Idle Condition	Not required
Planning Form	Form 4b, Analog Multiline Telephone Form 4d, MLX Telephone Form 4e, MFM Adjunct — MLX Telephone Form 4f, Tip/Ring Equipment Form 5a, Direct-Line Console (DLC) – Analog Form 5b, Direct-Line Console (DLC) – Digital Form 5c, MFM Adjunct — DLC Form 5d, Queued Call Console (QCC) Data Form 2a, Analog Data Station Data Form 2b, Digital 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

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The procedures in this chapter affect feature programming for both DLC and QCC operator positions. The following procedures are included:

- 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

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 is a reminder 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 - 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 disconnection of calls.

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` → Enable or Disable Automatic Hold → `Enter` → `Exit`
PC Procedure	[F3] → [F4] → Enable or Disable Automatic Hold → [F10] → [F5]

QCC Optional Features

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

The following options can be provided for QCC operator positions:

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

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 the hold timer expires, 10 seconds are added to the programmed operator hold timer interval. 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` → Select the hold return → `Enter` → `Exit` → `Exit`
PC Procedure	[F3] → [F2] → [F1] → Select the hold return → [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` → `Select Auto Hold` or `Auto Release` → `Enter` → `Exit` → `Exit`
PC Procedure	[F3] → [F2] → [F2] → Select Auto Hold or Auto Release → [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 - 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 - 30
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` → Enable or disable alert → `Enter` → `Exit` → `Exit`
PC Procedure	[F3] → [F2] → [F6] → Type ext. no. → [F10] → Enable or disable alert → [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 extending, 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).

NOTE:
If you want a QCC operator position to operate as a Message Center (receiving returning parked and extended calls, Group Coverage calls, and calls to unassigned DID numbers), program the Message Center option before you assign the operator to receive call types.

This procedure does not include use of the menu selections `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” in this section.

This procedure does not include programming the operator to receive calls on individual trunks. See “QCC Operator to Receive Calls” in the Lines and Trunks” section of this manual.

Programming an operator 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” in this section.

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.

Summary: QCC Operator to Receive Call Types

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

Call Type Queue Priority Level

Use this procedure to assign a priority value (1-7) 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 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 - 7
Inspect	No
Copy Option	No
Console Procedure	`Operator` → `Queued Call` → `Call Types` → Press button next to selection → `Priority` → **Drop** → Dial priority level → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`
PC Procedure	[F3] → [F2] → [F7] → Press function key next to selection → [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 a 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. → [F10] → [F5] → [F5] → [F5]

Automatic or Manual Extended Call Completion

Use this procedure to specify one of two basic options 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 extend 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` → Select automatic or manual complete → `Enter` → `Exit` → `Exit`
PC Procedure	[F3] → [F2] → [F9] → Select automatic or manual complete → [F10] → [F5] → [F5]

Return Ring Interval

Use this procedure to specify the number of rings before an unanswered extended 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 Interval

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 - 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, that is, to receive incoming calls when all QCC operator positions are in a 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. number → `Enter` → `Exit` → `Exit`
PC Procedure	[F3] → [F2] → [PgUp] → [F1] → [Alt] + [P] → Type ext. number → [F10] → [F5] → [F5]

Optional Group-Assigned Features

13

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

- Call Pickup Groups
- Group Paging
- Group Coverage Member Assignments
- Group Coverage Delay Interval
- Group Calling Member Assignments
- Group Calling 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 Alarms
    - Group Type

Call Pickup Groups

Use this procedure to assignor remove a telephone from a call pickup group, consisting of telephone users who can answer one another's calls by pressing a button or by dialing a code.

A maximum of 30 call pickup groups with a maximum of 15 telephones per group are allowed. A telephone can belong to only one group.

Before reassigning a telephone 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 6d, Group Coverage
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` → `Exit` → `Exit`
PC Procedure	[F6] → [F9] → Type pickup group no. → [F10] → Type ext. no. → → [F10] → [F5] → [F5]

Group Paging

Use this procedure to assignor remove a telephone from a paging group, consisting 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 telephones per group is allowed. A seventh paging group, called the Page All group, is not limited and includes all telephones connected to the system. Telephones cannot be added to or removed from the Page All group.

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

Summary: Group Paging

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6c, 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 a telephone from a coverage group. Coverage is an arrangement in which calls from a group of senders are redirected to one or more receivers. A coverage group is a group of senders.

NOTE:
This procedure assigns senders; make sure that receivers for the coverage group are also programmed. Receivers can be assigned either through individual or centralized telephone programming. See Chapter 4 in *System Programming* for information on the appropriate centralized programming procedure.

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

A telephone 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 telephone 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 a telephone to a new coverage group, just make the assignment; the telephone is automatically removed from its old group.

NOTE:
Use Integrated Administration to assign coverage receivers.

Summary: Group Coverage Member Assignments

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6d, 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, Integrated Administration
Mode	All
Idle Condition	Not required
Planning Form	Form 6d, Group Coverage
Factory Setting	3 rings
Valid Entries	1 - 9 rings
Inspect	No
Copy Option	No
Console Procedure	`Options` → **More** → `Cover Delay` → **Drop** → Dial no. of rings → `Enter` → `Exit`
PC Procedure	[F7] → [PgUp] → [F6] → [Alt] + [P] → Type no. of rings → [F10] → [F5]

Group Calling Member Assignments

Use this procedure to assign or remove a telephone 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.

NOTE:
If a linear hunting pattern is indicated on the back of the form, be sure to assign telephones to the group in the exact order that they are shown on the form. The system searches for an available member in the order that you assign the telephones to the group.

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

A telephone 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.

The extension status feature must be set to the Calling Group or CMS mode before you assign members to the group. See “Extension Status” for more information.

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

Summary Group Calling Member Assignments

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6d, 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 Trunk or Pool Assignments

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

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

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

Summary: Group Calling Trunk or Pool Assignments

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6e, Group Calling
Factory Setting	Not applicable
Valid Entries	Line/trunk number
Inspect	Yes
Copy Option	No
Console Procedure	`Extensions` → **More** → `Grp Calling` → `Line/Pool` → Dial calling group ext. no. → `Enter` → Dial trunk no. → `Enter` → `Exit` → `Exit` → `Exit`
PC Procedure	[F6] → [PgUp] → [F4] → [F10] → Type calling group ext. no. → [F10] → Type trunk no. → [F10] → [F5] → [F5] → [F5]

Optional Group-Calling Features

The following options are available for calling groups:

- 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 Alarms
- Group Type

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 telephone 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 telephones were assigned to the calling group.

Summary: Hunt Type

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6e, 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/Linear` → `Enter` → `Exit` → `Exit` → `Exit`
PC Procedure	[F6] → [PgUp] → [F4] → [F1] → Type calling group ext. no. → [F10] → [F1] / [F2] → [F10] → [F5] → [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 delay announcement device should not be programmed as a calling group member.

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

Summary: Group Calling Delay Announcement

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6e, 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 6d, 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. → [F10] → Type coverage group no. → [F10] → [F5] → [F5] → [F5]

Group Calling Overflow and Threshold

Use this procedure to designate 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 telephones. 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 QCC Listed Directory Number is 800.

Summary: Group Calling Oveflow and Threshold

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6e, Group Calling
Factory Setting	Overflow coverage - none; threshold - 1 call
Valid Entries	Backup extension number; 1 - 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 a telephone to receive calling group message-waiting indications (MWI).

Only one telephone 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 telephone 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 6e, 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 waiting 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 6e, Group Calling
Factory Setting	1 call
Valid Entries	1 - 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 Alarms

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 lamp-type external alert devices be designated for use for the Calls-in-Queue alarm.

Summary: Group Calling External Alert for Calls-In-Queue Alarms

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6e, Group Calling
Factory Setting	Not applicable
Valid Entries	Extension number
Inspect	No
Copy Option	No
Console Procedure	`Extensions` → **More** → `Grp Calling` → `Xtnl Alert` → Dial tailing 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 following are the possible settings:

- 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 ports (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-lS II or MERLIN MAIL Voice Messaging System) is connected to one or more station jacks assigned to a calling group. The system automatically logs in the group members after a power failure.
- Generic VMI – Used when a voice messaging system that does not need special signaling (for example, MERLIN Attendant) is connected to one or more station 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 6e, 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` → `Exit` → `Exit`
PC Procedure	[F6] → [PgUp] → [F4] → [PgUp] → [F1] → Type calling group ext. no. → [F10] → Specify login type → [F10] → [F5] → [F5]

System Features

14

The procedures in this chapter consist of instructions for programming optional system features that affect all or most system users. The following procedures are included:

- 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

- 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 rings before a call transferred to another inside telephone is returned to the originator. A setting of 0 means that transferred calls are never returned to the originator.

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

Summary: Transfer Return Time

Programmable by	System manager, Integrated Administration
Mode	All
Idle Condition	Not required
Planning Form	Form 6f, System Features
Factory Setting	4 rings (Integrated Administration – 6 rings)
Valid Entries	0 - 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 Transferor One-Touch Hold feature. One-Touch Transfer allows users to initiate transfers to another person by pressing an **Auto Dial** or DSS button for that person.

