Meridian 1 Options 21 through 81C

Basic Telecom Management

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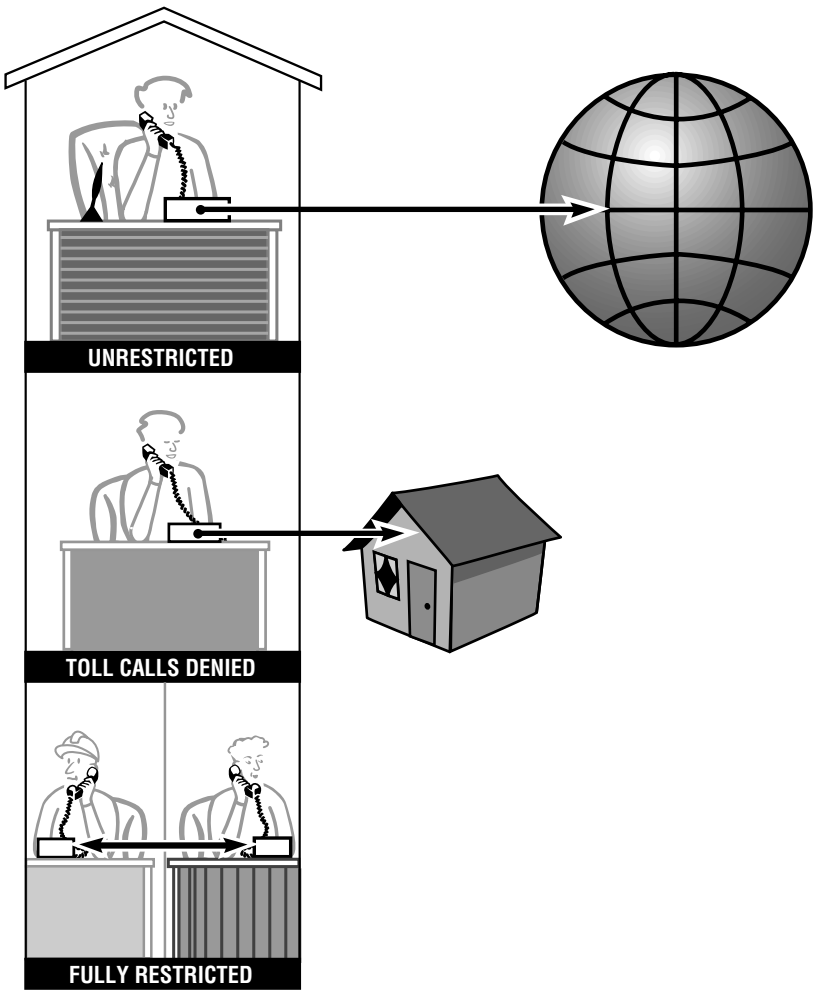
Access Restriction

Purpose

You can use the Access Restrictions feature to limit terminal access to the exchange network, and private trunk network, and to control access to certain services and features.



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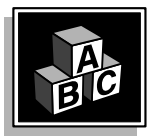
Access Restriction

Basic feature configuration



This part tells you:

- how the feature has to be set up to make basic feature operation possible
- what you need to know to manage interactions with other features

The Access Restriction capability comes with the communication system. You select the telephones that you want to restrict, then you use the procedure in this module to program each one.

How does Access Restriction work?

When a user initiates a call, the system looks at the type of Access Restriction assigned to the telephone before a digit is dialed. As each digit is dialed, the system refers to the type of Access Restriction programmed for the telephone and based on that will either allow or deny the call.

If the type of Access Restriction assigned to the telephone is designed to restrict the digits that the user has dialed, the call is blocked immediately, even though the user might not have completed dialing.

The user hears whatever form of Intercept treatment is programmed in your Customer Data Block (LD 15) for calls blocked in this way. For further information on Intercept treatments, refer to the *Terms and abbreviations* section of this book.

The default Intercept treatment is Overflow tone, sometimes called *fast busy* tone or *re-order* tone.

Toll calls

Some types of Access Restriction specifically restrict *toll calls.* For the purposes of these restrictions, toll calls are defined as calls where the first or second digit following the access code is the digit 1 or 0.

Call modification

Some of the types of Access Restrictions are involved with what is called *call modification*. Call modification occurs when such features as Call Park, Call Pickup, Call Transfer or Conference or Night Service are used in call answering.

For example, if one user calls another user and asks that user to transfer the call out to a trunk, the call is *modified* by the Call Transfer feature.

Class of Service

You can enable and disable many features and services in the Class of Service programming of a telephone. Access Restriction is only one of many parts of the Class of Service.

The following types of terminals have a Class of Service; and therefore, you can assign Access Restrictions to them:

- dial or Digitone-type telephones
- digital or SL-1-type telephones
- Meridian Mail channels
- TIE trunks
- Authorization codes
- Direct Inward System Access (DISA) ports

Before programming you need to understand the requirements of the user or users of the terminal. Restriction requirements differ depending on whether the terminal is a telephone, or a trunk or an authorization code.

To get the appropriate information about a user's needs when making business calls, you might need to talk to the user's manager.

Access Restriction

Types of Access Restrictions

There are eight types of Access Restrictions:

Table 241
Access Restriction names and mnemonics

Restriction name	Mnemonic
Unrestricted	UNR
Conditionally Toll Denied	CTD
Conditionally Unrestricted	CUN
Toll Denied	TLD
Semi-Restricted	SRE
Fully Restricted	FRE
Fully Restricted Type 1	FR1
Fully Restricted Type 2	FR2

The following explanations tell you what each type of restriction allows a user to do.

Unrestricted Service (UNR)

- Allowed to make and receive internal calls.
- Allowed to make and receive calls to and from any trunk group.
- Allowed toll calls on any trunk group.

Conditionally Unrestricted Service (CUN)

- Allowed to make and receive internal calls.
- Allowed access to external calls by using ANI (Automatic Number Identification) trunk groups only.

Conditionally Toll Denied (CTD)

- Allowed to make and receive internal calls.
- Allowed to receive calls from external trunk groups.
- Allowed toll calls on WATS trunks, unless New Flexible Code Restriction (NFCR) denies certain digits. For more information on NFCR, refer to *X11 features and services*.
- Denied toll calls on COT/FEX type trunk groups, unless NFCR allows specific digits.
- Allowed Special numbers like 411, 611, and 911, unless denied by NFCR.
- Allowed toll calls on COT/FEX/WATS trunk groups when Basic Automatic Route Selection (BARS) or Network Alternate Route Selection (NARS) or Coordinated Dialing Plan (CDP) access codes are used.

  NFCR is ignored for CTD terminals when BARS or NARS or CDP codes are used for the call.
- Allowed all calls on TIE trunk groups, unless NFCR denies certain digits and the user dialed a direct trunk access code.

Access Restriction

Toll Denied (TLD)

- Allowed to make and receive internal calls.
- Allowed to receive calls from the exchange network.
- Allowed toll calls on WATS trunk groups using direct trunk access codes or BARS or NARS access codes, unless NFCR denies certain digits.
- Denied toll calls on COT/FEX trunk groups if the user dials direct trunk access codes, unless NFCR allows the digits.
- Denied toll calls on COT/FEX trunk groups if the user dials BARS or NARS access codes, unless NFCR allows the digits.
- Allowed Special numbers like 411, 611, and 911, unless NFCR denies these digits.
- Allowed access to toll calls with assistance from an attendant or an unrestricted telephone user. The attendant or unrestricted telephone user must connect the TLD user to a trunk using the Conference or Call Transfer features.
- Allowed toll calls and special number calls on TIE trunk groups, unless NFCR denies certain digits. This applies if the user dials direct trunk access codes or BARS or NARS access codes.

Semi-Restricted (SRE)

- Allowed to make and receive internal calls.
- Allowed to receive calls from external trunk groups.
- Denied from outgoing access to external trunk groups, except when assisted by an attendant or an unrestricted telephone user who is using Call Transfer or Conference to connect the SRE telephone to a trunk.

Fully Restricted Service (FRE, FR1, FR2)

FRE

- Allowed to make and receive internal calls.
- Allowed access to TIE and CCSA (Common Controlled Switching Arrangement) trunk groups.
- Allowed access to and from external trunk groups with call modification by an unrestricted telephone user.

  There is an FRPT prompt in the Configuration record (LD 17) that controls access to incoming calls for FRE telephones. Access to incoming calls is denied by default, but you can change the programming to allow it.
- Denied access to and from external trunk groups either by direct access, or using the assistance of an attendant.

FR1

- Allowed to make and receive internal calls.
- Allowed access to TIE and CCSA trunk groups.
- Denied access to and from external trunk groups, either by direct access, or using the assistance of an attendant or with call modification from an unrestricted telephone user.

FR2

- Allowed to make and receive internal calls.
- Denied access to TIE and CCSA trunk groups.
- Denied access to and from external trunk groups either by direct access, or using the assistance of an attendant or call modification from an unrestricted telephone user.

Access Restriction

Default settings

With software prior to Release 22, the default Access Restriction setting in the Class of Service of telephones and trunks is UNR, Unrestricted.

With Release 22 and later, the default setting is CTD, Conditionally Toll Denied.

This means that terminals are unrestricted unless you program an access restriction in the Class of Service on systems using software prior to Release 22. Refer to the *Tips* later in this section for the impact this default setting can have.

With Release 22 and later software, by default, terminals are not allowed to make toll calls by accessing trunk groups directly (using access codes). This gives you control of terminals by default. The control is only released if you change the Class of Service to UNR.

> ***Note:*** If Basic Automatic Route Selection (BARS) or Network Alternate Route Selection (NARS) software is programmed then you can assign Network Class of Service (NCOS) values to the terminals. It is the Class of Service and the NCOS that determine what calls are allowed from that terminal. When you assign the CTD Class of Service to terminals, the users are forced to dial toll calls using the BARS or NARS access codes. In this way, you have the control you need in order to benefit from the automatic route selection software in the best way possible.

Using the feature

Table 242
Access Restrictions types and possible applications

Type	Possible application
UNR	Executive telephones
CTD	Telephones on a system with BARS or NARS
CUN	Telephones on a system with ANI trunks
TLD	Telephones with no long distance privileges
SRE	Telephone of a user who is supposed to make calls only when assisted by the attendant or a manager
FRE	Telephone of a user who can make calls to other company locations on the private network but needs assistance from a manager when placing calls on the exchange network
FR1	Telephone of a user who only needs to make calls to other company locations on the private network
FR2	Telephone at a secured entrance to a building

There are many other possible applications of each Access Restriction type. Those shown in the chart above are examples only.

Interactions with other features

Access Restrictions work with, affect, or are affected by, several other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information, you can use *X11 features and services*.

Features that change the Access Restriction type

The following features change the Access Restriction assigned to a terminal on a per call or permanent basis.

Access Restriction

They are:

- Forced Charge Account
- Authorization Code
- System Speed Call
- Scheduled Access Restriction
- Controlled Class of Service
- Electronic Lock

Refer to *X11 features and services* for further information on the operation of these features. Each one is designed to change the operating Access Restriction type assigned to allow certain types of calls to be made under certain controlled conditions.

Forced Charge Account and Authorization Code features permit a user to change the restriction assigned to the telephone or trunk. When the user enters a code, it prints out on a printer. This can be used for billing purposes.

- The Forced Charge Account code is usually associated with a person for whom or about whom the call is being made. For example, a lawyer would associate a Forced Charge Account Code with each client for whom calls are made.
- An Authorization Code is associated with a user. This allows a user to move around and use other telephones or call in on a trunk and still be billed for the calls they made.

System Speed Call allows you, or someone on your site, to program certain approved telephone numbers on a System Speed Call list. Users can be programmed to have access to the list. When they use the System Speed Call feature to make calls, they temporarily become UNR and long distance numbers stored on the list get processed, even if the telephone is programmed as TLD. However, if they try to dial long distance calls without using the System Speed Call feature, these calls are not allowed.

Access Restriction

Scheduled Access Restriction Groups allow Access Restriction types for groups of users to change at certain times or on certain days. This feature is often used to control unauthorized calls outside normal working hours. At a certain time each day, the Access Restrictions change to restrict calls.

Controlled Class of Service allows one user to change the Access Restriction assigned to another telephone. It is often used by secretaries to restrict office telephones when the offices are not being used and then unrestrict them when they are being used. Empty conference room telephones can be controlled in this way.

Electronic Lock allows users to change the Access Restriction assigned to their own telephones, for example, when they leave at the end of the day. Before they leave, they dial the codes which restrict the telephones to prevent unauthorized people from making costly calls at night. In the morning, they dial the codes which unrestrict their telephones.

You can mention these interactions to users in training sessions if they are going to use these features. If the telephones are programmed with a very restrictive type of Access Restriction and you intend that approved users override the restrictions with a feature, then you must let users know how they can make approved calls. Users sometimes report these interactions as problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Improving feature performance

The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Meridian Mail

The Meridian Mail voice mail system is connected to the Meridian 1 system with channels that are programmed as SL-1-type TNs (without associated telephones) in the Meridian 1. You can program an Access Restriction in the Class of Service.

This impacts the type of calls that a caller can make using the Thru-Dial feature of Meridian Mail where callers can decide not to leave a message in a mailbox in the Meridian Mail, but dial out from the mailbox instead and onto the Meridian 1 trunks.

Access is allowed or denied depending on:

- the Meridian Mail restrictions, which can be programmed for the mailbox itself
- the Meridian 1 restrictions, such as the type of Access Restriction on the channel

Decide what calls you want to allow, if any, using the Thru-Dial feature. Decide whether you want the controls to be implemented in the programming of the mailbox or on the channel using the Meridian 1 Class of Service.

Set Based Administration Enhancements

If your system is equipped with this capability and you know the proper Flexible Feature Code and password, you can go to a telephone programmed for Administrator Access and change the Access Restriction assigned to any telephone in the customer group.

This method might be quicker and easier than using a TTY to make the change(s). It might be useful for controlling the Access Restriction levels of telephones at night or at certain times of the day when unauthorized calls might be made.

You can control the use of this capability by limiting the number of people who know the Flexible Feature Code and password.

Control tips

- With software prior to Release 22, a terminal has unrestricted (UNR) access, by default. Check periodically for telephones on your system which have this UNR Class of Service in error. Check Call Detail Records frequently to monitor the types of calls that are going out of your system. Investigate what terminals are making the calls. Look for calls going out on your trunks originated by incoming TIE trunks, Meridian Mail channels, and DISA ports. In this way, you can be sure to program all the restrictions you need and ensure that the calls that are allowed are approved calls only.
- If a telephone is in an open area and all users can use it, consider implementing some form of Access Restriction to control the calls that can be made.

- DISA ports provide outside callers with access to your system. As a result, they can be risky to have on your system from a security point of view. If you have them, they must be assigned a type of Access Restriction which best suits the needs of the incoming callers who are approved to use the port. You must pay serious attention to controlling or blocking unauthorized calls. System administrators often assign a very restricted Access Restriction type to a DISA port to block unauthorized people. They give each approved caller an Authorization Code which overrides the restriction on the port for each call. Authorization Codes appear in Call Detail Records, if this is turned on, and calls are tracked and billed using this data.

Administration tips

- If you are assigning a Class of Service to a TIE trunk, you must investigate the access requirements of the users at the system at the other end of the TIE trunk. You must also decide what controls you want to place on the calls from the incoming TIE trunk as they access the outgoing trunks on your system.

Access Restriction

When you add a new TIE trunk to an existing group of TIE trunks with the Access Restriction programmed properly, use the same Access Restriction type for the new trunk. Not doing this causes one of the most common network-related repair situations, sporadic restriction-related problems for remote users.

- On systems where users will input Authorization Codes to make calls, you can program telephones with restriction types like TLD or an even more restricted level. The Access Restriction type for the call changes to the one assigned to the Authorization Code the user dialed. This is true even if the Authorization Code has a more restricted type than the one assigned to the telephone.
- You can use both Access Restriction and Trunk Group Access Restriction (TGAR) together in the programming of one telephone. These two features control access to toll calls as well as certain specific trunk groups. For example, you might want a user to be denied from all toll calls, therefore you program the Class of Service as TLD. Additionally, you might not want that user to call out on a specific FEX trunk group. Use the TGAR feature to block the user from that trunk group. For further information refer to Task 45, *Trunk Group Access Restriction*.
- Consider setting up policies about assigning certain Access Restrictions to certain types of users.