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

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).

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 the Behind Switch mode only.

Summary: One-Touch Transfer/Hold

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6f, System Features
Factory Setting	One-Touch Transfer, automatic completion (One-Touch Hold is the factory setting in Behind Switch mode)
Valid Entries	Transfer, Hold
Inspect	No
Copy Option	No

Console Procedure	To program One-Touch Transfer:
	`Options` → `Transfer` → `One Touch` → `Transfer` → `Enter` → `Manual/Automatic` → `Enter` → `Exit` → `Exit`
	
	To Program One-Touch Hold:
	`Options` → `Transfer` → `One Touch` → `Hold` → `Enter` → `Exit` → `Exit`

PC Procedure	To program One-Touch Transfer: [F7] → [F1] → [F2] → [F1] → [F10] → [F1] / [F2] → [F10] → [F5] → [F5] To program One-Touch Hold: [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 calls hear ringback.

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 6f, 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/Ringback →Enter →Exit →Exit`
PC Procedure	[F7] → [F1] → [F3] → [F1] / [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 6f, System Features
Factory Setting	**Ring** button (Intercom or SA) is automatically selected
Valid Entries	Voice Announce, Ring
Inspect	No
Copy Option	No
Console Procedure	`Options` → `Transfer` → `Type` → `Voice Announce/Ring` → `Enter` → `Exit` → `Exit`
PC Procedure	[F7] → [F1] → [F4] → [F1] / [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 6f, System Features
Factory Setting	90 seconds
Valid Entries	30 - 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 6f, System Features
Factory Setting	180 seconds
Valid Entries	30 - 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 → [F10] → [F5]

Delay Ring Interval

Use this procedure to specify the number of rings for the Delay Ring Interval, which applies when a Primary, Secondary, or Group Cover button is set to delay ring.

Summary: Delay Ring Interval

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6d, Group Coverage
Factory Setting	2 rings
Valid Entries	1 – 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 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 6f, System Features
Factory Setting	3 rings
Valid Entries	1 - 6 rings
Inspect	No
Copy Option	No
Console Procedure	`Options` → `Callback` → **Drop** → Dial no. of rings → `Enter` → `Exit`
PC Procedure	[F7] → [F4] → [Alt] + [P] → Type no. of rings → [F10] → [F5]

Extension Status

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

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

In the 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, Extension Status 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 6f, 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` → Specify ext. status → `Enter` → `Exit`
PC Procedure	[F7] → [F7] → Specify ext. status → [F10] → [F5]

SMDR Language

Release 1.1 and 2.0 Only

Use this procedure to change the language of the SMDR reports. The default language is the same as 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)
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 SMDR call reports are printed in basic format or ISDN format. In ISDN format, automatic number identification service appears in the calling number field instead of “IN,” as in the basic report format. The call recording type for these calls is “I” in the ISDN format and “V” in the basic format.

ISDN format should be used only in conjunction with automatic number identification service subscription.

Summary: SMDR Call Report Format

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6f, System Features
Factory Setting	Basic format
Valid Entries	Basic, ISDN
Inspect	No
Copy Option	No
Console Procedure	`Options →SMDR →Format →Basic SMDR/ISDN SMDR →Enter →Exit →Exit`
PC Procedure	[F7] → [F8] → [F1] → [F1] / [F2] → [F10] → [F5] → [F5]

SMDR Call Length

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

Summary: SMDR Call Length

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6f, System Features
Factory Setting	40 seconds
Valid Entries	0 - 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 is to be recorded for both incoming and outgoing calls, or only for outgoing calls.

NOTE:
The New Page option merely inserts a page break in the report.

Summary: SMDR Calls Recorded on Call Report

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6f, 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] / [F2] → [F10] → [F5] → [F5]

Inside Dial Tone

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

NOTE:
The system 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 6f, 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/Outside` → `Enter` → `Exit`
PC Procedure	[F7] → [F9] → [F1] / [F2] → [F10] → [F5]

Reminder Service Cancel

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

Enter the time in 4-digit, 24-hour format, using leading zeros as necessary.

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 6f, System Features
Factory Setting	Not applicable
Valid Entries	0000 - 2359
Inspect	No
Copy Option	No

Console Procedure	To deactivate Reminder Service Cancel:
	`Options` → `Reminder Srv` → **Drop** → `Enter` → `Exit`
	
	To set Reminder Service cancel time:
	`Options` → `Reminder Srv` → **Drop** → Dial time → `Enter` → `Exit`

PC Procedure	To deactivate Reminder Service Cancel: [F7] → [F10] → [Alt] + [P] → [F10] → [F5] To set Reminder Service cancel time: [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 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:

- the QCC queue (Hybrid/PBX only)
- another extension number
- a calling group

In 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 6f, System Features
Factory Setting	Extension number of primary operator
Valid Entries	QCC queue extension number, other extension number
Inspect	No
Copy Option	No

Console Procedure	To select QCC queue:
	`Options` → **More** → `Unassigned` → `QCC Queue` → `Enter` → `Exit`
	
	To select extension or calling group:
	`Options` → **More** → `Unassigned` → `Extension or Grp Calling` → `Enter` → Dial ext. no. → `Enter` → Dial group no. → `Enter` → `Exit`

PC Procedure	To select QCC queue: [F7] → [PgUp] → [F1] → [F1] → [F10] → [F5] To select extension or calling group: [F7] → [PgUp] → [F1] → [F2] / [F3] → [F10] → [F5]

Host System Dial Codes for Behind Switch Mode

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

NOTE:
This procedure applies in Behind Switch mode only.

When multiline telephone users press the **Transfer, Conference,** and **Drop** buttons, a signal is sent to the host system. Assigning the host dial codes ensures that users can take advantage of these features through the host system.

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	Not applicable
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. 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:

- When the user presses the **Recall** button on an outside call, nothing happens. 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, when the user presses the **Recall** button on an outside call, the call is disconnected. 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 6f, 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** → → Select `RecallTimer` → Select time → `Enter` → `Exit`
PC Procedure	[F7] → [PgUp] → [F3] → Select time → [F10] → [F5]

Allowed Lists

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

A maximum of eight lists, numbered 0 through 7, with a maximum of 10 numbers each, numbered 0 through 9, is allowed. Each allowed number can be no more than 6 digits (an area code plus an exchange) or 6 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 station 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, Allowed Lists
Factory Setting	Not applicable
Valid Entries	Not applicable
Inspect	Yes
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 access to established Allowed Lists to individual telephones. More than one Allowed List can be assigned to a telephone.

If you do not enter a list number, list 0 is assigned.

Summary: Assign Allowed Lists to Telephones

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6g, Allowed Lists
Factory Setting	Not applicable
Valid Entries	0 - 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, consisting of telephone numbers that cannot be dialed from specified telephones (including unrestricted telephones).

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

Summary: Disallowed Lists

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 6h, Disallowed Lists
Factory Setting	Not applicable
Valid Entries	Not applicable
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 6h, Disallowed Lists
Factory Setting	Not applicable
Valid Entries	0 - 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

The following Remote Access features are available:

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

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. Some individuals use electronic devices to prevent or falsify records of these calls. Others charge calls to someone else's number by illegally using lost or stolen calling cards, billing innocent parties, clipping on to someone else's line, and breaking into someone else's telephone equipment physically or electronically. In certain instances, unauthorized individuals make connections to the telephone network through the use of remote access features.

The Remote Access feature of your system, if you choose to use it, permits off-premises callers to access the system from a remote telephone by using an 800 number or a 7- or 10-digit telephone number. The system returns an acknowledgement signaling the user to key in his or her authorization code, which is selected and administered by the system manager. After the authorization code is accepted, the system returns dial tone to the user. If you do not program specific egress 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 (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 authorization 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 authorization 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 authorization codes secure.
- When possible, restrict the off-network capability of off-premises callers, via use of 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. In addition, you can 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.

In the Hybrid/PBX mode, if a trunk assigned to ring into the QCC queue is also used for shared Remote Access, perform this procedure before you perform the "QCC Operator to Receive Calls" procedure.

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	`Lines Trunks` → `RemoteAccss` → `Lines Trunks` → 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 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 in 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	`Lines Trunks` → `RemoteAccss` → `AutoQueuing` → `Enable/Disable` → `Enter` → `Exit` → `Exit`
PC Procedure	[F4] → [F8] → [F6] → [F1] / [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
- the DID remote access code

NOTE:
If barrier code requirements have been established for Remote Access users, do not use this procedure; use "Remote Access with Barrier Codes."

The class of restriction assigned is one of the following:

- Restriction – determines whether Remote Access users can make local and/or toll calls; the following settings are included:
  - 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 value assigned is the opposite from the FRL assigned to the ARS route, where a value of 0 is the most, and a value of 6 is the least restrictive.)
- Allowed List Assignment – assigns Allowed Lists and is used when Remote Access users are restricted from making local or toll calls.
- Disallowed List 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 trunks.

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

Summary: Remote Access without Barrier Codes

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 3a, Incoming Trunks - Remote Access
Factory Setting	Call restriction: outward restricted; ARS restriction level: 3
Valid Entries	Unrestricted, toll restricted, outward restricted; 0- 6
Inspect	No
Copy Option	No

Console Procedure	To change Call Restrictions:
	`LinesTrunks` → `RemoteAccss` → `Non-TIE/TIE Lines` → `Restriction` → Select restrict → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`
	
	To change ARS FRL:
	`LinesTrunks` → `RemoteAccss` → `Non-TIE/TIE Lines` → `ARS Restrict` → **Drop** → Dial FRL value → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`
	
	To assign/remove Allowed Lists:
	`LinesTrunks` → `RemoteAccss` → `Non-TIE/TIE Lines` → `Allow List` → Dial list no. → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`
	
	To assign/remove Disallowed Lists:
	`LinesTrunks` → `RemoteAccss` → `Non-TIE/TIE Lines` → `DisallowLst` → Dial list no. → `Enter` → `Exit` → `Exit` → `Exit` → `Exit`

PC Procedure

To change Call Restrictions:

[F4] → [F8] → [F2] / [F3] → [F2] → Select restriction → [F10] → [F5] → [F5] → [F5] → [F5]

To change ARS FRL:

[F4] → [F8] → [F2] / [F3] → [F3] → [Alt] + [P] → Type FRL value → [F10] → [F5] → [F5] → [F5] → [F5]

To assign/remove Allowed Lists:

[F4] → [F8] → [F2] / [F3] → [F4] → Type list no. → [F10] → [F5] → [F5] → [F5] → [F5]

To assign/remove Disallowed Lists:

[F4] → [F8] → [F2] / [F3] → [F6] → Type list no. → [F10] → [F5] → [F5] → [F5] → [F5]

Remote Access Barrier Codes

Use this procedure to establish or remove the requirement for barrier codes as well as to establish or remove the barrier codes themselves. Barrier codes are security passwords that restrict people from making unauthorized Remote Access calls on non-tie lines/trunks and tie trunks.

A maximum of 16 four-digit barrier codes is allowed for all lines/trunks. Barrier code 16 is automatically assigned for Remote Access by qualified support personnel for system programming and maintenance.

Use "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	`LinesTrunks` → `RemoteAccss` → `Non-Tie/TIE Lines` → `BarrierCode` → Specify whether barrier codes are required → `Enter` → `Exit` → `BarrierCode` → `Codes` → Dial barrier code no. → `Enter` → **Drop** → Dial code → `Enter` → `Exit` → `Exit` → `Exit`
PC Procedure	[F4] → [F8] → [F2] / [F3] → [F1] → Specify whether barrier codes are required → [F10] → [F5] → [F4] → [F6] → Type barrier code no. → [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:

NOTE:
If barrier code requirements have not been established or have been removed for Remote Access users, do not use this procedure; use "Remote Access without Barrier Codes."

- Restriction – determines whether Remote Access users can make local and/or toll calls; the following settings are included:
  - unrestricted
  - toll restricted
  - outward restricted
- ARS Facility Restriction Level (Hybrid/PBX only) – allows or restricts users from using outgoing trunks by assigning a facility restriction level from 0 through 6. (The value assigned is the opposite from the FRL assigned to the ARS route, where a value of 0 is the most, and a value of 6 is the least restrictive.)
- Allowed List Assignment – assigns Allowed Lists and is used when Remote Access users are restricted from making local or toll calls.
- Disallowed List 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.

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 restriction: Barrier Code – outward restricted; all other barrier codes – unrestricted. ARS restriction level – 3
Valid Entries	Unrestricted, toll restricted, outward restricted; 0- 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/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] / [F7] → Dial barrier code no. → [F10] → Type list no. → [F10] → [F5] → [F5] → [F5] → [F5]

Automatic Route Selection 15

The following features can be programmed for Automatic Route Selection (ARS):

- 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 only in the Hybrid/PBX mode.

1 + 7 Digit Dialing Requirements

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

- within area code – 1 plus a 7-digit number must be dialed; the system checks the 1 + 7 digit tables for routing
- not within area code – 1 does not have to 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 9b, 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/Not within Area Code` → `Enter` → `Exit` → `Exit`
PC Procedure	[F8] → [F6] → [F1] → [F1] / [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)
- 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 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 9b, 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] → [F6] → [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 when 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 times in 4-digit, 24-hour notation, using 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 9b, Automatic Route Selection Tables Form 9c, 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 - 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] → [F9] → 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 6 routes (numbered 1 through 6) can be specified for each subpattern. Pool routing is programmed for Tables 1 through 16. Table 17 is the Default Toll table and Table 18 is the Default Local table.

Summary: Pool Routing

Programmable by	System manager
Mode	Hybrid/PBX
Idle Condition	Not required
Planning Form	Form 9b, Automatic Route Selection Tables Form 9c, 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/Sub B Pool` → Dial table no. and pool route νo. → `Enter` → Dial pool dial-out code → `Enter` → `Exit` → `Exit`
PC Procedure	[F8] → [F6] → [F3] / [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) through 6 (most restrictive) and is used to restrict user access to the route. The FRL assigned to telephones and Remote Access users is opposite from the FRL assigned to routes, where 0 is the most 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. Table 17 is the default toll table and Table 18 is the default local table.

Summary: Facility Restriction Level

Programmable by	System manager
Mode	Hybrid/PBX
Idle Condition	Not required
Planning Form	Form 9b, Automatic Route Selection Tables Form 9c, Automatic Route Selection Default and Special Numbers Tables
Factory Setting	3
Valid Entries	0 - 6
Inspect	No
Copy Option	No
Console Procedure	`Tables` → `ARS` → `Sub A FRL/` **More** and `Sub B FRL` → Dial table no. and pool route no. → `Enter` → Dial restriction level → `Enter` → `Exit` → `Exit`
PC Procedure	[F8] → [F6] → [F4] / [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 by the system (not sent to the telephone company's central office) when a call is made on an identified route.

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

Values 1 through 11 indicate that the system should not send a certain 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.

Summary: Digit Absorption

Programmable by	System manager
Mode	Hybrid/PBX
Idle Condition	Not required
Planning Form	Form 9b, Automatic Route Selection Tables
Factory Setting	0
Valid Entries	0 - 11
Inspect	No
Copy Option	No
Console Procedure	`Tables` → `ARS` → `SubA Absorb /` **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] / [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 extra digits that must be added by the system to the beginning of the number dialed by the caller when calls are placed on an identified route.

NOTE:
Pool routes must be programmed before you assign other digits.

A maximum of 20 digits can be added, in any combination of the digits 0 through 9.

Special characters such as switchhook flash, **stop,** and # cannot be included as extra digits. **Pause** is allowed, except in the first position.

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 9b, Automatic Route Selection Tables
Factory Setting	0
Valid Entries	20 digits (0 - 9)
Inspect	No
Copy Option	No
Console Procedure	`Tables` → `ARS` → `Sub A Digit/` **More** → `Sub B Digit` → Dial table no. and pool route no. → `Enter` → **Drop** → Dial digits to be added → `Enter` → `Exit` → `Exit`
PC Procedure	[F8] → [F6] → [F7] / [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 special numbers tables.

Summary: N11 Special Numbers Tables

Programmable by	System manager
Mode	Hybrid/PBX
Idle Condition	Not required
Planning Form	Form 9c, 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 FRL:
	`Tables` → ARS → **More** → `SpeclNumber` → ARS FRL → **Drop** → Dial FRL value → `Enter` → `Exit` → `Exit` → `Exit`
	
	To program other digits:
	`Tables` → ARS → **More** → `SpeclNumber` → ARS `Digit` → **Drop** → Dial digits → `Enter` → `Exit` → `Exit` → `Exit`

PC Procedure

To change FRL:

[F8] → [F6] → [PgUp] → [F4] → [F1] → [Alt] + [P] → Type FRL value → [F10] → [F5] → [F5] → [F5]

To program other digits:

[F8] → [F6] → [PgUp] → [F4] → [F2] → [Alt] + [P] → Type digits → [F10] → [F5] → [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. Digit absorption cannot be specified.

Summary: Dial 0 Table

Programmable by	System manager
Mode	Hybrid/PBX
Idle Condition	Not required
Planning Form	Form 9c, Automatic Route Selection Default and Special Numbers Tables
Factory Setting	3
Valid Entries	0 - 6
Inspect	No
Copy Option	No
Console Procedure	`Tables` → `ARS` → **More** → `Dial 0` → Specify ARS Pool/FRL/Digits → Dial code/value/digit → `Enter` → `Exit` → `Exit` → `Exit`
PC Procedure	[F8] → [F6] → [PgUp] → [F6] → Specify ARS Pool/FRL/Digits → Type code/value/digit → [F10] → [F5] → [F5] → [F5]

Voice and/or Data Routing

Use this procedure for routing for voice, data, or voice and data. The voice/data specification is mainly used in conjunction with PRI. See “PRI Facilities.” 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 9c, 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 / Sub B Data` → Dial table no. and route no. → `Enter` → Select capability → `Enter` → `Exit` → `Exit`
PC Procedure	[F8] → [F6] → [PgUp] → [F7] / [F8] → Type table no. and route no. → [F10] → Select capability → [F10] → [F5] → [F5]

Night Service

16

The procedures in this chapter tell you how to program the following optional Night Service features:

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

Night Service with Group Assignment

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

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

Release 2.0 Only
A calling group can also be assigned to a Night Service group.