  For example, management and senior level employees might be suitable for a UNR setting while other staff might have telephones set as TLD.

  If you have BARS or NARS programmed on your site, it is a good idea to assign CTD to all telephones as the Access Restriction type. That way users will have to dial toll calls using BARS or NARS access codes and the NCOS will control what calls they can make.

  When taking over administration of a system, it is important for you to understand the background behind your system design and existing system policies. Discuss the reasoning behind such things as restrictions with people who understand it.

Training tips

- Avoid problems by doing proper training on an ongoing basis.
- Train users on what Overflow Tone sounds like and what it means. Train them to pay attention to the point in the call at which they heard the tone. This can be significant in trouble shooting.

  If a user hears the tone before completing dialing, it usually means they are restricted. Let them know this in training. Let them know what restrictions they will experience. Let them know what to do if the restrictions they experience are different from what they expected, since there might be programming errors.
- Instead of Overflow Tone, you can implement Recorded Announcements (RANs) for Intercept treatments or have calls go to the attendant. This reduces the need for training since the users understand clearly why they are blocked when they hear an announcement or the attendant speaks to them.

  Before doing this, investigate with your attendants whether they can handle the additional calls this will send to them. Tell them what to say to intercepted callers. Tell them your policies on assisting restricted users to make calls. Give them an Incoming Call Indicator key on the console that lights up as an additional reminder when the user is calling them from a restricted telephone.

Access Restriction

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 243
Checklist

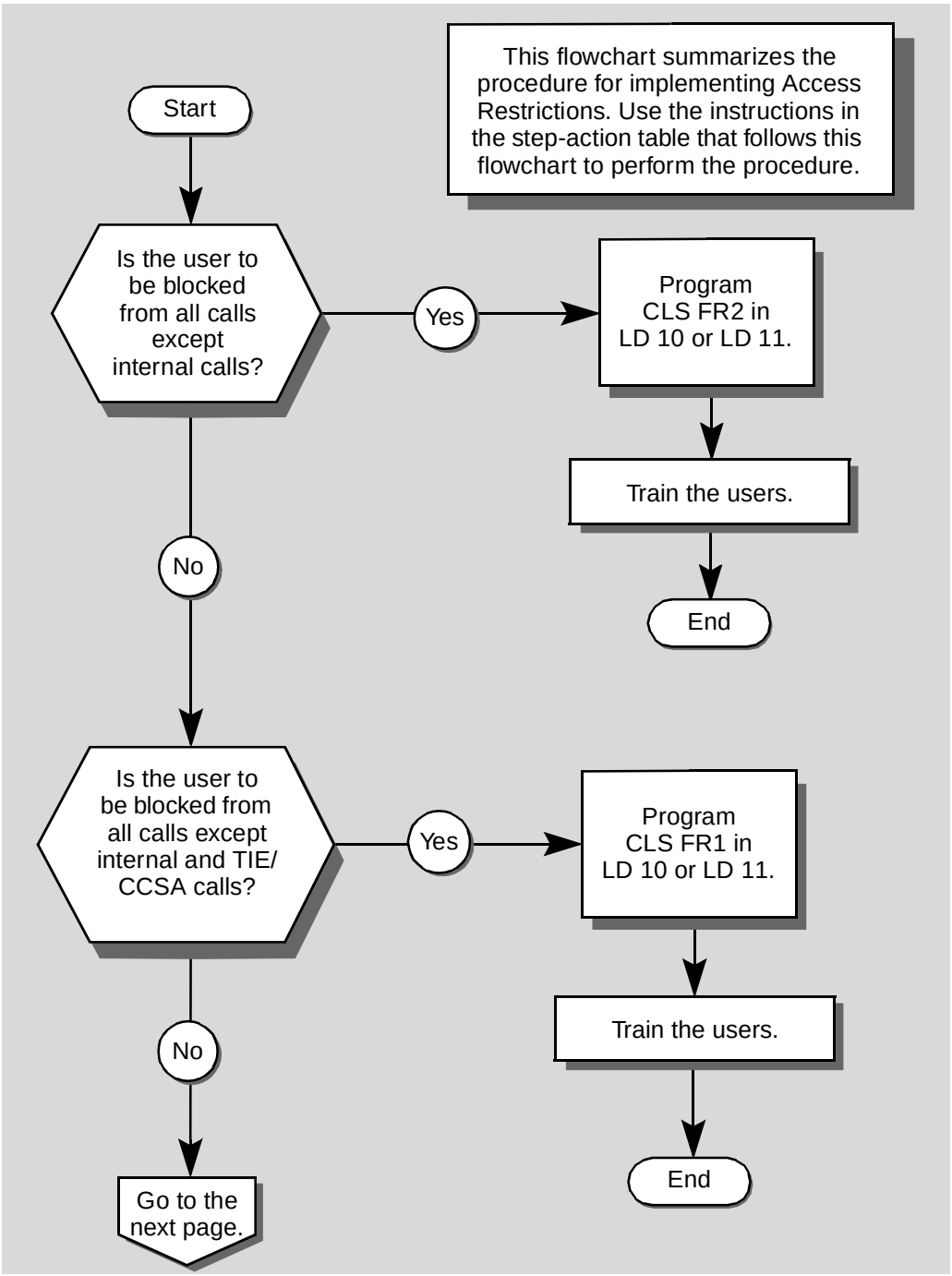
Basic	Optional	Preparation
✔		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✔		Find out what Release of software you are using so you understand what the default type of Access Restriction is.
✔		Find out the user's calling needs by talking to the user or the user's manager.
✔		Find out if you have policies in place for assigning certain types of Access Restrictions to certain (or all) users.
	✔	Find out if there are features in place which will affect the Access Restriction of this telephone or telephone user. Assess the impact of these on what setting you will choose for this telephone.

What's next?

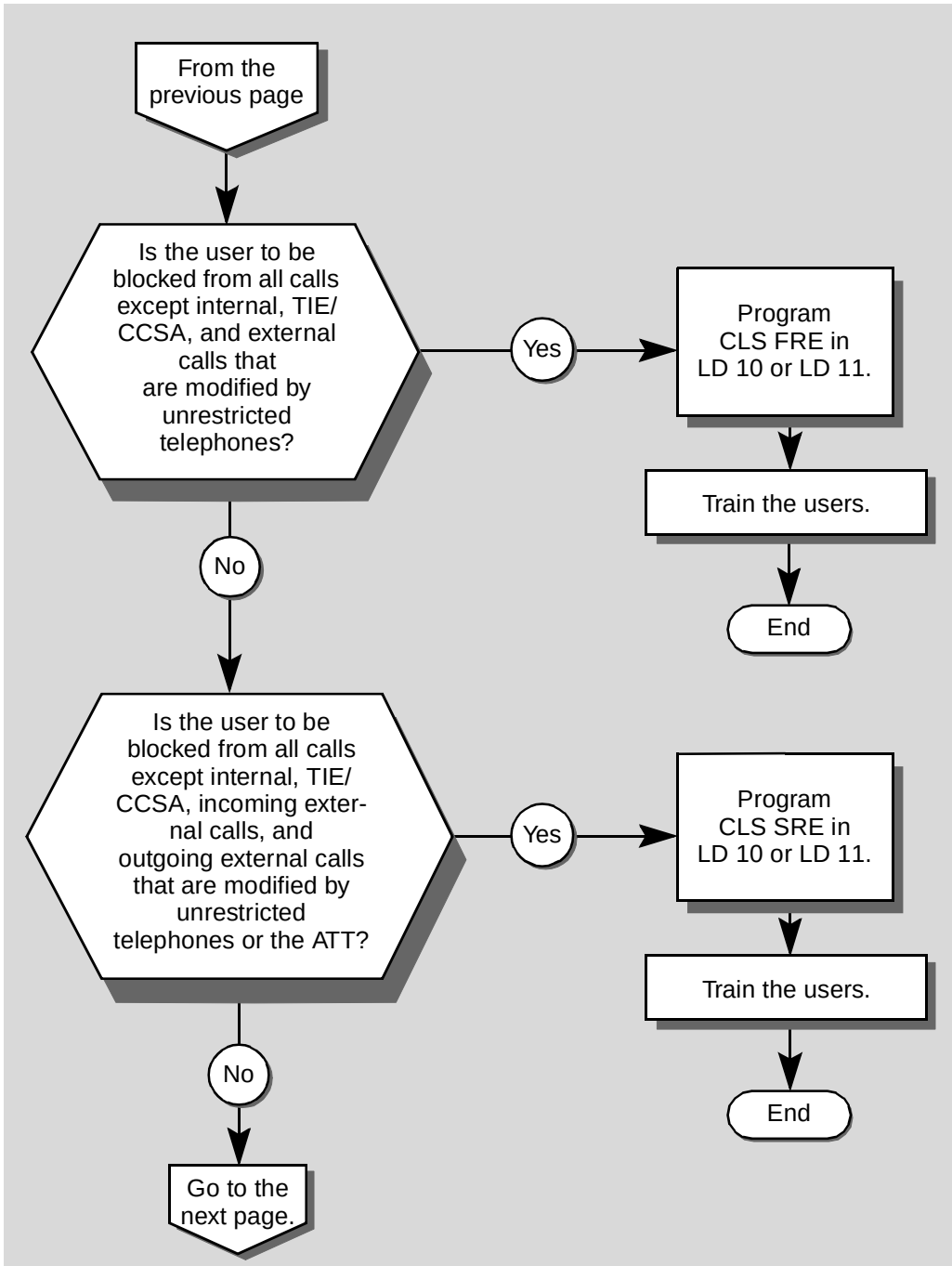
A flowchart follows which summarizes the implementation decisions and procedures.

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

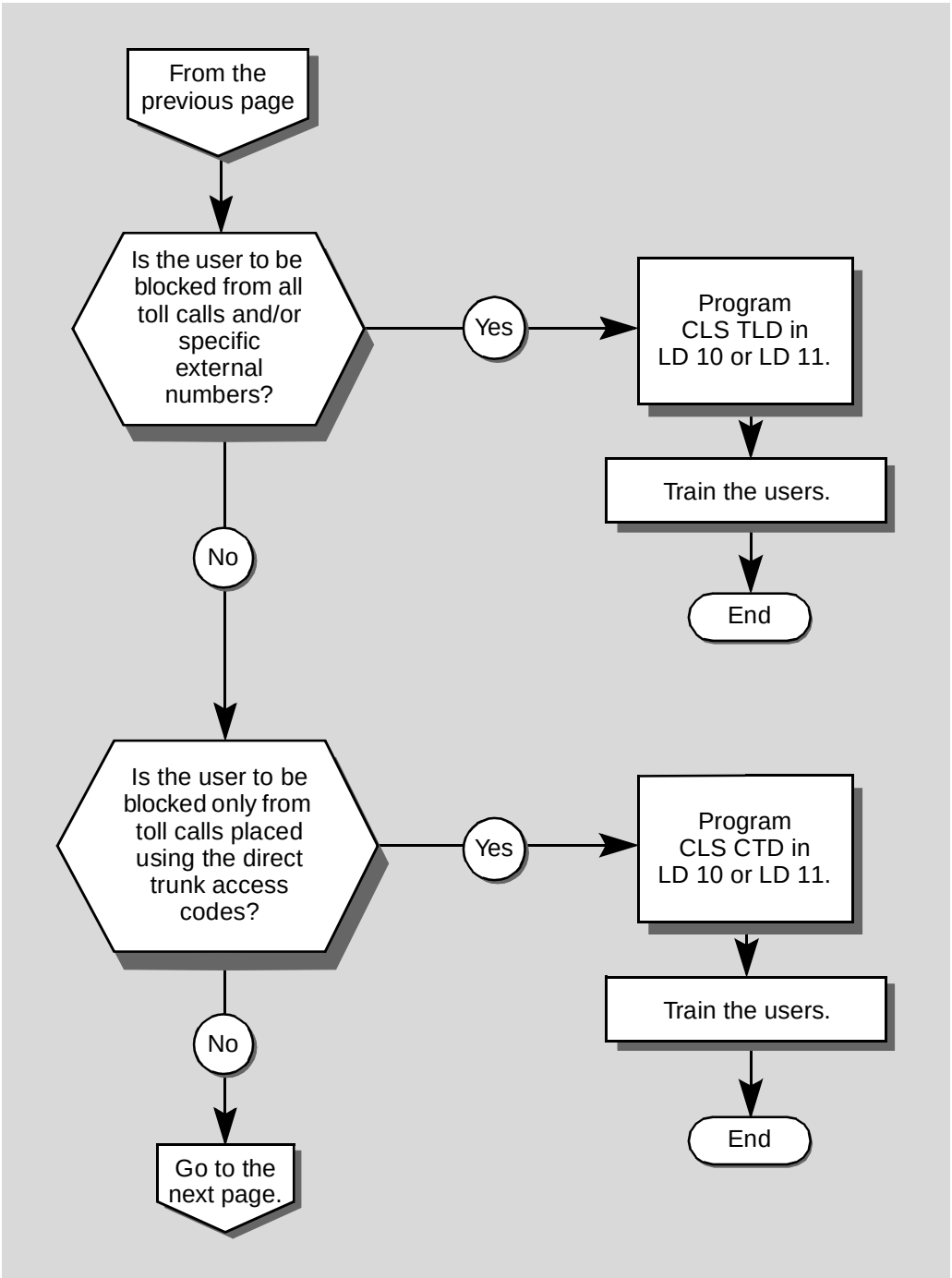
Access Restriction



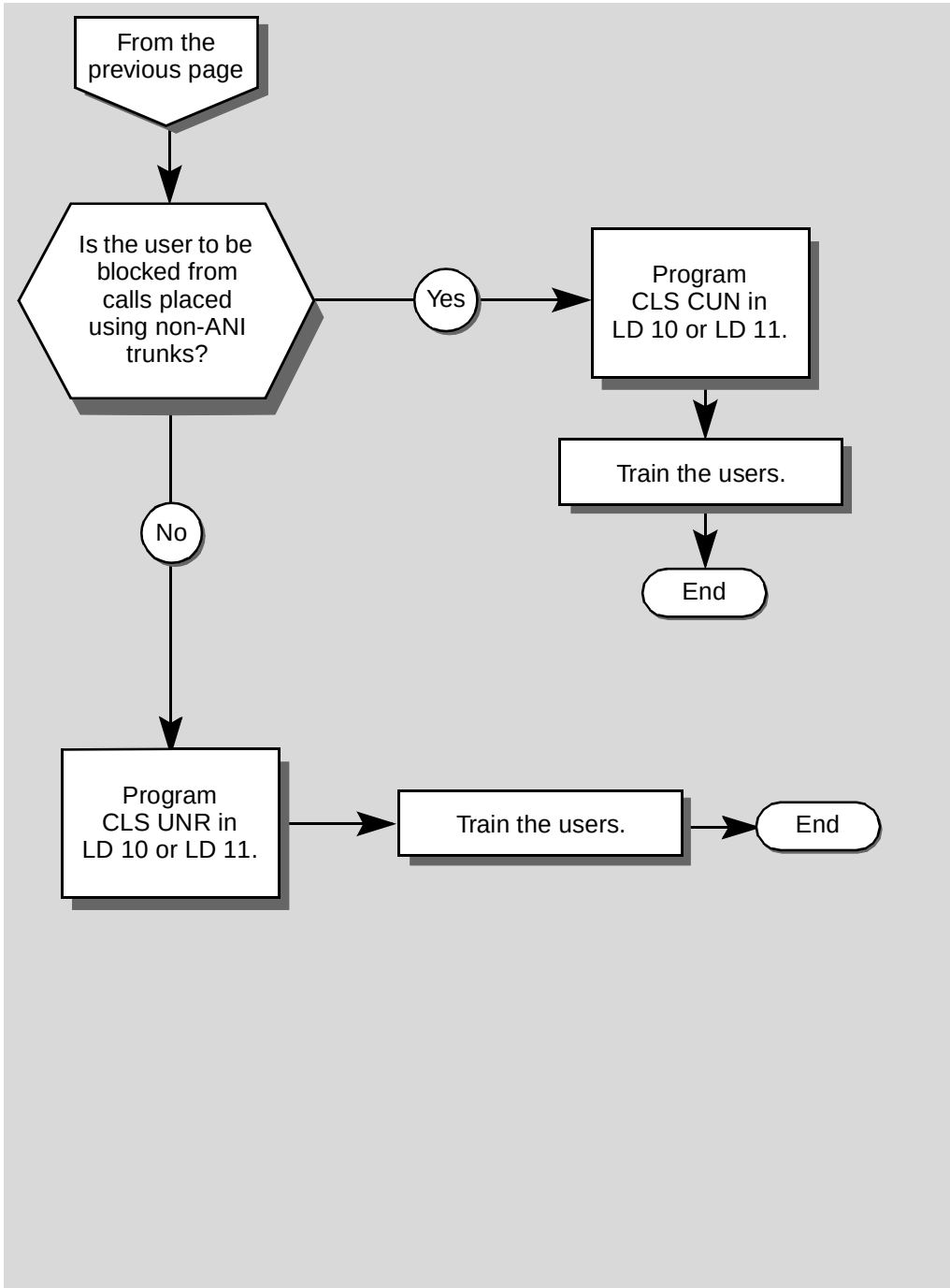
Access Restriction



Access Restriction



Access Restriction



Access Restriction

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Access Restriction feature only.

SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION
1	**Login.**
	For information on proper login procedures, refer to the *Basic programming instructions* module in this book. Check there also for the overlay program to use for the kind of telephone you are programming.
2	**Choose your starting point from the choices below.**

If	Do
new telephone	step 3
change to an existing telephone	step 4

3 **Program the Access Restriction for a new telephone.**

> LD 10 or > LD 11

REQ	NEW	Program a new telephone
TYPE		Input correct type of 500, or digital, or SL-1-type telephone
TN	L S C U	Input the Terminal Number of the telephone (**L**oop number, **S**helf number, **C**ard number, **U**nit number)
program the basics...		Refer to Tasks 1–19 for information.

— continued —

Access Restriction

STEP	ACTION

3 continued ...

carriage return until you see the prompt CLS, input one of the following responses:

CLS	UNR	or <cr>	Unrestricted — default pre-Release 22
	CUN		Conditionally Unrestricted
	CTD		Conditionally Toll Denied – default Release22 and later
	TLD		Toll Denied
	SRE		Semi-Restricted
	FRE		Fully Restricted
	FR1		Fully Restricted 1
	FR2		Fully Restricted 2

Go to step 7.

4 Change the Class of Service of the telephone to a different Access Restriction type.

> LD 10 or > LD 11

REQ	CHG	Program a change on an existing telephone
TYPE		Input correct type of 500, digital, or SL-1-type telephone
TN	L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
ECHG		

— continued —

STEP	ACTION

4 continued ...

If	Do
using “Easy Change “	Input YES and go to step 5.
not using “Easy Change”	Input NO or <cr> and go to step 6.

For more information on “Easy Change,” refer to the *Basic programming instructions* module of this book.

5 Program an “Easy Change” to an existing telephone to change the Access Restriction to a different type.

ITEM CLS

Input one of the following after CLS and a space:

UNR

CUN

CTD

TLD

SRE

FRE

FR1

FR2

Refer to step 3 for the definitions of each one of these types.

Go to step 7

— continued —

Access Restriction

STEP	ACTION
6	**Program a change (not an "Easy Change") to an existing telephone to change the Access Restriction to a different type.**

carriage return until you see the prompt CLS

CLS Input one of the following:

UNR
CUN
CTD
TLD
SRE
FRE
FR1
FR2

Refer to step 3 for the definitions of each one of these types.

Go to step 7.

7	**Finish the overlay program.**

Carriage return until you see one of the following messages:

U.data P.data small systems
or
MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your Service Change has been entered into the memory.

— continued —

STEP	ACTION
8	**Check that the programming which you have just done is correct.**

Place calls from the telephone. Verify that the only calls that are allowed from the telephone are those you want to allow.

If	Do
feature works properly	step 9
feature does not work properly	Refer to the information presented before the step-action table for further information on each Access Restriction type. Go to step 1.

9	**Arrange for a data dump to be performed.**

If	Do
you do not have access to LD 43	Contact your system supplier.
you have access to LD 43	step 10

10	**Perform a data dump to permanently store the programming you have just completed.**

CAUTION
Check your maintenance agreement before working in LD 43.

Refer to the *Basic programming instructions* module in this book or refer to the *X11 input/output guide* for more information on LD 43.

> LD 43

. EDD <cr>

— continued —

Access Restriction

STEP	ACTION
11	**Verify that the dump was successful.**
	TTY response: **NO GO BAD DATA** or **DATA DUMP COMPLETE**

If	Do
data dump fails	Contact your system supplier.
data dump succeeds	step 12

12	**Terminate this overlay program.**
	. ****
13	**Terminate this programming session.**
	Log off. **>** LOGO
14	**You have completed the programming required to add or change the Access Restriction feature on a telephone.**

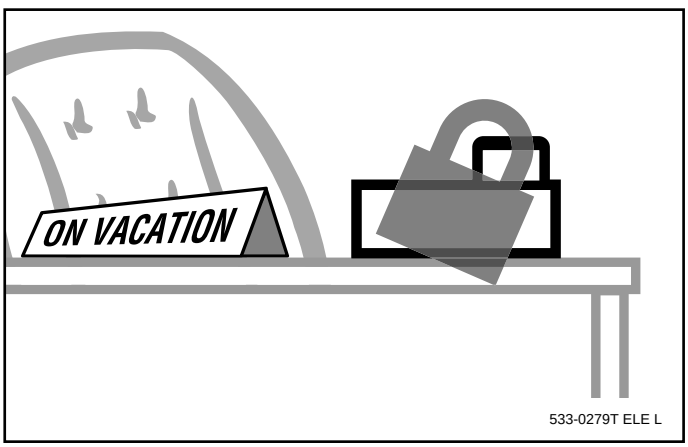
END

Electronic Lock

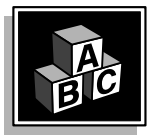
Purpose

This feature allows you to dial digits that change the Access Restrictions level assigned to your telephone.

When you are going to be away from your telephone, you can prevent unauthorized calls by using the Electronic Lock feature. When you return, you can remove the restriction and the telephone returns to its normal capabilities.



Basic feature configuration



This part tells you:

- how the feature has to be set up to make basic feature operation possible
- how a person uses the Electronic Lock feature
- what you need to know to manage interactions with other features

Setting up the feature

Electronic Lock requires software packages called Flexible Feature Codes and Controlled Class of Service to be equipped on your system. You select the telephones that are to have Electronic Lock capabilities, then you use the procedure in this module to program each one.

Table 244
Software requirements

Release required	Software package(s) required
14.46E 15	139 – Flexible Feature Codes(FFC) 81– Controlled Class of Service (CCOS)

If you want further information on Electronic Lock you will find it in the feature description for Flexible Feature Codes in *X11 features and services.*

Customer Data Block

A Controlled Class of Service is used for the Electronic Lock feature and it is assigned on a customer-wide basis.

A telephone becomes “locked” when the Electronic Lock feature is activated. In the locked state, the telephone is assigned a new restriction level called the Controlled Class of Service.

Electronic Lock

Your system supplier can program the customer-wide Class of Service that will be applied to a telephone when Electronic Lock is activated. This is done in the Customer Data Block (LD 15). You can choose any of the Access Restrictions levels for this Electronic Lock Class of Service. The choices are:

- UNR – Unrestricted
- TLD – Toll Denied
- CUN – Conditionally Unrestricted
- CTD – Conditionally Toll Denied
- SRE – Semi-restricted
- FRE – Fully Restricted
- FR1 – Fully Restricted Level 1
- FR2 – Fully Restricted Level 2

Refer to Task 43, *Access Restriction* for further information on the Access Restrictions levels.

If a telephone has a restricted Class of Service, and the Electronic Lock Class of Service is less restricted, use of the Electronic Lock feature can make the telephone less restricted. This is not a common way to use the feature.

It is more common to have telephones programmed with an unrestricted Class of Service for normal calls during business hours and when the telephone is locked, it becomes a new Class of Service such as TLD or FR2. This can control unauthorized calls at night.

Station Control Passwords are necessary when you implement Electronic Lock. The user must dial the password assigned to the telephone before it can be locked. This provides extra security for the user.

The length of the passwords must be consistent for the entire customer group. The length is defined in the Customer Data Block. The length can be from one to eight digits.

Electronic Lock

If the length is defined as zero, then the Electronic Lock feature will not work.

There is more information on Station Control Passwords in the *Basic programming instructions* module.

Flexible Feature Codes

Flexible Feature Codes are programmed in LD 57. You can choose the feature access code you want for Electronic Lock activation and another code for Electronic Lock deactivation. Your system supplier can program the codes for you if you do not have access to this overlay program.

The codes can be up to seven digits long if you have the DN Expansion software package on your system. Otherwise the limit is four digits. There is more information on Flexible Feature Codes in the *You should know this* module of this book.

A confirmation tone can be activated in LD 57. The tone helps a user to know when the features have been performed correctly. The tone sounds after the feature is activated and also after the feature is deactivated.

Telephone programming

Each telephone must have:

- Controlled Class of Service allowed (CCSA) in the Class of Service
- a Station Control Password that is the same length as that specified in the Customer Data Block

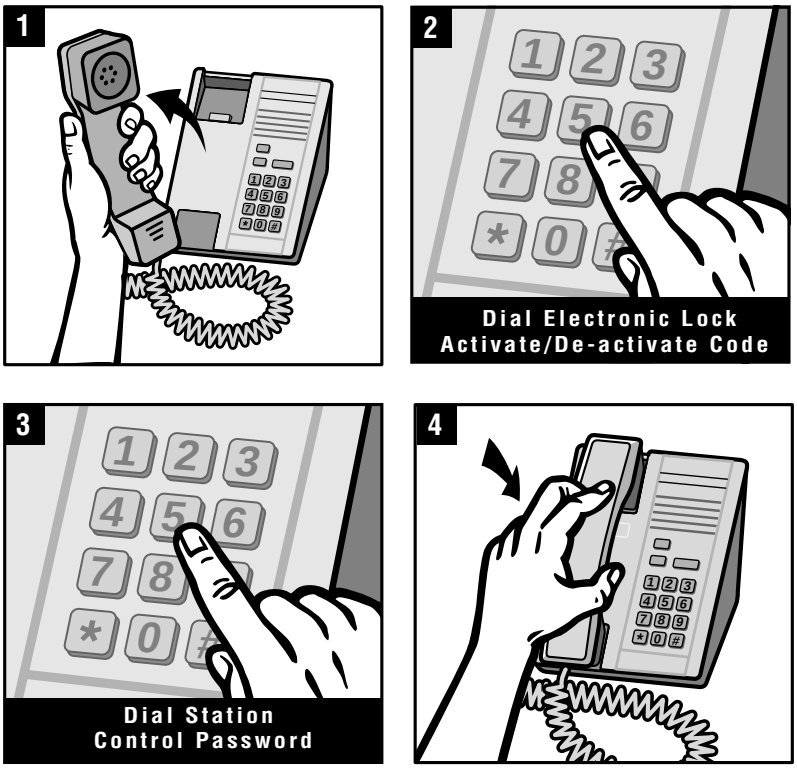
When this programming has been done, the user can dial the FFC for Electronic Lock activation followed by the Station Control Password. The Access Restrictions level of the telephone changes to whatever is defined in LD 15 for Electronic Lock.

If a user wants to change the Access Restrictions level assigned to a remote telephone, the user must dial the FFC, followed by the password of the remote telephone. The telephone being used does not need CCSA in the Class of Service, nor does it need a Station Control Password to be able to do this.

Using the feature

Any type of telephone

Activating and deactivating Electronic Lock

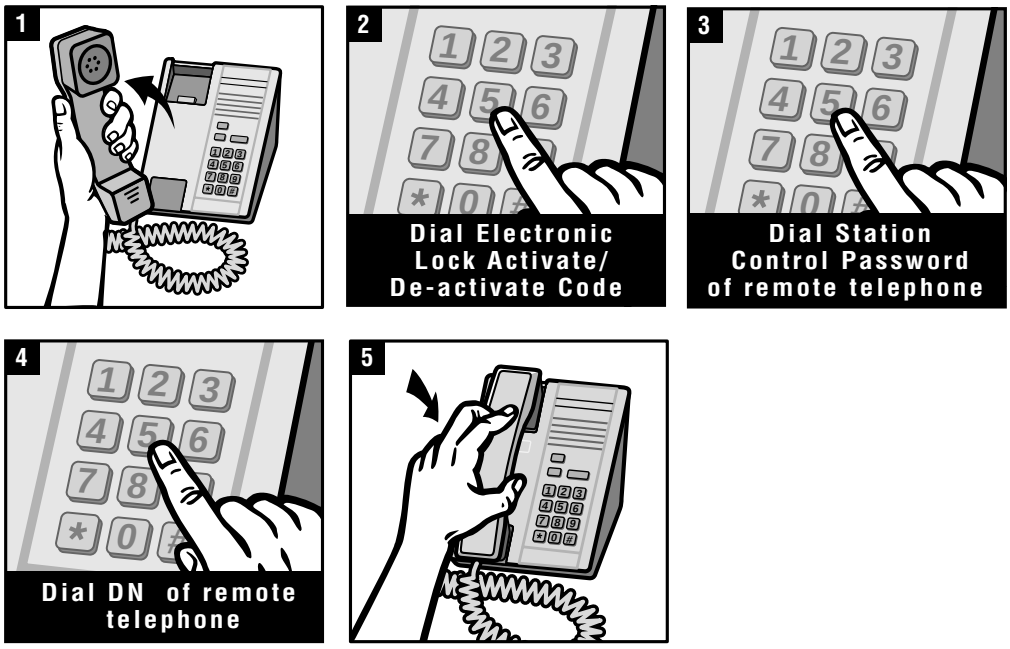


553-0280T ELE L

Electronic Lock

Using the feature

Remote activation and deactivation



553-0271T ELE L

Interactions with other features

Electronic Lock works with, affects, or is affected by, several other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services.*

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems. Proper training can reduce the number of repair calls of this nature.

Remote Call Forward interacts with Electronic Lock

The Station Control Password is also required when a user wants to use the Remote Call Forward feature. Flexible Feature Codes software introduced the Electronic Lock and Remote Call Forward

features. They are both password-protected features. If there is a password length of zero set in the Customer Data Block, users cannot access these two features.

Controlled Class of Service interacts with Electronic Lock

Controlled Class of Service is a feature that a user can activate using a key. It allows a user to change the Class of Service of another telephone to one of three levels. These three Access Restriction levels are programmed in LD 15. One of the levels used is the same as the one used in the Electronic Lock feature. The interactions are as follows:

- If a telephone has Electronic Lock and Controlled Class of Service activated at the same time, the system applies the Electronic Lock Class of Service to the telephone.
- If a telephone has Electronic Lock deactivated, but Controlled Class of Service is active, the Access Restriction level applied to the telephone is the one chosen by whomever activated the Controlled Class of Service feature.
- If the Electronic Lock and Controlled Class of Service features are deactivated, the telephone has the Access Restriction level programmed for it in LD 10 or LD 11.

Improving feature performance

The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Electronic Lock

Electronic Lock Network Wide/Electronic Lock on Private Lines

The network-wide version of the feature can be used to change another kind of restriction associated with telephones, the Network Class of Service (NCOS). This form of restriction is used with ESN and ISDN networks.

Table 245
Software requirements

Release required	Software package(s) required
21	139 – Flexible Feature Codes(FFC) 81 – Controlled Class of Service (CCOS) 145 – Integrated Services Digital Network (ISDN)

You activate this feature in a similar way to the remote use of the Electronic Lock feature. The difference is that instead of dialing a DN for a telephone on the same system you must dial the remote DN according to the network dialing plan.