Summary: Night Service with Group Assignment

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 7a, 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` 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]

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 after-hours use of telephones. This feature requires the user, in a non-emergency situation, to enter a password to make a call when Night Service is activated. It also requires an operator to enter a password in order to activate Night Service manually.

In addition, this procedure is used to establish the following lists:

- Emergency Allowed List – telephone numbers that can be dialed without a password
- Exclusion List – telephones that are exempt from password requirements

A maximum of six telephone numbers can be included on the Emergency Allowed List, each number with a maximum of 12 digits.

Telephones included in the Exclusion List keep normal call restrictions (if any are assigned); however, they are not protected in any other way from unauthorized after-hours use.

AUDIX Voice Power ports 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 7b, Night Service – Outward Restrictions
Factory Setting	No password
Valid Entries	Any 4-digit combination of the digits 0 - 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.

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 mid-week holiday).

Time of day is entered as four digits, using 24-hour notation. Day is entered as a single digit (0 – 6); 0 is Sunday. If you enter an invalid number, the system truncates the number.

Changing the system time while Night Service is active automatically deactivates it; it must be manually reactivated.

NOTE:
The current day of the week for Night Service must be reset after system programming information is loaded into memory from a backup.

Summary: Night Service with Time Set

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Form 7c, Night Service – Time Set
Factory Setting	Not applicable
Valid Entries	0 - 6 (day); 0000 - 2359 (time)
Inspect	No
Copy Option	No

Console Procedure	To add or change start/stop time:
	`NightSrvce` → `Start` → **Drop** → Dial start day and time → `Enter` → `Stop` → **Drop** → Dial stop day and time → `Enter` → `Exit`
	
	To suspend:
	`NightSrvce` → `Day of Week` → Dial 9 → Dial day of week and time → `Enter` → `Exit`

PC Procedure	To add or change start time: [F10] → [F6] → [Alt] + [P] → Type start day and time → [F10] → [F7] → [Alt] + [P] → Type stop day and time → [F10] → [F5] To suspend: [F10] → [F8] → Type 9 → Type day of week and time → [F10] → [F5]

Labeling

17

The procedures in this chapter tell you how to add or change labels for the following:

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

These procedures can be accomplished with Integrated Administration. *If you are programming on the system programming console:*
Use the buttons next to the display and line/feature buttons to specify alphanumeric characters and punctuation for labels. Use the template provided with the MLX-20L telephone to see which line buttons correspond to which alphanumeric characters.

If you are programming with SPM:
Use the PC keyboard for labels. All letters will appear on the screen in uppercase.

Extension Directory

Use this procedure to establish alphanumeric system labels used by display set 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, Integrated Administration
Mode	All
Idle Condition	Not required
Planning Form	Form 2a, System Numbering- Station 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]

Label Trunks

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

Summary: Label Trunks

Programmable by	System manager, Integrated Administration
Mode	All
Idle Condition	Not required
Planning Form	Form 2c, System Numbering- 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** → Enter 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 that let callers with display telephones know why the person they called does not answer.

Each posted message can have a maximum of 16 characters. Messages 2 through 10 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 - 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. This procedure is also used 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.

Dial code assignments are 600 through 729.

Summary System 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	Not applicable
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/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] / [F2] → [F6] → [F5] → [F5] → [F5]

Print Reports

18

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

Report Language

Release 1.1 and 2.0 Only

Use this procedure to change the language of system reports. Unless you change the report language, reports are printed in the language chosen as the system language.

Summary: Changing the Report Language

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` → Select printer language → `Enter` → `Exit`
PC Procedure	[PgUp] → [F6] → [F4] → Select printer language → [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. Appendix E contains samples of print reports.

- Use this procedure to print the following reports. With the exception of Trunk Information, the bullet lists show the sections of each report that automatically print when the report option is selected.

  - All
    - Each report
    - Report options
  - System Set Up
  - System Dial Plan
    - Pools
    - Telephone Paging Zones
    - Direct Group Calling
    - Lines/Trunks
    - Stations
  - Label Information
    - Telephone Personal Directory
    - Message Numbers and Posted Messages
  - Trunk Information ✶
    - TIE
    - DID
    - Loop/Ground
    - General
  - T1 Information
  - PRI Information

✶ Trunk option must be specified.

- Remote Access
  - General Options
  - Non-TIE Restrictions
  - TIE Restrictions
  - Barrier Code Restrictions
- Operator Information
  - Position
  - General Options
  - DSS Options
  - QCC Operators
  - Operator Information
- Allowed Lists
- Allowed Lists Assigned to Extensions
- Disallowed Lists
- Disallowed Lists Assigned to Extensions
- Automatic Route Selection
  - Tables
- Extension Directory
- System Directory
- Group Page
- Extension Information
- Group Coverage
- Group Calling
- Night Service
- Call Pickup Groups
- Error Logs

- If you select the `All` option, keep in mind that the reports take several minutes to print. You may want to schedule use of the printer during off-peak hours.
- If you select a report for which there is no information, the report header still prints.
- Print reports if you cannot back up your system programming information.
- Do *not* print reports if your system must handle more than 100 calls per hour.

- If you are printing from the console, your printer must be connected to the SMDR port. If you are programming on a PC with SPM, you have the following choices:
  - print reports on the SMDR printer (if available)
  - print reports on the PC printer
  - save reports (on hard disk or floppy)
  - view reports (browse)

Summary: Printing Reports

Programmable by	System manager
Mode	All
Idle Condition	Not required
Planning Form	Not applicable
Factory Setting	Not applicable
Valid Entries	Any saved report
Inspect	No
Copy Option	No
Console Procedure	To print trunk information: **More** → `Print` → Select `Trunk Info` → Select trunk type → `Exit` To print extension information: **More** → `Print` → **More** → Select `Ext Info` → Dial extension number → `Enter` → `Exit` To print all other reports: **More** → `Print` → Select report → `Exit`
PC Procedure	To print trunk information: [PgUp] → [F3] → [F6] → Select trunk type → [F5] To print extension information: [PgUp] → [F3] → [PgUp] → [F10] → Type extension number → [F10] → [F5] To print all other reports: [PgUp] → [F3] → Select report → [F5] To save report on disk: [PgUp] → [F3] → Select report → [F10] → `GOTO FLOPPY` → [F10] To view report: [Ctrl] + [8]

Data Features

19

The following procedure is provided in this section:

- Analog Mutliline Telephones with Simultaneous Voice and Data

The other procedures for programming data features can be found in earlier chapters of this book. Refer to the following table for specific information.

Table 19-1. Data Features: Programming Procedures

Procedure	Chapter
Assign Trunks or Pools to Data Stations	9: “Telephones”
Copy Trunk Assignments	9: “Telephones”
Assign Intercom or System Access Buttons	9: "Telephones”
Pool Dial-Out Code (Hybrid/PBX Only)	11: “Optional Telephone Features”
Call Restrictions	11: “Optional Telephone Features”
Copy Call Restrictions	11: “Optional Telephone Features”

Continued on next page

Table 19-1. – *Continued*

Procedure	Chapter
Forced Account Code Entry	11: "Optional Telephone Features"
Ringing Options	*System Programming,* Chapter 4, "Centralized Telephone Programming"
Assign Data Hunt Group Members	13: "Optional Group-Assigned Features" in section "Group Calling Member Assignments"
Assign Data Hunt Group Trunks or Pools	13: "Optional Group-Assigned Features" in section "Group Calling Trunk or Pool Assignments"
Group Type	13: "Optional Group-Assigned Features" (choice restricted to Automatic Log In)

Analog Multiline Telephones with Simultaneous Voice/Data

Use this procedure to dedicate a voice/data pair to provide the Simultaneous Voice and Data feature to an analog multiline telephone.

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

- Calls cannot be placed to the station jack reserved for the Simultaneous Voice and Data feature.
- An extension number cannot be dedicated for both the Voice Announce to Busy feature and the Simultaneous Voice and Data feature.
- When you select `Enter` after entering the voice extension number in the data entry screeen, the system automatically assigns the data station extension.
- Use the Inspect feature to verify the entension pair.

Summary: Analog Multiline Telephones with Simultaneous Voice/Data

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

Integrated Administration 20

Capabilities

The Integrated Administration capability of Integrated Solution Ill (IS-III) simplifies the programming of common information for the communications system (the *"switch"*), AUDIX Voice Power™ , and, if it is also installed, 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.

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.

Common Information

The switch and the applications share the following information:

- System numbering of extensions, trunks, and pools
- System labeling — the user or other 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 trunks
- The Delay Ring and Coverage Delay Interval settings
- The Transfer Return Time and VMS Transfer Return interval

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
- 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

Once you have completed these system programming tasks, you can program the following information through Integrated Administration.