The Station Control Passwords must be the same length at all network systems if you intend to allow the use of this feature network wide.

Private Lines, are not normally affected by Electronic Lock.When you install this feature, the Access Restrictions level associated with a Private Line DN on a telephone is changed when the user activates Electronic Lock. With the Release 21 capability, when the telephone is “locked”, outgoing calls on the Private Line DNs are affected by the Electronic Lock Controlled Class of Service. The Private Line aspect of this feature is enabled or disabled on a customer-wide basis.

Control tips

- Users can change Station Control Passwords using their telephones. The new passwords print out when you print TN Blocks for the telephones.
- Train users to change their passwords at regular intervals. If Electronic Lock or Remote Call Forward are being activated by unauthorized people, change the passwords.
- Check your CDR records to find out what telephones should be locked using this feature. Ask users if they have reasons to suspect that they need the feature.
- Once you make users responsible for the calls that are made from a telephone, you will find they become dedicated users of the Electronic Lock feature.
- Do not display instructions for unlocking a telephone in obvious places. This defeats the purpose of this feature.
- Ask your system supplier if there are any legal constraints on what you choose for the Electronic Lock Class of Service. In some areas of the world, it is a legal requirement that during an emergency, a user must be able to use any telephone to call an emergency number. Be careful not to restrict users excessively.

Administration tips

- When Electronic Lock is active at a particular telephone and you request a TNB printout of the telephone data, the TNB printout does not show the Electronic Lock Class of Service. It shows the originally programmed Access Restrictions level.

  If a user cannot make calls and you suspect that the telephone is locked, unlock it using the procedure shown earlier in this module. Try making calls again to see if this corrected the problem.
- You will probably want to keep all of your Flexible Feature Codes short to make it easier for the users.

Electronic Lock

Training tips

- Users who will be locking and unlocking other telephones must be trained on the passwords of the other telephones. Train other users as well, in case the person who locked a telephone is absent when the telephone must be unlocked.
- Train users on changing Station Control Passwords.
- Instruct users who are having problems making calls to unlock their telephones before reporting repair problems.

What to have ready

The following checklist summarizes the steps you should take before implementing the basic Electronic Lock feature and/or the optional related features associated with the basic feature.

Table 246
Checklist

Basic	Optional	Preparation
✔		Check CDR records for evidence of calls that you want to prevent.
✔		Ask users if they are aware of unauthorized calls being made from their telephones.
✔		Decide which telephones you want to be able to lock.
✔		Decide what customer-wide Class of Service is appropriate for locked telephones.
✔		Decide what length you want the passwords to be.
✔		Decide what Electronic Lock activate and deactivate Flexible Feature Codes you want to assign.
✔		Decide if you want to implement confirmation tone.

— continued —

Table 246
Checklist (Continued)

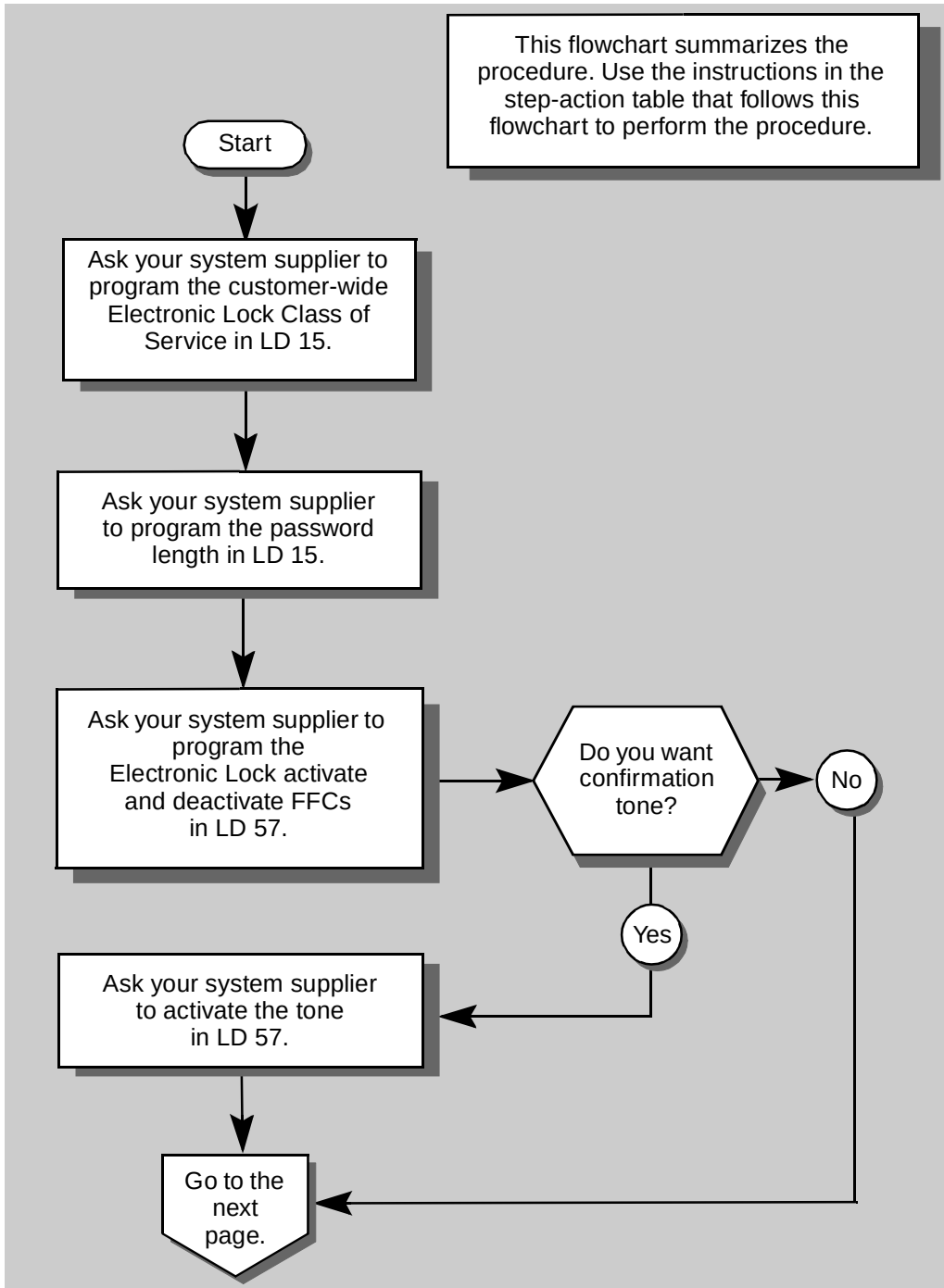
Basic	Optional	Preparation
✔		Assign passwords to the telephones: ◆ Choose passwords you want. Show users how to change them. ◆ Choose passwords they want. Show users how to change them.
✔		Prepare to train users on activating and deactivating the feature at their own telephones and at remote telephones.

What's next?

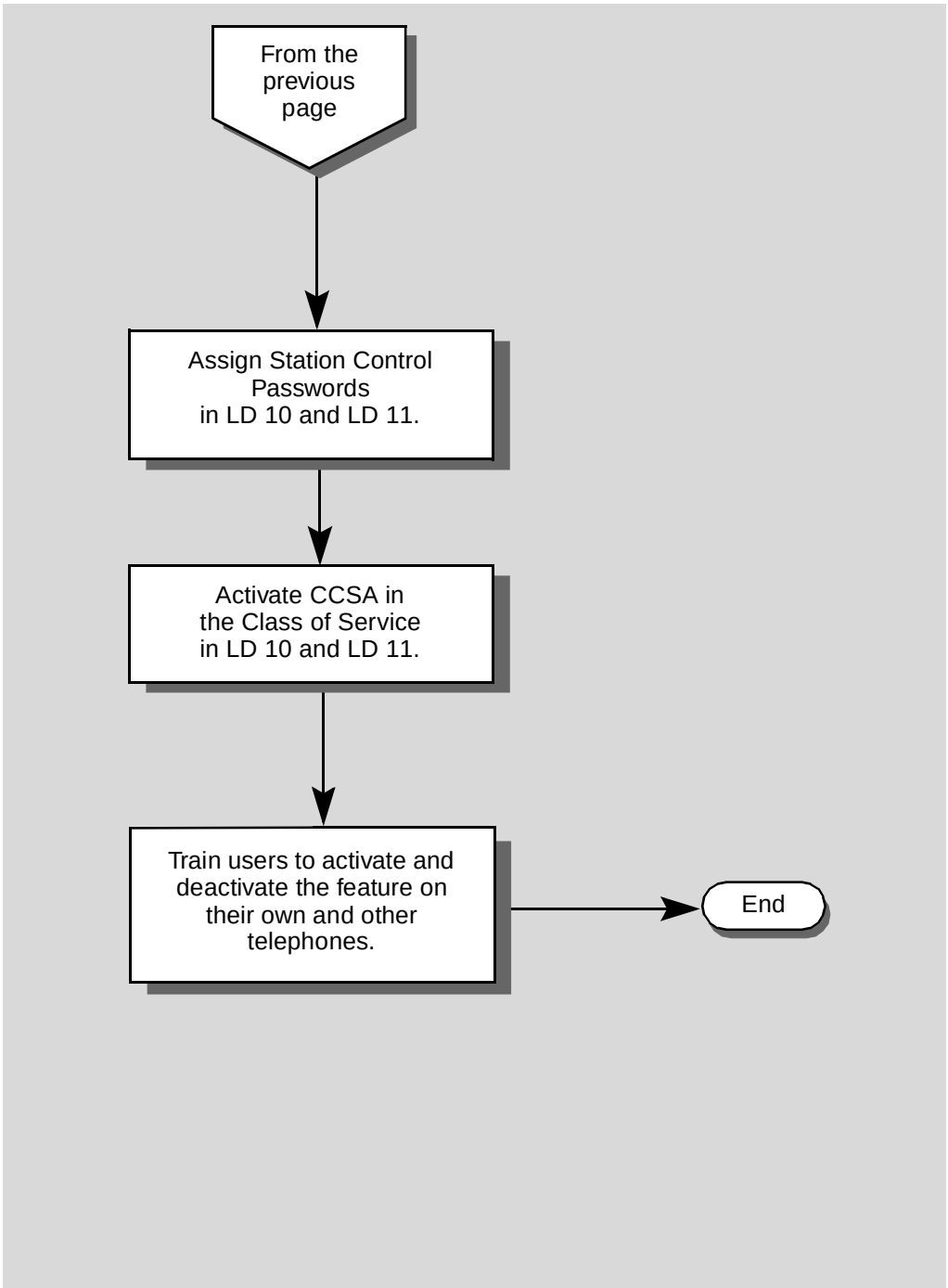
A flowchart follows which summarizes the implementation decisions and procedures for Electronic Lock.

A step-action table follows the flowchart. Use it to do the programming steps necessary to implement this feature.

Electronic Lock



Electronic Lock



Electronic Lock

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Electronic Lock feature only.

SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION
1	**Ensure that the pre-requisite customer-wide programming has been done.**
	Discuss with your system supplier what programming they will do and what your maintenance agreement permits you to do. The following items must be programmed before you proceed: ◆ Electronic Lock Controlled Class of Service (CCRS) in LD 15 ◆ Station Control Password length (SCPL) in LD 15 ◆ Flexible Feature Codes for Electronic Lock activate, deactivate (ELKA, ELKD) in LD 57 ◆ optionally - Flexible Feature Code confirmation tone in LD 57
2	**Log in.**
	For information on proper login procedures, see *Basic programming instructions* in this book.
3	**Choose your starting point from the choices below.**

If	Do
you are programming a new telephone	step 4
you are changing an existing telephone	step 5

— continued —

STEP	ACTION

4 Add Electronic Lock capability to a new telephone.

If		Do
dial or Digitone-type telephone		Use > LD 10 to program.
digital or SL-1-type telephone		Use > LD 11 to program.
REQ	NEW	Program a new telephone
TYPE		Input the correct type of telephone
TN	L S C U	Input the Terminal Number of the telephone (**L**oop number, **S**helf number, **C**ard number, **U**nit number)
program the basics.....		Refer to Tasks 1 – 19 for information.
carriage return until you see the prompt SCPW		
SCPW	X..X	Input the user's password X..X represents the one to eight digit password The length must agree with the choice for length pre-programmed in LD 15.
carriage return until you see the prompt CLS		
CLS	CCSA	Controlled Class of Service allowed

Go to step 14.

— continued —

Electronic Lock

STEP	ACTION
5	**Program a change to the Electronic Lock feature on an existing telephone.**
	> LD 10 — for dial or Digitone-type telephones
	> LD 11 — for digital or SL-1-type telephones
	REQ CHG — Program a change to an existing telephone
	TYPE — Input the correct type of telephone
	TN L S C U — Input the Terminal Number of the telephone (**L**oop number, **S**helf number, **C**ard number, **U**nit number)
	ECHG

If	Do
you want to use "Easy change"	Input YES and go to step 6.
you do not want to use "Easy change"	Input NO and go to step 10.

For more information on "Easy change," go to the *Basic programming instructions* section of this book.

6	**Select the proper programming step from the choices below.**

If	Do
you are changing to Electronic Lock allowed	step 7
you are changing the Station Control Password	step 8
you changing to Electronic Lock denied	step 9

— continued —

STEP	ACTION	
7	**Program an "Easy Change" to an existing telephone to allow the Electronic Lock feature.**	
	ITEM SCPW X..X	Input the Station Control Password X..X represents the one to eight digit password The length must agree with the choice for length pre-programmed in LD 15.
	ITEM CLS CCSA	Controlled Class of Service allowed
	Go to step 14.	
8	**Program an "Easy Change" to an existing telephone to change the Station Control Password.**	
	ITEM SCPW X..X	Input the new Station Control Password X..X represents the new one to eight digit password The length must agree with the choice for length pre-programmed in LD 15.
	Go to step 14.	***Note:*** The user can change the password from the telephone, if you have a Flexible Feature Code programmed for that capability.
9	**Program an "Easy Change"to an existing telephone to deny the Electronic Lock feature.**	
	ITEM CLS CCSD	Controlled Class of Service denied
	Go to step 14.	

— continued —

Electronic Lock

STEP	ACTION
10	**Select the proper programming step from the choices below.**

If	Do
you are changing to Electronic Lock allowed	step 7
you are changing the Station Control Password	step 12
you changing to Electronic Lock denied	step 13

11 Program a change, not an "Easy Change" to an existing telephone to allow the Electronic Lock feature.

carriage return until you see the prompt SCPW

SCPW	X..X	Input the Station Control Password X..X represents the one to eight digit password The length must agree with the choice for length pre-programmed in LD 15.

carriage return until you see the prompt CLS

CLS	CCSA	Controlled Class of Service allowed

Go to step 14.

— continued —

STEP	ACTION
12	**Program a change, not an "Easy Change" to an existing telephone to change the Station Control Password.**
	carriage return until you see the prompt SCPW
	SCPW X..X — Input the new Station Control Password X..X represents the new one to eight digit password The length must agree with the choice for length pre-programmed in LD 15. ***Note:*** The user can change the password from the telephone, if you have a Flexible Feature Code programmed for that capability.
	Go to step 14.
13	**Program a change, not an "Easy Change"to an existing telephone to deny the Electronic Lock feature.**
	carriage return until you see the prompt CLS
	CLS CCSD — Controlled Class of Service denied
	Go to step 14.
14	**Finish the overlay program.**
	Carriage return until you see one of the following messages: **U.data P.data** small systems or **MEM AVAIL: (U/P) USED:TOT:** large systems
	When one of these messages appears, your programming has been entered into the memory.
	Go to step 15.

— continued —

Electronic Lock

STEP	ACTION
15	**Check that the programming which you have just done is correct.**

Refer to the *Using the feature* part of this module for information on how to operate Electronic Lock.