Table 20-1. 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	1–30
Reliable Disconnect	yes	
Delay Ring	2 rings	1–6 rings
Coverage Delay Ring	3 rings	1–9 rings
VMS Transfer Return Interval	6 rings	0–9 rings
Transfer Return Time	6 rings	0–9 rings

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

If the technician or system manager changes extension numbering 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 applications, Integrated Administration includes an automatic reconciliation program that runs every day at 3:00 a.m., comparing the application database to the switch programming and bringing the two into agreement. The program makes changes, as necessary, only to the application database, according to the rules listed in Table 20-2. It does not change the switch programming.

Table 20-2 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 have finished programming the common information, you can complete any remaining system programming procedures. See *System Refefence* for additional information on Integrated Administration.

Complete information on IS-III can be found in *Integrated Solution III System Manager's Guide,* Order No. 555-601-010 and *AT&T Integrated Solution III Installation and Maintenance Guide,* Order No. 555-601-011.

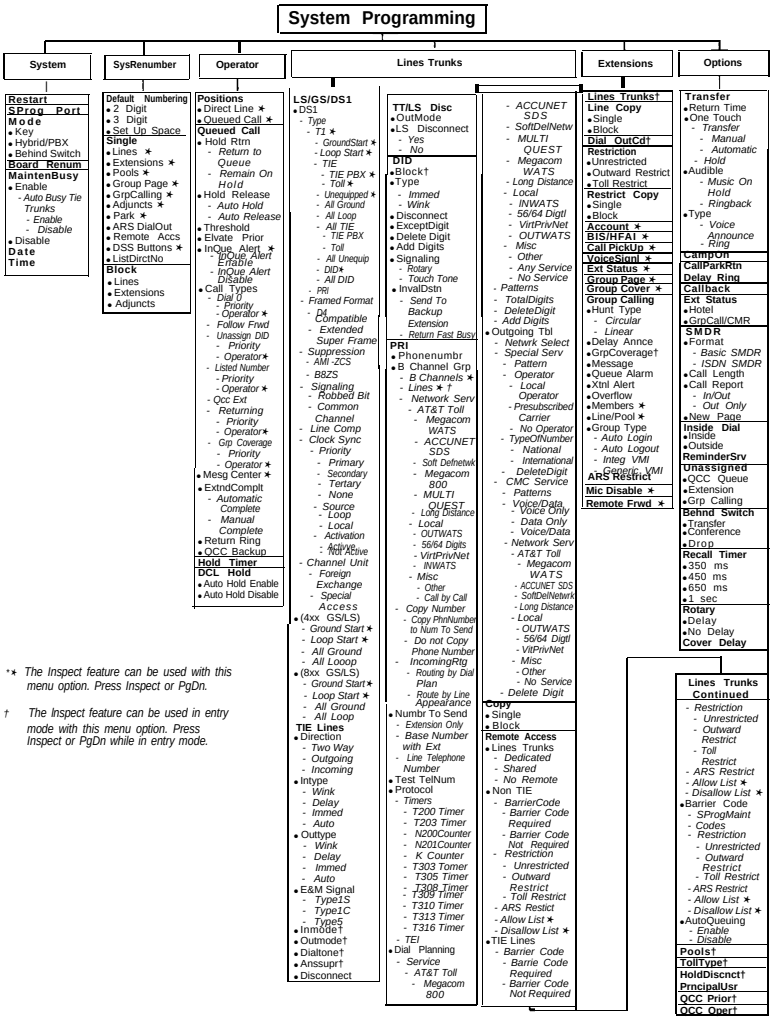
Menu Hierarchy

A

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.

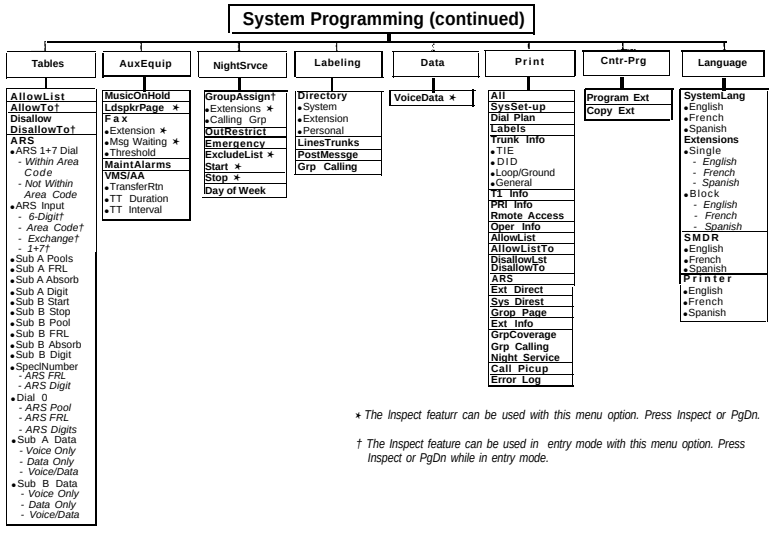
You can use the Inspect feature in system programming to display the telephone or line/trunk numbers that are programmed with a specific feature. Inspect is helpful when you must assign a feature to many lines/trunks or extensions and you do not have a Direct Station Selector (DSS) attached to the system 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.**



* ✶ *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.*



✶ *The Inspect featurr 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

B

Console LED Status

Tables B-1 and B-2 indicate 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 B-1. Line or Trunk Feature Status

System Programming Menu Option	Option	LED Status ✶					
		Green LED			Red LED		
		ON	OFF	FLASHING	ON	OFF	FLASHING
LinesTrunks	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				
LinesTrunks	TT/LS Disc						
	Outmode	Line/ trunk is touch-tone†	Line/ trunk is rotary dial				
LinesTrunks	Remote Accss						
	LinesTrunks	Remote access is assigned to line/trunk†	Remote access is not assigned to line/trunk†				
LinesTrunks	Pools				Trunk is in pool	Trunk is not in 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 B-1. - *Continued*

System Programming Menu Option	Option	LED Status ✶					
		Green LED			Red LED		
		ON	OFF	FLASHING	ON	OFF	FLASHING
LinesTrunks	Toll Type	Must dial 1+ area code†	1 + dialing is not needed				
LinesTrunks	HoldDisconct	Long - 450 ms†	Short- 50 ms				
LinesTrunks	Remote Frwd	Line/trunk assigned	Line/trunk not assigned†				
Extensions	LinesTrunks	Line/trunk or pool is assigned to button	Line/trunk or pool is not assigned to button	Trunk is assigned to a pool			
Extensions	Dial Out Cd	Station can use dial-out code for pool access	Station cannot use dial-out code for pool access	Trunk is assigned to a pool			
System	SysProg Port				System programming port	Other	Can be assigned as system programming port
Operator	Position						
	Direct Trunk Queued Call				Operator position	Other	Can be assigned as operator position
Operator	QueuedCall Message Center				Message Center Position	Other	Can be assigned as Message Center
	InQueueAlert				Position receives In-Queue Alert	Other	Position can receive In-Queue Alert

† This is the factory setting.

✶ 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.

Table B-2. Telephone Feature Status for DSS Console Only

System Programming Menu Option	Option	Red LED Status		
		ON	OFF	FLASHING
	Call Types — Dial 0, LDN Unassigned DID, Grp Coverage	Position receives call type	Other	Position can receive call type
Extensions	Restriction	None† restricted	Outward restricted	Toll
Extensions	Account (FACE)	Forced Account Code Entry assigned assigned†	Forced Account Code Entry not	
Extensions	BIS/HFAl	Telephone has BIS/HFAl capability (factory setting for analog multiline telephones)	Other	
Extensions	Call Pickup	Telephone is assigned to Call Pickup Group Group†	Telephone is not assigned to Call Pickup	
Extensions	VoiceSignl	Voice Announce to Busy assigned assigned†	Voice Announce to Busy not	
Extensions	Ext Status	Extension status assigned	Extension Status not assigned	Extension Status can be assigned
Extensions	Group Page	Telephone is in group group†	Telephone is not in	
Extensions	Group Cover	Telephone is in coverage group	Telephone is not in coverage group†	

† This is the factory setting

Table B-2. - ***Continued***

System Programming Menu Option	Option	Red LED Status		
		ON	OFF	FLASHING
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†	
Night Service	Group Assign	Telephone is in group	Telephone is not in group†	
Night Service	Exclude List	Telephone is excluded excluded†	Telephone is not	
Aux Equip	Msg Waiting	Station is a fax message-waiting station station	Station is not a fax message-waiting	
Aux Equip	Fax	Station is a fax machine	Station is not a fax machine	
Aux Equip	VMS/AA	VMS or AA jack	Other†	Operator position
Tables	AIlowTo	Allowed List assigned to to telephone	Allowed List not assigned to telephone†	
Tables	DisallowTo	Disallowed list assigned to telephone	Disallowed list not assigned to telephone†	
Data	Voice/ Data			

† This is the factory setting.