If	Do
the feature operates as you expect	step 16
the feature does not operate as you expect	step 1

16	**Arrange for a data dump to be performed.**

If	Do
you do not have access to LD 43	Contact your system supplier.
you have access to LD 43	step 17

17	**Perform a data dump to permanently store the programming you have just completed.**

CAUTION
Check your maintenance agreement before working in LD 43.

See the *Basic programming instructions* module of this book or refer to the *X11 input/output guide* for more information on LD 43.

```
> LD 43

. EDD <cr>
```

— continued —

STEP	ACTION
18	**Verify that the data dump was successful.**

TTY response:

NO GO BAD DATA

or

DATA DUMP COMPLETE

If	Do
data dump fails	Contact your system supplier.
data dump succeeds	step 19

19	**Terminate this overlay program.**

. ****

20	**Terminate this programming session.**

Log off.

> LOGO

21	**You have completed the programming required to add or change the Electronic Lock feature on a telephone.**

END

Electronic Lock

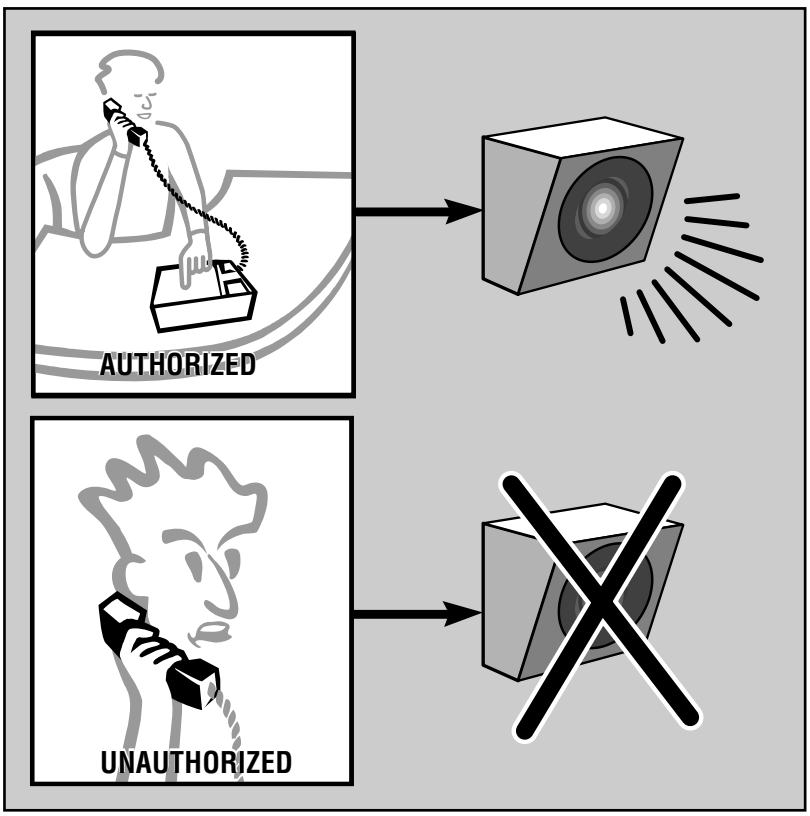
Trunk Group Access Restriction

Purpose

Use this feature to prevent users from placing calls on a particular trunk group.

You may want to do this for one or more of the following reasons:

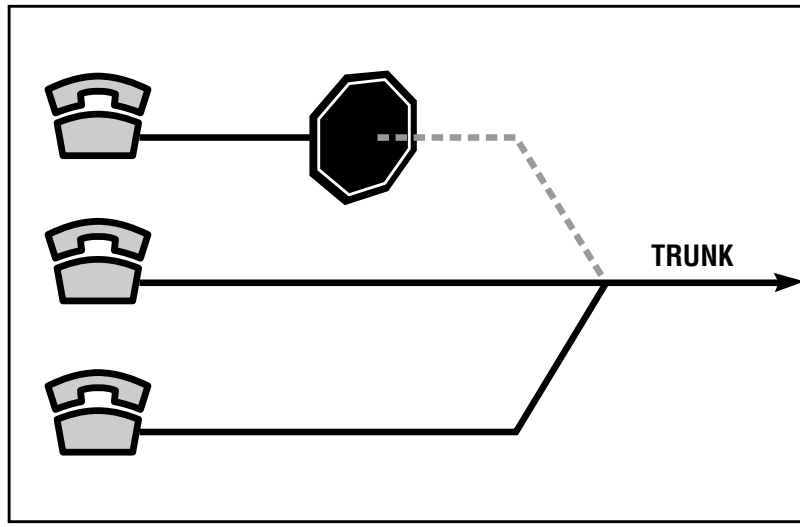
- to restrict users from accessing the paging trunks so that select people, such as the attendant, are the only ones who can page.



553-0109T TGAR

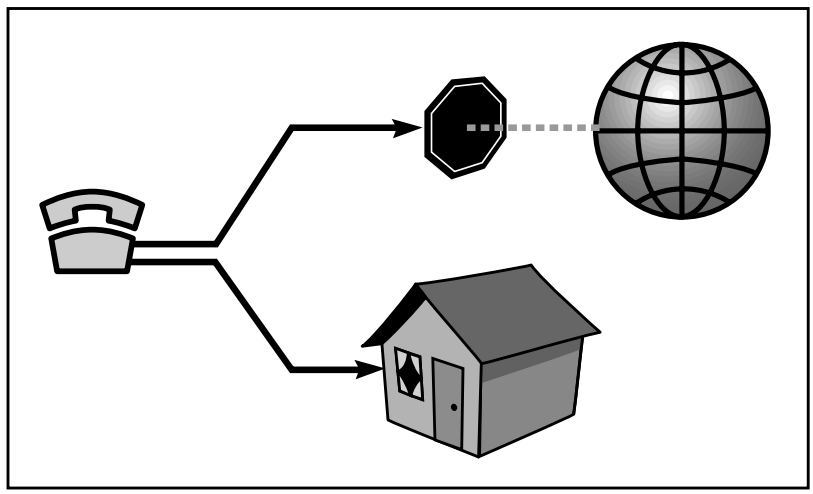
Trunk Group Access Restriction

- to ensure that employees who do not need to use certain trunks for their jobs, will not use up the available trunks and block other employees who require the use of those trunks.



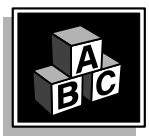
553-0110T TGAR

- to lower long distance costs by permitting employees to access only the trunks they need.



553-0111T TGAR

Basic feature configuration



This part tells you:

- how the feature has to be set up to make basic feature operation possible
- what happens when the feature is enabled
- what you need to know to manage interactions with other features

Accessing trunk groups

When users wish to make a call on a trunk, they begin by dialing the access code assigned to the trunk group. Then they dial any other digits required for the call. A direct trunk access code is the access code assigned to the trunk group in overlay program 16 (the Route Data Block). Your system supplier takes care of this when the trunk groups are installed. There should be a record of all trunk group access codes included in your system Numbering Plan summary.

Example:

The direct trunk access code for a TIE trunk group might be “82” and the access code to the Central Office or local exchange trunk group might be “9.”

- To place a call to a user on another system connected to your system with TIE trunks, a user would dial 82 plus the digits in the other user’s DN.
- To place an external non-toll call on a local exchange trunk in North America, a user would dial the access code 9 followed by seven more digits.

Setting up the feature

The ability to implement the TGAR capability comes with the communication system, but the telephones do not come programmed with restrictions. You select the telephones that are to have restrictions assigned, then you use the procedure in this module to program each one.

Trunk Group Access Restriction

When a call is to be handled by a trunk, the system allows or denies the call based on the restrictions programmed for the user's telephone.

One method of restricting a user's telephone is by using the Trunk Group Access Restriction feature.

The common term for the Trunk Group Access Restriction feature is TGAR. Information about this feature is part of the Access Restrictions section in *X11 features and services.*

How does TGAR work?

TGAR restriction works in the following way:

- The user dials a trunk group access code to make an external call.
- The system looks at the Class of Service of the telephone. The call may be denied at this point due to Access Restriction.
- If the call is allowed, the system looks at the programming of the trunk group with the access code dialed. The Trunk Access Restriction Group (TARG) programming for the route contains a list of the TGAR codes that are to be blocked.
- The call is blocked if the TGAR code assigned to the calling telephone matches one of the codes listed for TARG on the route.

Trunk groups include:

- Exchange network (Central Office, Foreign Exchange)
- Private network (TIE and CCSA)
- Paging
- Dictation

For example, if a user dials access code "82" from a telephone with TGAR 3, the system looks at the TARG codes assigned to the trunk group with access code 82.

If the TARG codes found are 2, 3 and 17, then the user's TGAR code 3 matches one of the TARG codes programmed on the trunk group. In this case, the user is restricted from using the trunk group.

Trunk Group Access Restriction

A suggested method for deciding what codes to assign to telephones is included in the *Administration tips* part of this Task module.

TGAR code range

A telephone that is assigned TGAR 0 is not blocked from any trunk groups. You can assign TGAR codes 1 – 31 to telephones to restrict them from individual trunk groups. (Prior to Release 13, the range was 1 – 15). Codes higher than 8 have a special way of operating. Refer to the *Interactions with other features* section on Attendant Trunk Group Busy keys for further information on the impact of the numbers.

Default TGAR and TARG

Prior to Release 22, the default TGAR assigned to a telephone is 0. There is no default TARG assigned to a route.

With Release 22 and later, the default TGAR is 1. The default TARG on a route is 1. This means that telephones are blocked from direct trunk access by default. This provides additional security.

- If you have Basic Automatic Route Selection (BARS) or Network Alternate Route Selection (NARS) installed, the users are not supposed to dial toll calls using direct trunk access codes anyway. They are supposed to use the BARS or NARS access codes instead. The default TARG and TGAR settings will not affect their ability to make toll calls using BARS or NARS. There is more information on this later in this section. However, if local calls are to be placed using a direct trunk access code (such as 9), then remove the TARG code 1 from the Central Office Trunk route. Do this right away at installation or users will not be able to reach local emergency numbers such as 911.
- If you do not have BARS or NARS installed, you must plan what TGAR and TARG codes work best for your restriction needs and do the programming changes required.

Trunk Group Access Restriction

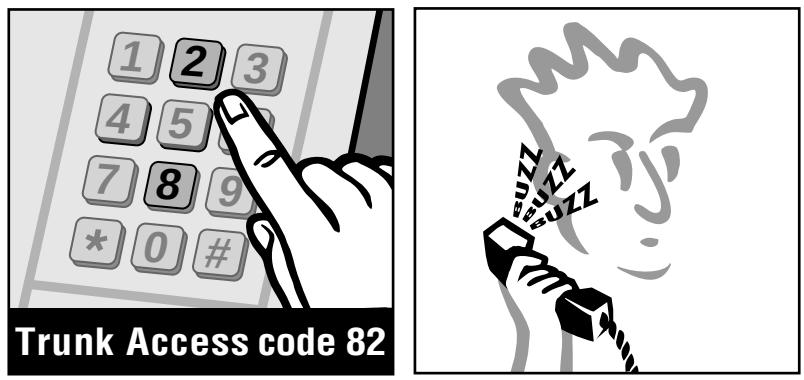
User intercept because of TGAR and TARG

Call which are blocked are intercepted by the system. The intercept treatment which a blocked call receives is defined in the Customer Data Block, overlay program 15. The choice is one of the following:

- give the caller overflow tone
- send the call to the attendant
- give the caller a recorded announcement

The default intercept treatment for TGAR restriction is overflow tone.

The illustration below shows a user intercepting because of a TGAR restriction.



553-0112T TGAR

Using the feature

Any telephone

The information you require is in the previous parts of this module.

Interactions with other features

Trunk Group Access Restriction works with, affects, or is affected by several other features that are basic to the system. Listed below are the features contained in this guide that interact with Trunk Group Access Restriction. For information on other feature interactions, please refer to *X11 features and services.*

Data terminals interact with TGAR

TGAR codes may be assigned to telephones and their associated data terminals, in order to restrict the data calls which can be made from the terminal.

Trunks interact with TGAR

Trunks handling incoming calls can be assigned a TGAR code to restrict any caller using that trunk from accessing certain outgoing trunks. Refer to *Control tips* later in this module for further information. Your system supplier can program the proper TGAR code for each incoming trunk.

Direct Inward System Access (DISA) trunks interact with TGAR

Direct Inward System Access (DISA) trunks handle calls from users when they are placing business calls from outside the system. The user places a call into the system on one of the DISA trunks and then dials an outgoing call on one of the system's trunks. Each trunk programmed as a DISA trunk can have a TGAR assigned. Refer to the *Control tips* later in this module for further information.

Access restrictions interact with TGAR

The system looks first at the access-restriction type assigned in the Class of Service when a call is made. For more information on access-restriction types refer to Task 43, *Access Restriction.*

Example 1:

If a telephone has an access-restriction type of Fully Restricted Type 2 (FR2) assigned in its Class of Service, the system will not allow it to be used for any external calls on TIE trunks or Common Channel Switching Arrangement (CCSA) trunks, or exchange network trunks, regardless of the TGAR assigned to it.

Example 2:

You can assign a TGAR code to a telephone with a toll denied (TLD) Class of Service. The TGAR restricts the telephone user from particular trunk groups when non-toll calls are being made.

Trunk Group Access Restriction

Attendant Trunk Group Busy keys interact with TGAR

Pressing a Trunk Group Busy (TGB) key on the attendant console restricts telephones or incoming trunks with TGAR codes 0-7 from accessing that trunk group. The indicator light beside the key will be steadily lit if the key has been pressed. Callers attempting to access the trunk group will be intercepted to the attendant during the time the TGB key has a steady light.

Telephones or incoming trunks with TGAR codes 8-31 (8-15 with software prior to Release 13) are unaffected by the fact that the TGB key has been pressed. They continue to have access to the trunk group. Assign these codes to telephones for users who require access to trunks at all times, such as technicians, security officers, senior managers and executives, for example.

Improving feature performance

The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

In addition to the basic telephones and trunks which can be restricted using TGAR, the following optional software features can also interact with TGAR.

Authorization codes

Authorization codes may be implemented as an optional software capability. There is Basic Authorization Code (BAUT) and Network Authorization Code (NAUT) software. Users may override the restrictions assigned to a telephone or trunk by inputting an authorization code when they make a call. The TGAR assigned to the code overrides the TGAR assigned to the telephone or trunk. The code also has Class of Service and Network Class of Service restrictions which take over as well. For further information on Authorization Code operation refer to the BAUT/NAUT section of the *Networking Guide*.

Trunk Group Access Restriction

Scheduled Access Restrictions

Telephones and trunks may be assigned to Scheduled Access Restriction (SAR) groups. Optional software is required to implement this capability. Each SAR group has time periods when it is in effect. When it is in effect, the group has a specified TGAR, Class of Service and Network Class of Service assigned. SAR parameters override the normal parameters programmed for the telephone or trunk.

NARS, BARS and CDP

Systems equipped with Network Alternate Route Selection (NARS), Basic Automatic Route Selection (BARS) or Coordinated Dialing Plan (CDP) allow users to place calls on trunks by dialing routing software codes which are not direct trunk access codes. (These routing software codes are called AC1 with BARS, AC1 and AC2 with NARS, and steering codes with CDP). These software packages, if properly programmed, allow a series of route choices to be scanned in a predetermined sequence when calls are made, making the most efficient use of the trunking at a site.

With routing software, the Class of Service and Network Class of Service (NCOS) of the telephone normally determine trunk group access. The TGAR assigned to the calling device is normally ignored, if users make their calls using the routing software access codes.

Optionally, it is possible to activate TGAR so you have the Class of Service, NCOS and TGAR of the calling device determine trunk group access when routing software access codes are dialed. This was primarily designed for systems where two companies share trunk groups. If that is not your application, you should avoid using TGAR this way because you would have to leave routes with no TARG codes so users can access them for alternate routing toll calls. As a result, you no longer have the security of preventing bypass.

Refer to the *Control tips* section for important information on how to prevent users from bypassing BARS, NARS and CDP routing with effective implementation of the TGAR capability.

For more information on NARS or BARS or CDP, refer to the *Networking Guide*.

Trunk Group Access Restriction

Control tips

TIE trunks

Users can dial out on TIE trunks that go to another system and from there call out on trunks on that other system. On networks without ISDN signaling implemented, the caller's identity is not sent from one system to another on the TIE trunk. It is difficult to identify the callers and send a bill to the users who made the calls.

Telecom Managers of both systems must decide what restrictions to assign to the TIE trunks. Incoming callers on these trunks can be controlled using TGAR as a way to prevent unauthorized calls.

When a TGAR is assigned to a TIE trunk, incoming callers using it are blocked from any outgoing trunk groups that have a matching TARG.

Users can access restricted trunks

When blocked from a trunk group because of TGAR, a user may still make a call on that trunk group with the assistance of the attendant or an unrestricted telephone user. The attendant or the other user can use the transfer feature to connect the blocked user to the trunk.

Make sure that you:

- tell users and attendants what your policies are regarding transferring users to outside trunks
- check CDR records frequently to monitor for unauthorized access to trunks

Direct Inward System Access (DISA)

DISA service allows employees to place calls into the system from an outside location and use the office trunks as if they are working at their desk. Calls can be controlled by assigning a TGAR code to the DISA port. The TGAR code blocks calls to trunks with matching TARG codes.

Trunk Group Access Restriction

Unfortunately, non-authorized people sometimes find out the number assigned to the DISA service trunks and try to use the service as well. This can block your outgoing trunks with additional calls and if they are toll calls this can increase your long distance bills dramatically. Therefore, assigning a TGAR code to the DISA trunks and TARG codes to the trunk groups used for outgoing calls is recommended any time DISA service is implemented.

Authorized employees can dial authorization codes to override the TGAR of the DISA trunks. The TGAR assigned to the authorization code is in effect for each call made. Unauthorized people who do not have an authorization code are unable to override the TGAR assigned to the DISA trunk and are therefore blocked from outgoing calls on trunk groups with matching TARGs assigned.

Preventing bypass of NARS, BARS or CDP

Systems use route selection software packages like NARS or BARS or CDP, to route calls the most efficient and cost-effective way possible. However, if users dial their calls beginning with direct trunk access codes, the calls bypass the BARS, NARS and CDP.

To prevent bypass, assign TGAR codes to all telephones and matching TARGs to all toll routes. (This has been done by default on systems using Release 22 and later software). This prevents direct trunk access, thereby enforcing proper dialing and control of the users' calls.

For further information on how to check whether people are using direct trunk access codes for their calls, refer to the section on CDR in the *Administration tips* to follow.

Stress proper dialing in training sessions.

Trunk Group Access Restriction

Administration tips

Do you need to program TGAR codes if users do not know the access codes for certain trunk groups?

- Users experiment with access codes until they find codes that work.
- Users who find out a working access code usually tell other users.
- Users can see the trunk group access codes when they receive external calls on telephones that have displays.
- The attendant knows the trunk access codes because they appear on the console display as calls are presented.
- The attendant is usually trained to use the access codes for trunk testing routines. The attendant may tell users what the codes are.

How can you find out if users are dialing their calls using direct trunk access codes?

Call Detail Records (CDR) print the letter "A" before the field of data showing the digits dialed, when a user dials a call using a BARS or NARS or CDP access code. If this field of data is not preceded with the letter "A," then you know the user dialed the call using a direct trunk access code. In other words, the TGAR assigned did not block the call. Look at your CDR records in this way to find out if any telephone has not been assigned the proper TGAR.

How do you know what TGAR to assign to a new telephone?

- Find out whether the user's trunk-access needs are the same as those of any existing users on the system. Find out what TGAR code is assigned to those telephones. Assign the same code to the new telephone.
- If there is no existing TGAR group that is appropriate, add a new one. Do not assign new TGAR codes to telephones just because the new telephone might be in a functional group different from the existing users. For example, if a new part-time employee in a secretarial group is to be blocked from the same trunk groups as an

employee in the warehouse staff, you can assign the new telephone the same TGAR code as a warehouse telephone (TGAR 3). Change your records to indicate that TGAR 3 is assigned to telephones for both warehouse and part-time staff.

- Before choosing a number for the code, take into account the interaction with the Attendant Console Trunk Group Busy keys.
  - Ask your system supplier to make the necessary changes in LD 16 to adjust TARG codes on the trunk groups.
  - Update your records.
- Keep your use of different TGAR codes to a minimum to keep telephone management simple.
- Keep records of the trunk groups and users' restrictions on a chart. An example of a chart follows.

Table 247
TGAR/TARG summary chart

	Terminals			
Trunk Groups	**TGAR 8 Execs/Mgrs**	**TGAR 1 Admin. staff**	**TGAR 2 Clerical**	**TGAR 3 Warehouse**
FEX TARG 1, 2, 3		X	X	X
TIE TARG 2, 3			X	X
PAG TARG 3				X
COT TARG ---				

Note: X indicates that the user group at the top of that column is blocked from the trunk group on the same row as the X.

The chart shows that users of clerical telephones, for example, are blocked from the FEX and TIE trunk groups. TGAR 2 is assigned to those telephones and TARG 2 is assigned to the FEX and TIE trunk groups.

Trunk Group Access Restriction

If a chart is not being kept on your site get some printouts to find out what TARG codes have been assigned to the trunk groups and what TGAR codes have been assigned to the telephones and incoming trunks. The step-action table in this Task module shows the steps involved in getting this printout.

Training tips

- Train users about the trunk groups they should use for their calls.
- Tell users about the impact of using wrong or unauthorized trunk groups.
- Tell users what the access code is for each trunk group.
- Tell users what will happen when they are blocked.
  - Show them the sound of overflow tone.
  - Tell them what the announcement will say, if you are intercepting calls to a recorded announcement.
  - Tell the attendant how to respond, if calls are intercepting to the attendant when restricted.
- Good, ongoing training reduces repair calls. Untrained users sometimes report blockage as a repair problem.
- Give the attendants and the users clear guidelines on the circumstances when they should or should not transfer a restricted user to a trunk.
- Tell users that you are monitoring the way they dial calls to ensure that correct dialing and correct trunk groups are used.

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Trunk Group Access Restriction

Table 248
Checklist

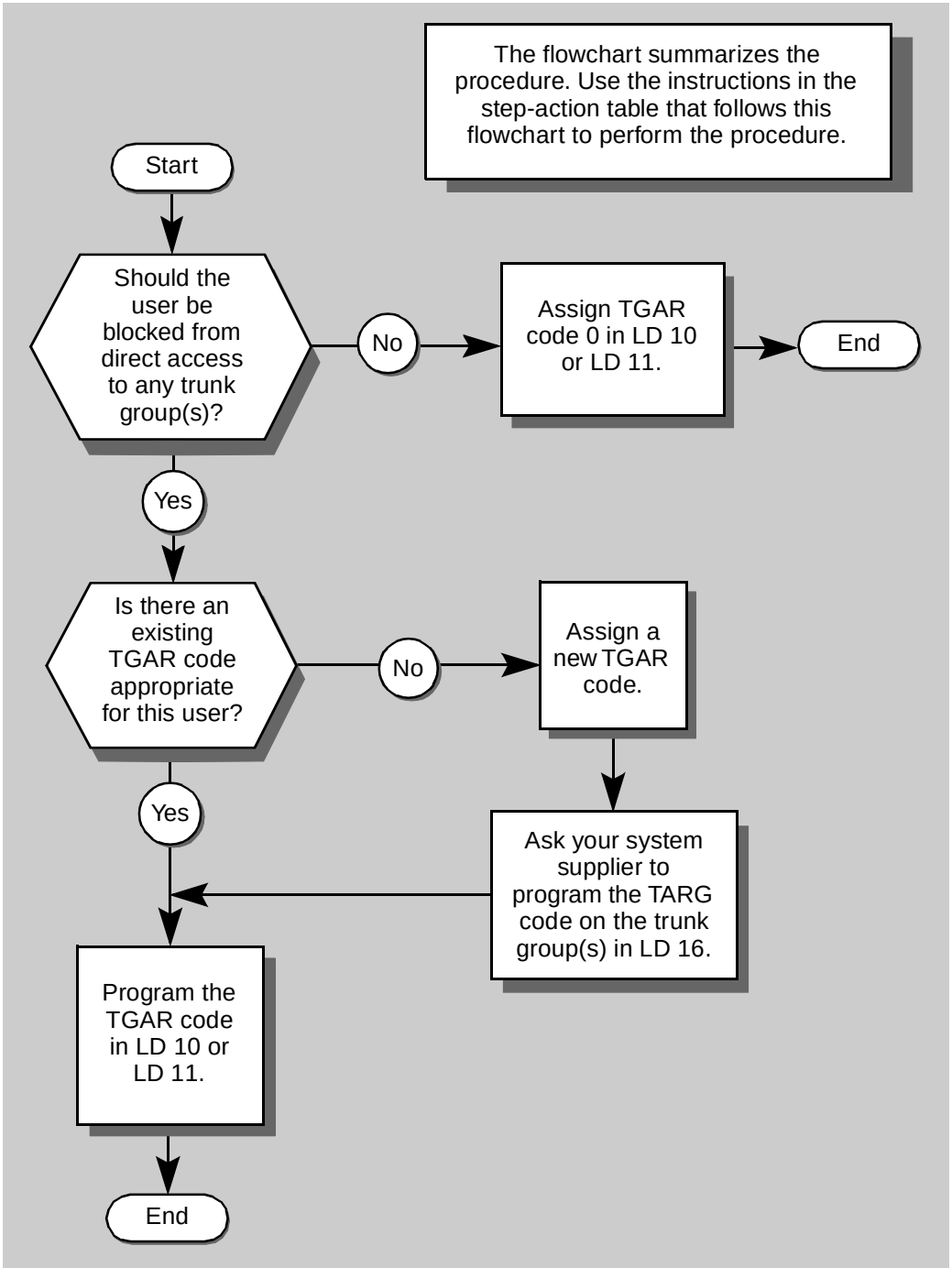
Basic	Optional	Preparation
✔		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✔		Decide if the user must be restricted from direct trunk access to certain trunk groups.
✔		Find out what Release of software you are using so you know what the default TGAR and TARG is.
✔		Decide if the user should be blocked if the attendant uses the Trunk Group Busy keys on the console to make a trunk group busy.
✔		Determine, from summary charts or printouts if there is an existing TGAR code which meets the needs of the user. Check that the trunk groups are programmed to block this user.
✔		If no existing TGAR is appropriate, decide on a new TGAR code to use, arrange to program the TARG on the restricted trunk group(s) and update the summary chart.
✔		Determine the intercept treatment users are to receive when they attempt to make a restricted call. Record the announcement if you intend to use that type of intercept treatment. Inform the attendants if you intend to do that.
✔		Prepare training. Plan what you want to tell users about trunk groups and access codes and intercept treatments.
	✔	If BARS, NARS or CDP is programmed, find out whether TGAR has been implemented to prevent bypass using direct trunk access.
	✔	If BARS, NARS or CDP is programmed, ask your system supplier if TGAR has been activated for these types of calls. If so, assign the appropriate TGAR based on their advice.
	✔	Arrange to look at CDR data periodically to ensure unauthorized people are not using direct trunk access and/or accessing trunk groups they do not require.

What's next?

A flowchart follows which summarizes the implementation decisions and procedures.

A step-action table follows the flowchart. Use it to do the programming steps necessary to implement this feature.

Trunk Group Access Restriction



Trunk Group Access Restriction

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the TGAR feature only.

SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION

1 Look for a TGAR/TARG summary chart in your records.

If	Do
summary chart exists	step 6
summary chart does not exist	step 2

2 Log in

For information on proper login procedures, refer to *Basic programming instructions* in this book.

3 Print the TGAR codes assigned to existing telephones.

`> LD 20` (pre-Release 19 software)

`> LD 10` or `> LD 11` or `> LD 20` (Release 19 or later software)

REQ	PRT	Request a printout
TYPE	TNB	Terminal Number Block
TN	<cr>	<cr> = all

You see a printout of all existing TNs.

List all TGAR codes which are assigned to any telephone(s).

Go to step 4.

— continued —

Trunk Group Access Restriction

STEP	ACTION
4	**Print the TARG codes assigned to existing trunk routes.**

```
> LD 21
```

REQ	PRT	Request a printout
TYPE	RDB	Route Data Block
ROUT	<cr>	<cr> = all

You see a printout of all existing routes.

List all TARG codes which are assigned to any trunk routes.

Go to step 5.

5 Build a TGAR/TARG summary chart.

Use the example in the *Administration tips* part of this Task module.

You now have a visual aid to the TGAR/TARG programming at your site.

Go to step 6.

6 Decide if there is an existing TGAR code in use which suits the telephone you are about to program.

If	Do
one exists	step 8
one does not exist	step 7

7 Determine if the user should be blocked when the attendant Trunk Group Busy keys are pressed.

If	Do
user should be blocked	Assign an available TGAR between 0–7
user should not be blocked	Assign an available TGAR between 8–31 (Release 13 and later). (8-15, pre-Release 13).

— continued —

Trunk Group Access Restriction

STEP	ACTION
8	**Choose the step that applies to what you are doing.**

If	Do
installing a new telephone	step 9
changing an existing telephone	step 10

9 Program the TGAR for a new telephone.

Log in, if you have not already done so.

For information on proper login procedures, refer to *Basic programming instructions* in this book.

`>` `LD 10` or `>` `LD 11`

REQ NEW

TYPE Input type of telephone

TN L S C U Input the Terminal Number (TN) assigned to the telephone (**L**oop, **S**helf, **C**ard, **U**nit number)

Program the basics... Refer to Tasks 1–19 for information.

Carriage return until you see the prompt TGAR

TGAR Assign a TGAR code

(0)–15 pre-Release 13 - default 0

(0)–31 Release 13 to Release 21 - default 0

0–(1)–31 Release 22 and later - default 1

— continued —

Trunk Group Access Restriction

STEP	ACTION
9 continued ...	
	Carriage return until you see either of the following messages:
	`U.data P.data` small systems
	or
	`MEM AVAIL: (U/P) USED:TOT:` large systems
10	**Program the change to TGAR for an existing telephone.**
	Log in, if you have not already done so.
	For information on proper login procedures, refer to *Basic programming instructions* in this book.
	`>` `LD 10` or **`>`** `LD 11`
	REQ CHG — Program a change to an existing telephone
	TYPE — Input type of telephone
	TN L S C U — Input the Terminal Number (TN) assigned to the telephone (**L**oop, **S**helf, **C**ard, **U**nit number)
	ECHG
	If / **Do**
	you want to use "Easy change" — Input YES and go to step 11.
	you do not want to use "Easy change" — Input NO or <cr> and go to step 12.
	For more information on "Easy change," go to the *Basic programming instructions* module of this book.
	— continued —

Trunk Group Access Restriction

STEP	ACTION
11	**Program an “Easy Change” to an existing telephone.**
	ITEM TGAR X X is 0 – 31 (0–15, pre-Release 13) **ITEM** <cr> Carriage return until you see one of the following messages: **U.data P.data** small systems or **MEM AVAIL: (U/P) USED:TOT:** large systems When one of these messages appears, your change has been entered into the memory. Go to step 13.
12	**Program a change (not an “Easy Change”) to an existing telephone.**
	Carriage return until you see the prompt TGAR **TGAR** X X is 0 –31 (0–15, pre-Release 13) Carriage return until you see one of the following messages: **U.data P.data** small systems or **MEM AVAIL: (U/P) USED:TOT:** large systems When one of these messages appears, your change has been entered into the memory.
13	**Check the trunk route TARG.**
	Ask your system supplier to check the programming of the trunk groups to ensure this telephone is blocked properly. For the trunk routes to be restricted, ensure there is a TARG programmed which matches the TGAR of this telephone.

— continued —

Trunk Group Access Restriction

STEP	ACTION
14	**Update your summary chart to reflect the programming you just did.**
	Keep the chart for your records.
15	**Check that the feature works on the telephone that you have just programmed.**
	Arrange to have TARG codes programmed on trunk routes, as required. Dial calls using direct trunk route access code(s) and ensure the calls get treated as expected.
	If — **Do**
	feature works — step 16
	feature does not work — step 1
16	**Arrange for a data dump to be performed.**
	If — **Do**
	you do not have access to LD 43 — Contact your system supplier.
	you have access to LD 43 — step 17
17	**Perform a data dump to permanently store the programming you have just completed.**

CAUTION
Check your maintenance agreement before working in LD 43.