General Feature Use and Telephone Programming

C

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 C-1 through C-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 Message (available from display on MLX display telephones)
- Saved Number Dial
- Signaling

Feature Codes

Feature codes are 1-, 2-, and 3-digit codes that activate features. A feature code is used by first pressing the dedicated **Feature** button on MLX telephones; pressing a programmed **Feature** button on analog multiline telephones; dialing # on single-line telephones. Each of these methods sends a signal to the system that a feature code is about to be dialed. When the code is dialed, the feature is activated.

NOTE:
Queued Call Console (QCC) system operators cannot use feature codes.

The following features can be used only by dialing feature codes:

- Call Pickup
- 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 C-1 lists the telephone and operator features that can be assigned to telephones or consoles via Centralized Telephone Programming or by users from their telephones.

Table C-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
Auto Answer All	✶ 754	**AutoAns All**		KPB				
Auto Answer Intercom	✶ 753	**AutoAnsIcom**		KPB				
Auto Dial		**Auto Dial**		KPB	KPB	KPB	KPB	KPB
Inside	✶ 22 + ext. no.	**Insida**						
Outside	✶ 21 + tel. no.	**Outside**						
Automatic Line Selection		**AutoLinoSel**		KPB	KPB	KPB	KPB	KPB
On	✶ 14							
off	✶✶ 14							
Barge-In†‡	✶ 58	**Barge In**		KPB	KPB	KPB	KPB	KPB
Callback			KP	KPB	KPB	KPB	KPB	KPB
Automatic		**Cback Auto**						
On	✶ 12	**On**						
off	✶✶ 12	**off**						
Selective	✶ 55	**Cback Sel**						
Call Waiting		**CallWaiting**	KPB	KPB	KPB	KPB	KPB	KPB
On	✶ 11	**On**						
off	✶✶ 11	**off**						
Camp-On	✶ 57	**Camp On**		KPB	KPB	KPB	KPB	KPB
Conference	✶ 772	**Conference**		B	B	B	B	B
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

† Operator console
‡ Centralized Telephone Programming only

K	Key mode
P	PBX mode
B	Behind Switch mode

Table C-1. — ***Continued***

Feature	Prog. Code	Display Label	Single-Line	Analog Multi-line	MLX-10	MLX-10D	MLX-28D	MLX-20L
Directory								
System Directory (system programming)						KPB	KPB	KPB
Extension Directory (display only)						KPB	KPB	KPB
Personal Directory (display only)								KPB
Do Not Disturb	✶ 47	DoNotDistrb		KPB	KPB	KPB	KPB	KPB
Drop	✶ 773	Drop		B	B	B	B	B
Extension Status								
Direct-Line Console†				KPB			KPB	KPB
status Off	✶ 760	OparatorES, 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	✶ 33	Forward	KPB	KPB	KPB	KPB	KPB	KPB
Forward (inside)								
Remote Call Forward (Outside)								
Group Calling								
In-Queue Alarm button	✶ 22 + calling group ext. no.	Group Call		KPB	KPB	KPB	KPB	KPB
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 in (Available)	✶ 44	ES Status, ES2						
After-call work state (CMS only)	✶ 45	ES Status, ES1						

† Operator console

K Key mode
P PBX mode
R Behind Switch mode

Table C-1. — ***Continued***

Feature	Ping. 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	KPB	KPB	KPB	KPB
Headset		Hdset			KPB	KPB	KPB	KPB
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	SyAcc-00	KB					
Change type of Intercom button								
Ring	✶✶ 19	Voice Annca, 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†	✶ 38	Send/RmvMsg		KPB			KPB	KPB
Message		Messages						
Receiving messages:		Delete Msg		KPB		KPB	KPB	KPB
Delete Message*	✶ 26	Next Msg		KPB		KPB	KPB	KPB
Next Message*	✶ 28	Return Call		KPB		KPB	KPB	KPB
Return Cal*	✶ 27			KPB				
scroll*	✶ 29							
Night Service†	✶ 39	Night Srvc		KPB			KPB	KPB
Notify		Notify		KPB	KPB	KPB	KPB	KPB
Send	✶ 757 + ext. no.	Send						
Receive	✶ 758 + ext. no.	Receive						
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)	PersonalRnq, Pattern #1... Pattern # 8		KPB	KPB	KPB	KPB	KPB

† Operator console
‡ Centralized Telephone Programming only Display telephones only.
* Programming codes are used with analog multiline telephones only; MLX telephones use display.

K Key mode
P PBX mode
B Behind Switch mode

Table C-1. — *Continued*

Feature	Prog. Code	Display Label	Single-Line	Analog Multi-line	MLX-10	MLX-10D	MLX-28D	MLX-20L
Pickup		**Pickup**	KP	KPB	KPB	KPB	KPB	KPB
General use	✶ 9	**General**						
Specific extension	✶ 9 + ext. no.	**Extension**						
Specific line	✶ 9 + line no.	**Line**						
Group	✶ 88	**Group**						
Privacy	✶ 31	**Privacy**	KP	KPB	KPB	KPB	KPB	KPB
Recall	✶ 775	**Recall**		KPB	KPB	KPB	KPB	KPB
Reminder Service		**Reminder**	KPB	KPB	KPB	KPB	KPB	KPB
Set	✶ 81	**Set**						
Cancel	✶✶ 81	**Cancel**						
Missed†	✶ 752	**Missed**						
Ringing/Idle Line Preference	✶ 343	**Line Prefer, On**		KPB	KPB	KPB	KPB	KPB
Cancel	✶ 344	**Line Prefer, Off**						
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/RmwMsg**		KPB			KPB	KPB
Signaling (manual)	✶ 23 + ext. no.	**Signal**		KPB	KPB	KPB	KPB	KPB

† Operator console

P	PBX mode
K	Key mode
B	Behind Switch mode

Table C-1. — ***Continued***

Feature	Prog. Code	Display Label	Single-Line	Analog Multi-line	MLX-10	MLX-10D	MLX-28D	MLX-20L
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						
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						

‡ Centralized Telephone Programming only

K Key mode
P PBX mode
B Behind Switch mode

Telephone Programming

The following describes how to program features on MLX and analog mutliline 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, 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
- 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 C-2 through C-4 list the basic steps for programming each telephone type.

Table C-2. Programming Analog Multiline Telephones

Step		Action
1	Label the button. **Note:** Skip this step if the feature will not be programmed onto a button.	■ Remove the clear label cover from the telephone by the inserting the end of a paper clip in the notch at the top of the cover. ■ Write the feature name on the card next to the button to be programmed. ■ Replace the cover.
2	Begin programming.	■ Slide the T/P switch on the side of the telephone to **P.**
3	Select the feature.	■ Press the button you labeled. *If you have a display, it shows the name of the feature currently programmed on the button. If no feature is programmed, the display indicates that the button is blank.* **Note:** If the feature does not get programmed onto a button, press any line button. This does not affect the button in any way. Dial the programming code. *The feature is programmed.*
4	End programming.	■ Slide the T/P switch to the center position.

Table C-3. Programming MLX-10 Telephones

Step		Action
1	Label the button. **Note:** Skip this step if the feature will not be programmed onto a button.	■ Remove the clear label cover from the telephone by pulling up on the tab that extends from the top of the cover. ■ Write the feature name on the card next to the button to be programmed. ■ Replace the cover.
2	Begin programming.	■ Press the **Feature** button and dial then **00.**
3	Select the feature.	■ Press the button you labeled. **Note:** If the feature does not get programmed onto a button, press any line button. This does not affect the button in any way. ■ Dial the programming code. *The feature is programmed*
4	End programming.	■ Press the **Feature** button and dial ***00.**

Table C-4. Programming MLX Display Telephones Using the Display

Step		Action
1	Label the button to be programmed. **Note:** Skip this step if the feature will not be programmed onto a button.	■ Remove the clear label cover from the telephone by pulling upon the tab that extends from the top of the cover. ■ Write the feature name on the card next to the button to be programmed. ■ Replace the cover.
2	Begin programming.	■ Press **Menu.** ■ Select `Ext Program` from the display. ■ Select `Start` from the display.
3	Identify the button to be programmed.	■ Press the button you labeled. **Note:** If the feature does not get programmed onto a button, press any line button. This does not affect the button in anyway. *The display identifies the feature currently programmed on the button. If no feature is programmed, the display indicates that the button is blank.*
	To delete the feature currently programmed on the button:	■ Select `Delete` from the display. *The button is now blank.* ■ Press the button you labeled again to continue programming. **Note:** If the currently programmed feature was not deleted from the button, the new feature programmed onto it will replace it.

Table C-4. — ***Continued***

Step		Action
	To continue programming:	■ Select `List Feature` from the display. *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:	
	To move through the list of features page by page,	■ Press **More.**
	or	
	To jump to the screen that displays the feature name,	■ Select `Find Feature` from the display. ■ Select the range of letters from the display that corresponds to the first letter of the feature name (for example, if the feature begins with A, select `ABC`). ■ If the feature is not displayed on the page that you jumped to, press **More.** ■ When you find the feature you want, press the button next to or below it.
5	Respond to any additional prompts on the display.	■ Select appropriate prompt (for example, select `On` or `Off` to turn Inside Coverage on or off), and/or enter required information (for example, dial 0 phone number for Auto Dial). ■ Select `Enter`.