Refer to the *Basic programming instructions* module of this book or refer to the *X11 input/output guide* for more information on LD 43.

```
> LD 43


. EDD <cr>
```

— continued —

Trunk Group Access Restriction

STEP	ACTION
18	**Verify that the data dump was successful.**

TTY response:

NO GO BAD DATA

or

DATA DUMP COMPLETE

If	Do
data dump fails	Contact your system supplier.
data dump succeeds	step 19

19	**Terminate this overlay program.**

. ****

20	**Terminate this programming session.**

Log off.

> LOGO

21	**You have completed the programming required to add or change the TGAR feature on a telephone.**

END

Copying a telephone

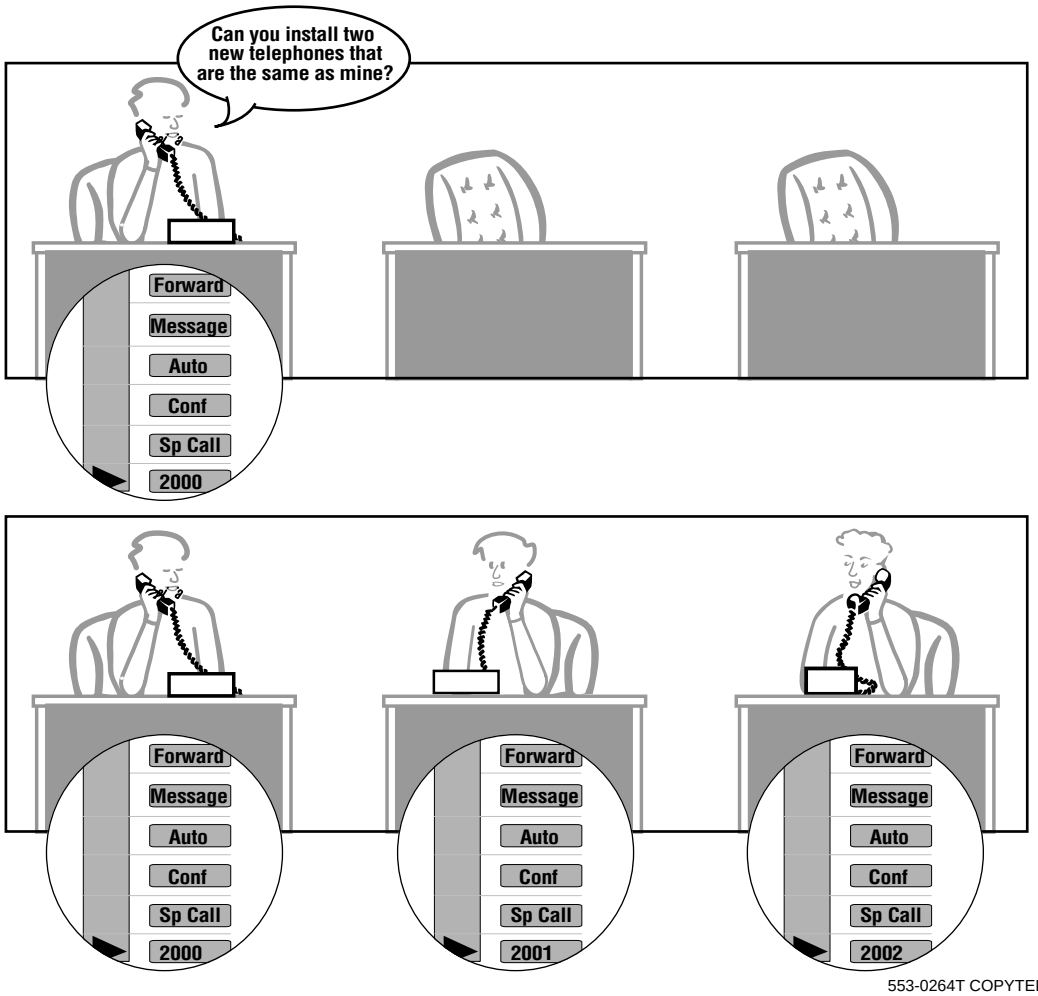
Purpose

The Copy capability can save you time when you are installing one or more new telephones, that are identical to an existing telephone. This allows you to tell the system to duplicate the programming of an existing telephone.

For example, you might need to install three new digital telephones that will have the same feature requirements. You can simply program one of the new telephones and then make two copies. Each new telephone will have the same features programmed as the original telephone. Each telephone will have its own individual DN.

Copying a telephone

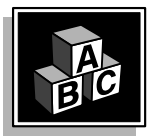
When to use the copy capability



553-0264T COPYTEL

Copying a telephone

Preparation



This part tells you what is involved with using the Copy command. Use the Copy command if there is a telephone already programmed that you want to copy.

When to use the Copy (CPY) command

You can save time when you are programming new telephones if you use the Copy command. You can use the CPY command to make up to 32 copies of an existing telephone.

You can use the Copy capability to:

- make duplicates of existing dial and Digitone-type telephones or SL-1-type and digital telephones
- program one new telephone first and then use it as a template for others

If you are installing several new telephones, complete your review of the new users' needs. Use the CPY command if they have identical requirements for:

- features and the programming of such things as Hunting DNs and Speed Call list numbers
- the number of DNs they need on SL-1 or digital telephones
- the types of telephones
- the number of keys or Key Expansion modules they are using
- displays
- handsfree units

Copying a telephone

The benefits of using the Copy capability are:

- reduced programming time
- reduced use of memory since the system takes advantage of duplicates by storing them against templates
- uniform training of users is possible
- fewer types of training guides are required, if you customize your guides
- users feel comfortable using telephones that are copies of their own
- your system administration and maintenance are easier due to fewer varieties of telephones

Selecting DNs and TNS

You can choose the DN, the TN or both the TN and the DN for each copied telephone that you program. You can have the system select one or both of these for you. Refer to the *Improving performance* part of this module for more information on the special case that applies when you program only one copy.

When you program more than one copy of a telephone, the system presents you with a prompt, CFTN, that means “Copy from what TN?”. You must enter the TN of the telephone that is already programmed and that you are using as the template for the copy.

The next prompt, SFMT, asks you to select a format. The format choices you have are:

- choose the TN and DN manually
- choose the TN manually, let the system choose the DN
- choose the DN manually, let the system choose the TN
- let the system choose the TN and DN automatically

If the system selects the TN or the DN, you must program the starting DN or TN for the system’s use.

Copying a telephone

The system will look for consecutive TNs and DNs to assign to the copies, so you must ensure that these are available before you begin.

After you have entered the response to the DN prompt, system messages will print out. These messages identify the TN and the DN of each new copied telephone. An example is shown below:

```
NEW 2616    TN 003 0 00 01      DN 2000
NEW 2616    TN 003 0 00 02      DN 2001
```

Spare line cards

Ask your system supplier to program spare line cards for you to use when you make telephone copies. These cards are activated in memory for use with the Copy command. The card has no telephone programming until you do the copy programming.

Jacks must be cross-connected to the line cards that are spare. Ask your system supplier to tell you what TN is assigned to each jack, so you can identify each telephone in printouts.

TN-Block printout

After you have programmed the telephone that you will use as the template for the copies, get a TNB printout. Use this printout to verify what the programming will be for all the new telephones. Take some time before you program the copies to assess, in detail, whether this template does apply to every one of the new telephones you are going to program. If there are some modifications that you want to make, take note of the telephones that you will need to change, after you have programmed the copies.

After you have programmed copies, it is a good idea to obtain TNB printouts of the new telephone data as well. Use the messages that printed out automatically to identify the TN(s) of the new telephone(s). The DN shown for each telephone is the prime DN. If you want to verify what secondary DN(s) are programmed on SL-1-type or digital telephones, get a TNB printout of the template telephone or the copied telephone(s).

Copying a telephone

Using the NEW command vs. the CPY command

You can program several new dial or Digitone-type telephones at one time using the NEW command.

If there is no existing telephone already programmed that you want to copy, you can use the NEW command followed by a space followed by the number of new telephones that you want to program at once. If you do not type any number following the NEW command, the system assumes you are installing one new telephone.

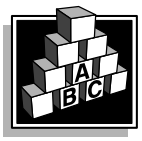
You can program a maximum of 255 dial or Digitone-type telephones at one time.

When you use the NEW command, you input the responses to the prompts that appear, just as you would when you install one new telephone. The programming applies to all the new telephones you requested, up to the maximum number you specified.

You choose the TN and DN for the first telephone as you program it. The system prints out a message when you are finished. The message identifies the TN and DN that it assigned automatically, for each of the other new telephones.

If you use the NEW command in this way, the system will only use consecutive TNs and DNs when it assigns these to the new telephone(s). This will work well on a new system when consecutive TNs and DNs are readily available.

Improving performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

When telephones are similar, not identical

If a new telephone will have a slightly different configuration from an existing telephone, it can still save you time if you program the new telephone using the CPY command.

Use the CPY response followed by a space and the digit 1.

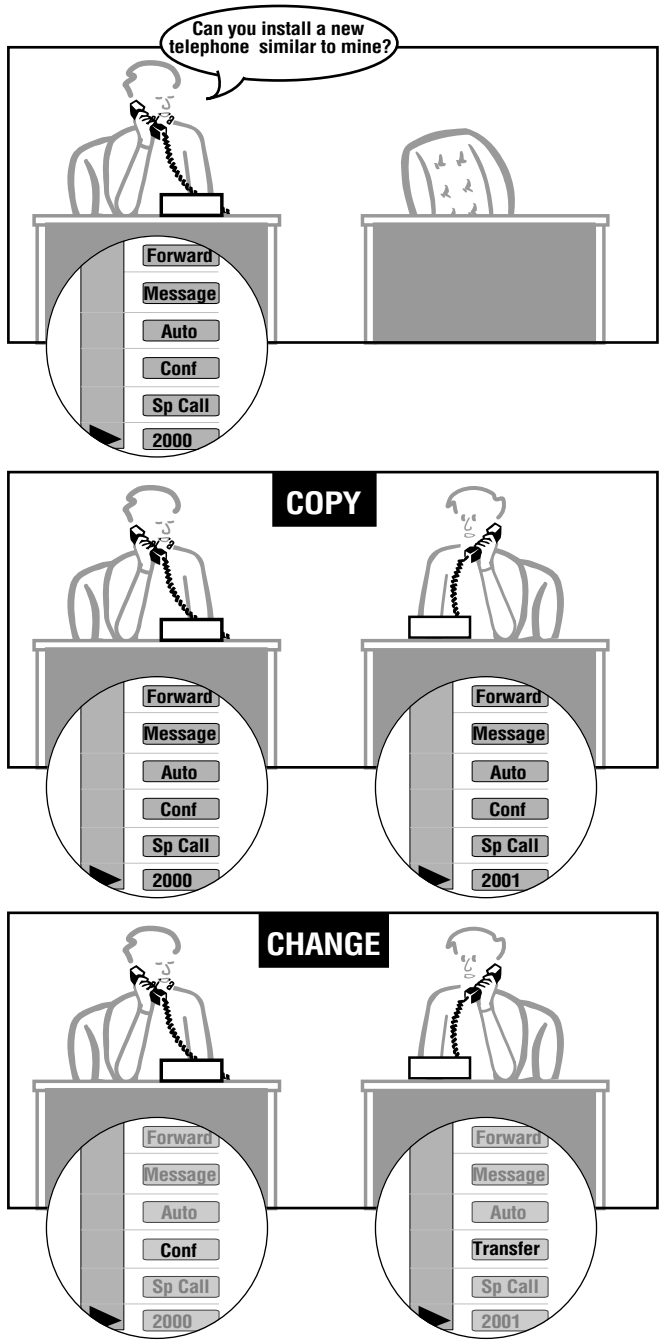
After you have programmed the copy, make the necessary change(s) to the new telephone using Easy Change.

This can be a faster method of programming, compared to programming each new telephone individually.

When you make one copy, the system prompts you to assign both the TN and the DN. On SL-1-type and digital telephones, the DN you assign is the prime DN that appears on key 0. Secondary DNs will be copied from the template telephone that you are using.

After you have made the copy, obtain a TN Block printout. This allows you to verify what has been programmed. It also allows you to organize the data for any changes you might want to make.

Copying a telephone



Copying a telephone

Control tips

- The CPY command improves the efficiency of the use of your system memory. It encourages you to implement a template wherever possible. This in turn allows the system to use templating in its memory. Scrutinize your users' requests, to justify requested differences in telephone layout and programming.
- To maintain control of the system traffic, select the TNs for the copies yourself. Let the system select the DNs, if you have no specific requirements for the DNs that will be assigned.

Administration tips

- If you are allowing the system to choose the TNs for several new copied telephones, you must first assess the impact this will have on the traffic load. Consecutive TNs are selected when they are selected automatically. The new copied telephones will therefore be programmed on the same card, or neighboring cards on the same loop/Superloop. If a loop is already near its recommended maximum traffic load, the extra telephone traffic from the copied telephones may push the traffic volumes over the recommended limits. This is usually not a concern with Superloops.
- The spare cards that are activated in memory, are also used by the Automatic Set Relocation software.This feature allows users to move their own telephones. For more information, refer to the *You should know this* module.
- Avoid programming the telephone copies before the telephones are installed at the jack locations. If the telephones are not installed, you will see SL-1 and digital telephone maintenance messages printing out on the maintenance printer. These messages indicate that there are programmed TNs that do not have telephones connected. The jacks will be disabled if this condition continues. Therefore, if you are copying these kinds of telephones, install the telephone before you program the copy. The system does not print out maintenance messages if dial or Digitone-type telephone jacks have no telephone connected.

Copying a telephone

Training tips

- Once you establish the models or templates of telephones that you will be using on your system, you can publish customized user training guides to go with each telephone template. You can conduct training sessions for users who share common features.

What to have ready

The following checklist summarizes the steps you should take before you use the CPY command.

Table 249
Checklist

Basic	Optional	Preparation
✔		Determine whether the new telephones you adding are: ◆ identical to an existing telephone ◆ almost identical to an existing telephone ◆ identical to each other ◆ almost identical to each other
✔		Determine if there is a telephone already programmed that you can use as a template.
✔		If there is no identical telephone already programmed, program one of the new telephones that you will use as the template.
✔		Get a TNB printout of the telephone you intend to use as the template.
✔		Check the programming in the TNB printout and compare it to the needs of the user of each new telephone. Determine if the Copy command is appropriate for each one.