Table C-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 via the display and then dial a programming code to select the feature rather than selecting it from the display.

Button Diagrams

D

This appendix contains the button diagrams for Hybrid/PBX systems as well as button diagrams for Key and Behind Switch systems.

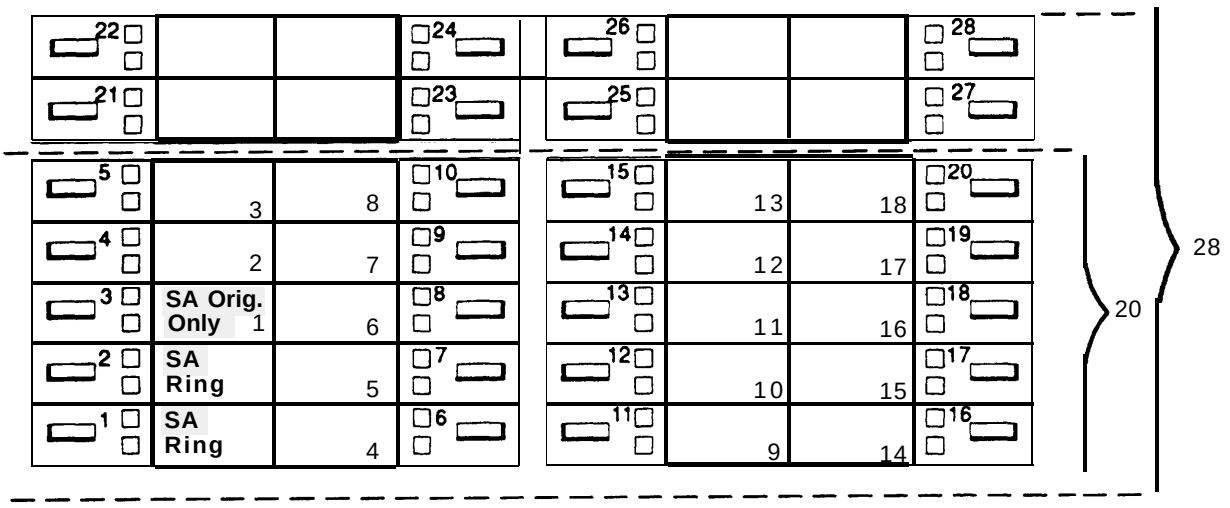


Figure D-1. MLX Telephone Button Diagram (Hybrid/PBX Mode)

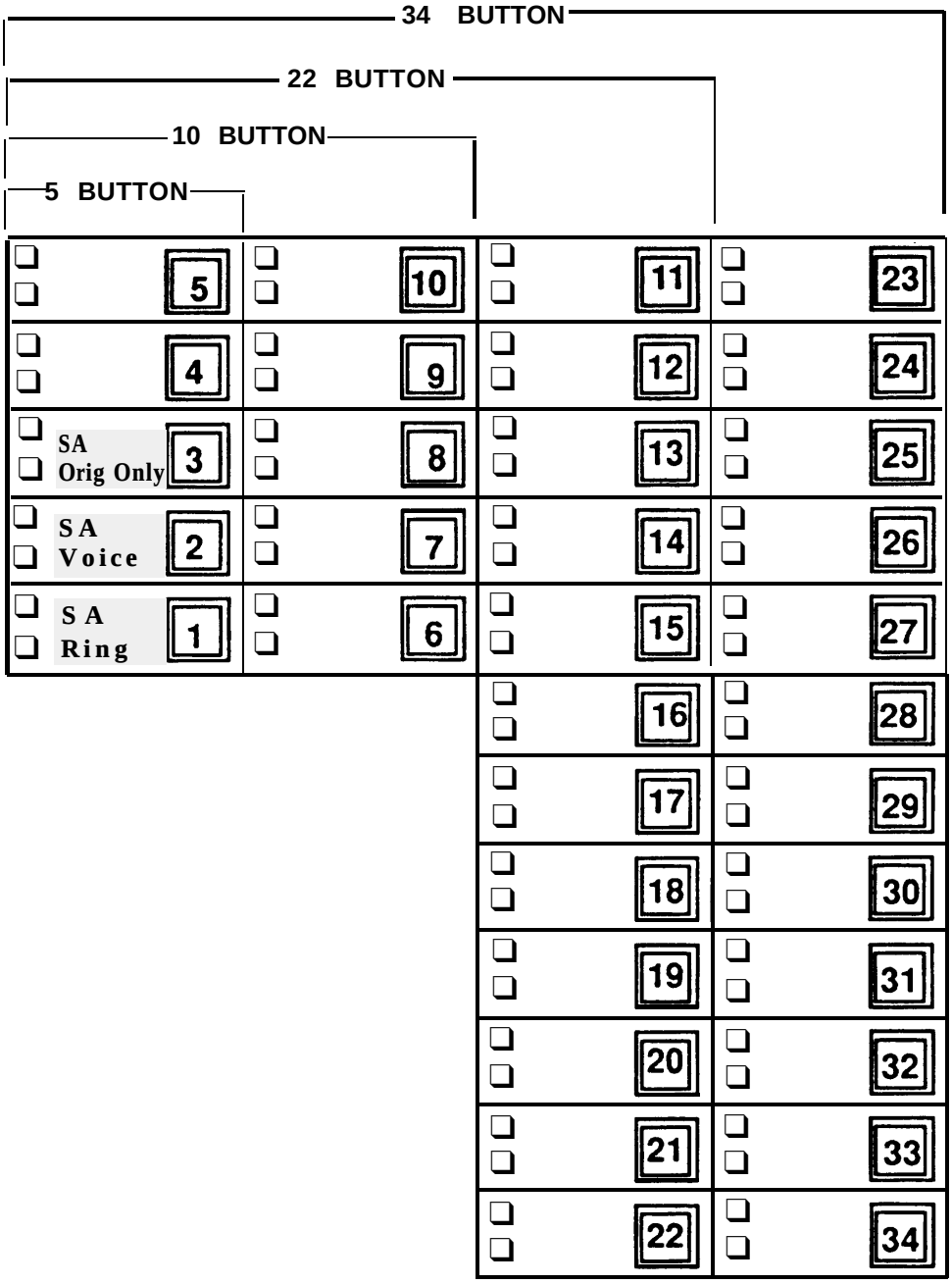
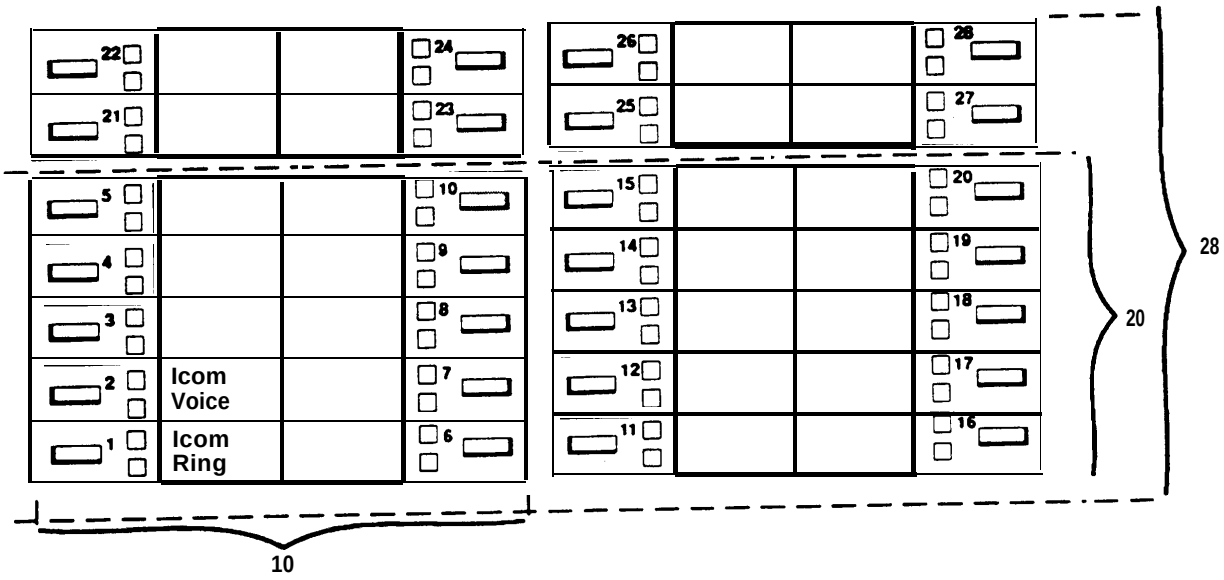


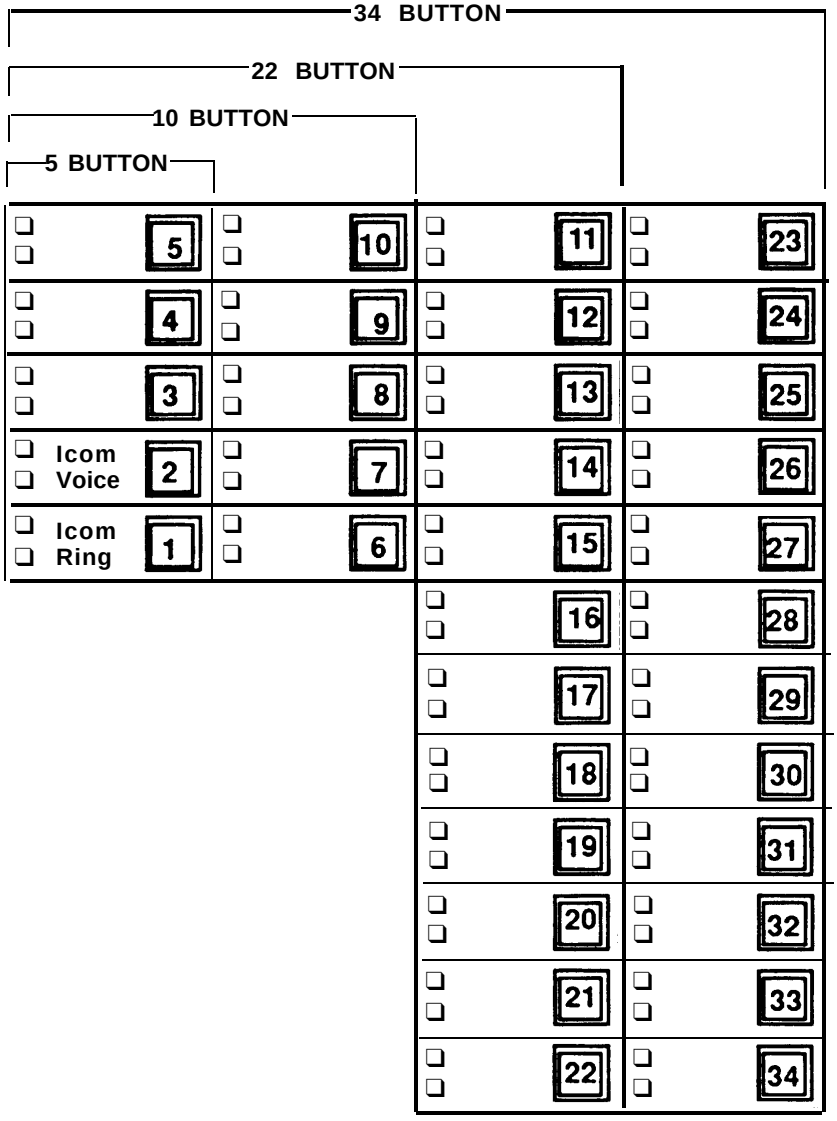
Figure D-2. Analog Multiline Telephone Button Diagram (Hybrid/PBX Mode)



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 D-3. MLX Telephone Button Diagram (Key and Behind Switch 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 D-4. Analog Multiline Telephone Button Diagram (Key and Behind Switch Mode)

Sample Reports

E

This appendix includes samples of the print reports generated by the communications system. Table E-1 lists the system reports and the pages in this appendix where samples can be found.

Table E-1. Report Contents

Continued on next page

Table E-1. - *Continued*

Table E-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 E-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 E-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	System-wide 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.
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.

Continued on next page

Table E-2 - *Continued*

Menu Option	Report Name	Description
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, Iabel, 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.
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

Continued on next page

Table E-2, - ***Continued***

Menu Option	Report Name	Description
		assigned to non-tie-trunk users.
ARS	Automatic Route Selection	Access code; table types with area codes and exchanges; routes for subpatterns A and B, FRL, absorb digit, delete digit, Dial 0, and N11 tables.
Ext Direct	Extension Directory	Slot/port addresses, extensions, labels and feature-related attributes. Column headings are printed on the first page only and are not carried over to subsequent pages. Column headings 4 through 10 (and 14 through 20) should be read vertically. That is: FACE (Forced Account Code Entry); HBIS (HFAI/BIS); RCFW (Remote Call Forward); MICD (Microphone Disable); SIG (Voice Signal); RSTR (Calling Restrictions); ARSR (ARS Restriction Level).
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.
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.

Continued on next page

Table E-2. - *Continued*

Menu Option	Report Name	Description
Grp Calling	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.

System Reports

System Information Report

Print Menu Option: Sys Set-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                    :
```

System Information Report - *Continued*

```
SMDR:    Min. CallTime          CallReport          Format
    :      40 sec               In/Out              Basic

Intercom Dial Tone                    :  Inside
                                      :     :
Reminder Service Cancel               :  Drop      Transfer    Conference
Behind Switch Code                    :
                                      :
Recall Timer                          :  450 msec
Rotary Line Cut Through               :  Delay
Unassigned Extension                  :    10

slot # 1:          008 MLX
slot # 2:          408
slot # 3:          008
slot # 4:          408
slot # 5:          800 GS/LS
slot # 6:          408 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 # 7:    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	27	
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	37	
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: TypelS      Dialtone  :  Remote
InType    : Wink        InMode    : Rotary      AnsSupvr  :  300  ms
Out Type  : Wink        OutMode   : Rotary      Disconnect:  300  ms

TRUNK      850          Slot/Port : 14/ 2       TIE-PBX
Direction:  2 Way       E&M Signal: TypelS      Dialtone  :  Remote
InType    : Wink        InMode    : Rotary      AnsSupvr  :  300  ms
Out Type  : Wink        OutMode   : Rotary      Disconnect:  300  ms

TRUNK      851          Slot/Port : 14/ 3       TIE-PBX
Direction:  2 Way       E&M Signal: TypelS      Dialtone  :  Remote
InType    : Wink        InMode    : Rotary      AnsSupvr  :  300  ms
Out Type  : Wink        OutMode   : Rotary      Disconnect:  300  ms

TRUNK      852          Slot/Port : 14/ 4       TIE-PBX
Direction:  2 Way       E&M Signal: TypelS      Dialtone  :  Remote
InType    : Wink        InMode    : Rotary      AnsSupvr  :  300  ms
Out Type  : 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	Del	Dig	AddDig	Signal	InvDest
A	841	13/ 1	1	500ms	Wink	4	3	1	TouchTone	BkupExt
A	842	13/ 2	1	500ms	Wink	4	3	1	TouchTone	BkupExt
A	843	13/ 3	2	500ms	Wink	3	0		Rotary	BkupExt
A	844	13/ 4	2	500ms	Wink	3	0		Rotary	BkupExt
A	845	13/ 5	1	500ms	Wink	4	3	1	TouchTone	BkupExt
A	846	13/ 6	1	500ms	Wink	4	3	1	TouchTone	BkupExt
A	847	13/ 7	2	500ms	Wink	3	0		Rotary	BkupExt
A	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
801    2/ 1   Loop     TouchTone     Yes     N/A
802    2/ 2   Loop     TouchTone     Yes     N/A
803    2/ 3   Loop     TouchTone     Yes     N/A
804    2/ 4   Loop     TouchTone     Yes     N/A
805    4/ 1   Loop        Rotary     Yes     N/A
806    4/ 2   Loop        Rotary     Yes     N/A
807    4/ 3   Loop        Rotary     Yes     N/A
808    4/ 4   Loop        Rotary     Yes     N/A
809    5/ 1   Ground   TouchTone     N/A     N/A
810    5/ 2   Ground   TouchTone     N/A     N/A
811    5/ 3   Loop        Rotary     Yes     N/A
812    5/ 4   Loop        Rotary     Yes     N/A
813    5/ 5   Loop        Rotary     Yes     N/A
814    5/ 6   Loop        Rotary     Yes     N/A
815    5/ 7   Loop     TouchTone     Yes     N/A
816    5/ 8   Loop        Rotary     Yes     N/A
817    6/ 1   Ground      Rotary     N/A     N/A
  '
  '
  '
880   15/ 1 Ground TouchTone     Yes     N/A
```

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	3
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	2	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*

Dail 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 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        :  2468
Restriction           :  OUTWARD RESTRICTED
ARS Restriction Level:  3
Allowed Lists         :
Disallowed  Lists   :
Barrier Code number :  2
Barrier Digits        :  1234
Restriction           :  UNRESTRICTED
ARS Restriction Level:  3
Allowed Lists         :
Disallowed  Lists   :
Barrier Code number :  16
Barrier Digits        :  9876
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  887  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 O 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: AllowList To

```
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 Options: 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)----    --   --------------------    -    -----       --:--   A
6)----    --   --------------------    -    -----       --:--   A
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)----    --   --------------------    -    -----       --:--   A
6)----   --   --------------------    -    -----       --:--   A

A    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

A	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 A	H B	R C	M I	V S	R S	A R	Port Addr	Ext #	Label	F A	H B	R C	M I	V S	R S	A R
			C E	I S	F W	I D	T G	S R					C E	I S	F W	I D	T G	S 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
```

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     -
```

General System Programming Sequence

F

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`

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

  `Lines Trunks` → `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

G

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 G-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, e.g., 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 G-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 G-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 G-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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