— continued —

Table 249
Checklist (Continued)

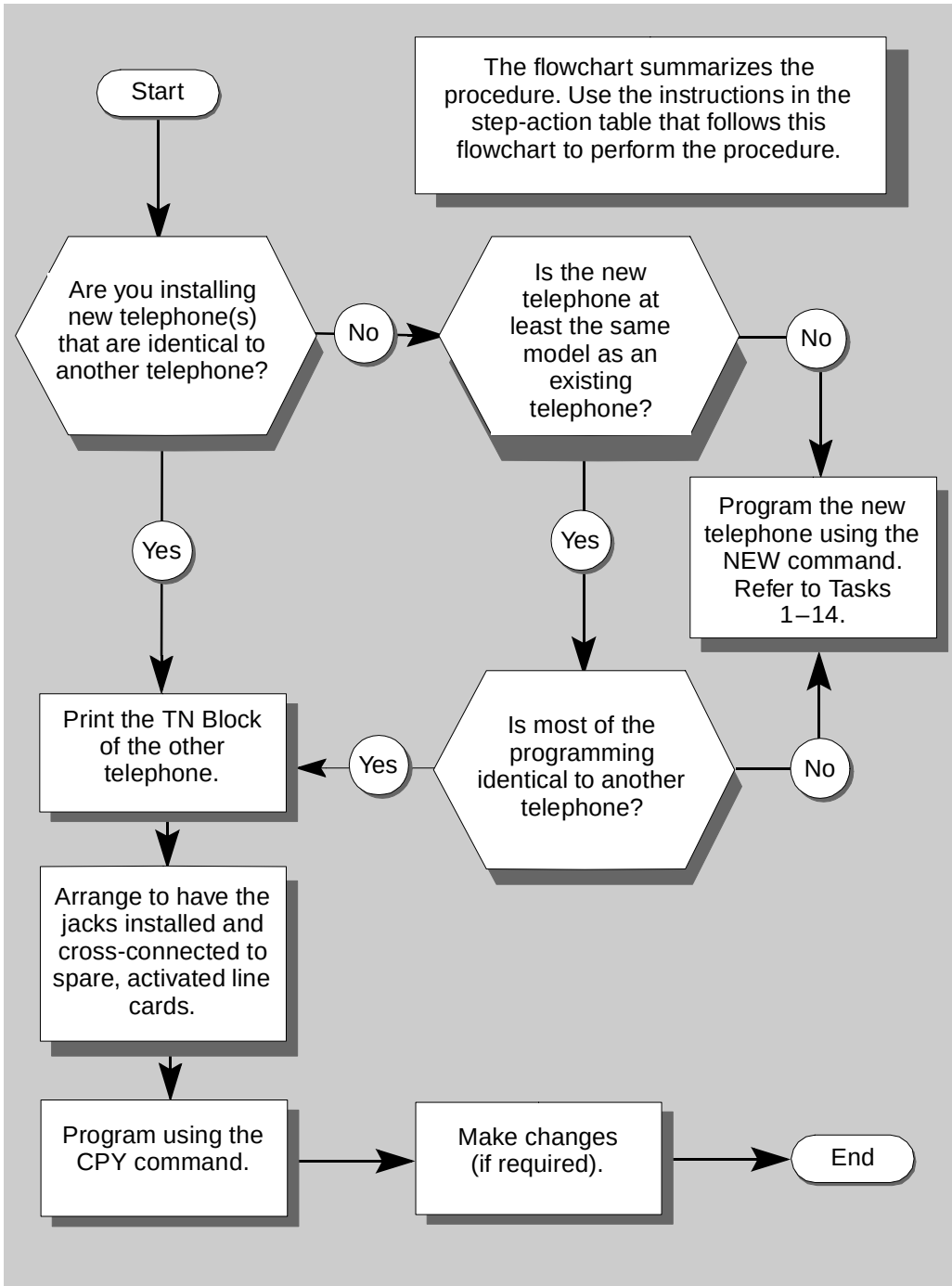
Basic	Optional	Preparation
✔		If a few changes will be needed, fill out worksheets for those changes before you begin.
✔		If you are making more than one copy, determine whether you want to manually select TNs and DNs or whether you will let the system select one or both of those.
✔		Determine if the telephones have been installed.
✔		Determine if the necessary spare line cards have been installed and activated in programming.
✔		Determine if the cross-connect work has been done, connecting the new telephones to the spare line cards.
✔		Find out the TN assigned to each new jack.
✔		Prepare training material for the users.

What's next?

A flowchart follows which summarizes the implementation decisions and procedures.

A step-action table follows the flowchart. Use it to do the programming steps necessary when you make copies of telephones.

Copying a telephone



Copying a telephone

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation of several identical telephones.

SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION
1	**Log in.**
	For information on proper login procedures, see *Basic programming instructions* in this book.
2	**Choose the telephone that you will copy.**
	If / **Do** it is already programmed — step 3 it is not already programmed — Program the new telephone and then go to step 3. Refer to Tasks 1– 45 and the *X11 input/output guide.* Alternately, if it is a dial or Digitone-type telephone you can go to step 16.
3	**Verify the programming of the existing telephone.**
	If / **Do** you know the TN of the existing telephone — step 5 you know the DN but not the TN of the existing telephone — step 4
4	**Print the DN Block of the existing telephone.**
	Use LD 20 or LD 22. For more information, refer to the *Basic programming instructions* module in this book. Identify the TN of the telephone you wish to copy. Go to step 5.

— continued —

Copying a telephone

STEP	ACTION
5	**Print the TN Block of the existing telephone.**
	Use LD 10 or LD 11 or LD 20. For more information, refer to the *Basic programming instructions* module in this book.
	Look at the TNB printout carefully.
	Verify that the programming of this telephone is what you want to copy for the new telephones you will program.
6	**Program the copies you need.**

If	Do
Dial or Digitone-type telephone	step 7
SL-1-type or digital telephone	step 8

7	**Copy a dial or Digitone-type telephone.**	
	`> LD 10`	
	REQ `CPY X`	Copy a template telephone (Release 12 or later) X represents the number of copies (1–32) you want to make
	TYPE `500`	Dial or Digitone-type telephone
	CFTN `L S C U`	Copy from TN – Input the Loop number, Shelf number, Card number, Unit number for the existing telephone you want to copy

If	Do
you input CPY 1 at the beginning of the program	TN prompt appears – respond with the TN of the new telephone (L S C U) DN prompt appears – respond with the DN of the new telephone Go to step 14.
you input CPY 2 through 32 at the beginning of the program	SFMT prompt appears, meaning Select Format – respond with one of the choices in step 9.

— continued —

Copying a telephone

STEP	ACTION
8	**Copy an SL-1-type or digital telephone.**

> LD 11

REQ	CPY X	(Release 12 or later) X represents the number of copies you wish to make (1–32)
TYPE		Input the correct type of SL-1 or digital telephone
CFTN	L S C U	Input the Loop number, Shelf number, Card number, Unit number for the existing telephone you wish to copy

If	Do
you input CPY 1 at the beginning of the program	TN prompt appears - respond with the TN of the new telephone (L S C U) DN prompt appears - respond with the DN of the new telephone — 4 digit maximum without DNXP software, 7 digit maximum with DNXP software Go to step 14.
you input CPY 2 through 32 at the beginning of the program	SFMT prompt appears, meaning select format Respond with one of the choices in step 9.

— continued —

Copying a telephone

STEP	ACTION		
9	**Select format (response to SFMT prompt).**		
	If		**Do**
	you want to choose the TN and DN for each copied telephone		Input TNDN and go to step 10.
	you want to choose the TN and let the system choose the DN for each copied telephone		Input TN and go to step 11.
	you want to choose the DN and let the system choose the TN for each copied telephone		Input DN and go to step 12.
	you want to let the system choose the DN and TN for each copied telephone		Input AUTO and go to step 13.
10	**Input the TN and DN for each copy.**		
	TN	L S C U	Input the TN (Loop number, Shelf number, Card number, Unit number) for the first copy
	DN	X..X	Input the DN for the first copy, X..X represents the DN 7 digits maximum with DN Expansion (DNXP) software equipped 4 digits maximum without DNXP
	A message prints out, indicating the TN and DN of the new telephone.		
	TN	L S C U	Input the TN (Loop number, Shelf number, Card number, Unit number) for the second copy
	DN	X..X	Input the DN for the second copy, X..X represents the DN 7 digits maximum with DN Expansion (DNXP) software equipped 4 digits maximum without DNXP
	Continue inputting TNs and DNs until you have made the number of copies you specified after the CPY command earlier.		
	A message prints out after each DN you select, indicating the TN and DN of each new telephone. Go to step 14.		

— continued —

Copying a telephone

STEP	ACTION		
11	**Input the TN for each copy. Let the system choose the DN.**		
	TN	L S C U	Input the TN (Loop number, Shelf number, Card number, Unit number) for the first copy
	DN	X..X	Input the DN for the first copy. The system will assign DNs to the copies in numerical order, starting from the number you specify here. X..X represents the DN 7 digits maximum with DN Expansion (DNXP) software equipped 4 digits maximum without DNXP
	A message prints out, indicating the TN and DN of the new telephone.		
	TN	L S C U	Input the TN (Loop number, Shelf number, Card number, Unit number) for the second copy
	A message prints out, indicating the TN and DN of each new telephone.		
	Continue inputting TNs until you have made the number of copies you specified after the CPY command earlier. Go to step 14.		
12	**Input the DN for each copy. Let the system choose the TN.**		
	TN	L S C U	Input the TN for the first copy. The system will assign TNs to the copies in numerical order, starting from the number you specify here.
	DN	X..X	Input the DN of the first copy X..X represents the DN 7 digits maximum with DN Expansion (DNXP) software equipped 4 digits maximum without DNXP
	A message prints out, indicating the TN and DN of the new telephone.		
	DN	X..X	Input the DN of the second copy X..X represents the DN 7 digits maximum with DN Expansion (DNXP) software equipped 4 digits maximum without DNXP
	A message prints out, indicating the TN and DN of the new telephone. Continue inputting DNs until you have made the number of copies you specified after the CPY command earlier. Go to step 14.		

— continued —

Copying a telephone

STEP	ACTION		
13	**Let the system choose the DN and TN for each copy.**		
	TN	L S C U	Input the TN for the first copy. The system will assign TNs to the copies in numerical order, starting from the number you specify here.
	DN	X..X	Input the DN for the first copy. The system will assign DNs to the copies in numerical order, starting from the number you specify here. X..X represents the DN 7 digits maximum with DN Expansion (DNXP) software equipped 4 digits maximum without DNXP
	A message prints out, indicating the TNs and DNs of the new telephones.		
14	**The overlay program is finished.**		
	The following message prints out. *****FINISHED***** **U.data P.data** small systems or **MEM AVAIL: (U/P) USED:TOT:** large systems Go to step 18.		
15	**Choose one of the following options.**		

If	Do
you want to program all the telephones as identical new telephones	step 16
you want to program one telephone first and then make copies of it later	Refer to Tasks 1– 45 and the *X11 input/output guide.*Then go to step 3.

— continued —

Copying a telephone

STEP	ACTION
16	**Program more than one new telephone.**

```
> LD 10
```

REQ	NEW XXX	Input NEW followed by a space followed by the number of identical new telephones you want to program. XXX can be 1–255.
TYPE	500	Dial or Digitone-type telephones
TN	L S C U	Input the Loop number, Shelf number, Card number, Unit number of the first new telephone. The system will assign the rest of the TNs for the number of new telephones you specified.

17	**Program the rest of the overlay program based on the needs of the new telephone users.**

Refer to the appropriate modules in this book that have information on *Making a telephone work* and *Adding and changing features*. Refer to the *X11 input/ output guide* for information on features not included in this book.

At the end of the program the system prints out a message indicating the TNs and DNs of the new telephones, not including the one that you input yourself.

Next the system prints:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

18	**Get a TN Block printout of the new telephones**

Use LD 20. Refer to the *Basic programming instructions* module in this book for further information.

— continued —

Copying a telephone

STEP	ACTION
19	**Verify that the new telephones work according to the needs of the users.**

If	Do
you must make changes	Refer to the Task module that applies to the change(s) you require or refer to the *Software Input/Output Guide* for further information.
no changes are required	step 20

STEP	ACTION
20	**Arrange for a data dump to be performed.**

If	Do
you do not have access to LD 43	Contact your system supplier.
you have access to LD 43	step 21

STEP	ACTION
21	**Perform a data dump to permanently store the programming you have just completed.**

CAUTION
Check your maintenance agreement before working in LD 43.

See the *Basic programming instructions* module of this book or refer to the *X11 input/output guide* for more information on LD 43.

```
> LD 43

. EDD <cr>
```

— continued —

Copying a telephone

STEP	ACTION
22	**Verify that the data dump was successful.**

TTY response:

NO GO BAD DATA
or
DATA DUMP COMPLETE

If	Do
data dump fails	Contact your system supplier.
data dump succeeds	step 23

23	**Terminate this overlay program.**

```
. ****
```

24	**Terminate this programming session.**

Log off.

```
> LOGO
```

25	**You have completed the programming related to copying the data associated with a telephone.**

END

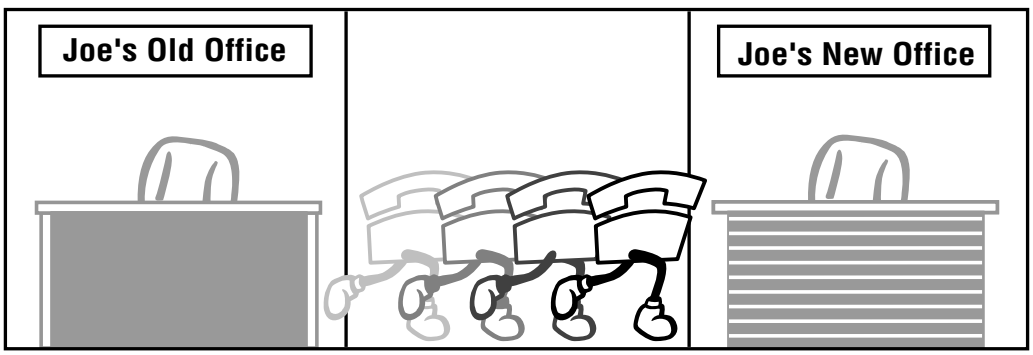
Copying a telephone

Moving a telephone

Purpose

You program a move of a telephone if the user is moving to a new location and will be connected to the same system at the new location.

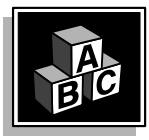
You need to program the system so it has the data associated with the telephone moved to the Terminal Number (TN) of the jack at the new location.



553-0113T MOVE

Moving a telephone

Preparation



This part tells you what issues to consider when you move a telephone.

Physical check

Before you move a telephone from one jack to another, you might want to look at the location where the telephone is. This helps you to discover other equipment, related or unrelated to the telephone system, which you must also move. For example, there might be a PC, a printer, or a fax which you need to move or remove at the same time.

Different approaches

There are three different ways you can move telephones:

- Automatic Set Relocation, if you have software package 53
- TTY programming using the MOV command
- Moving the wires on the cross-connect panel

Automatic Set Relocation method

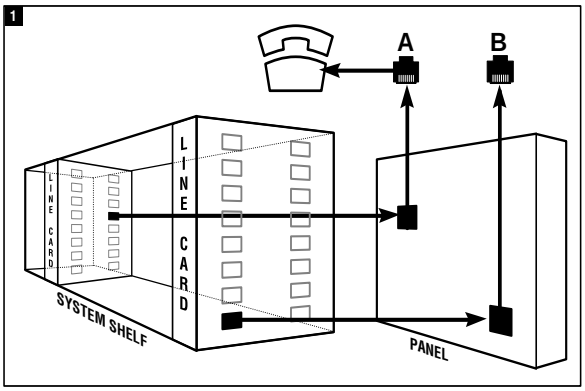
Automatic Set Relocation allows users to move their own telephones using feature codes to tell the system to move the database associated with the moving telephone from one TN to another.

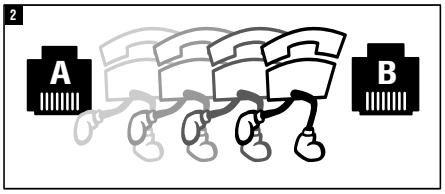
For this feature to work, you must equip your system with the necessary line cards to allow users to move telephones to jack positions that are pre-wired and connected to line cards. Assess the expense and benefits involved against the expense and benefits of the other two alternatives.

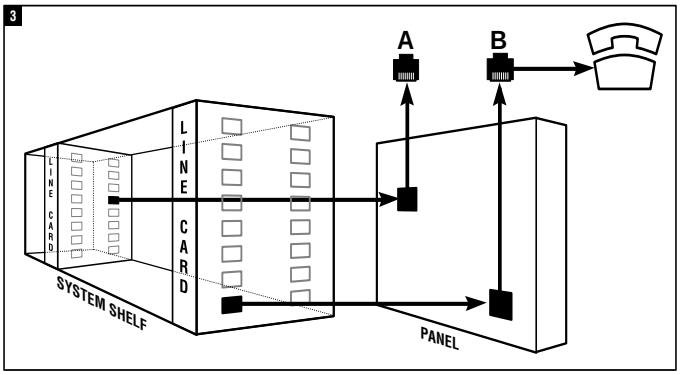
If you are interested in Automatic Set Relocation, discuss it with your system supplier or refer to *X11 features and services*.

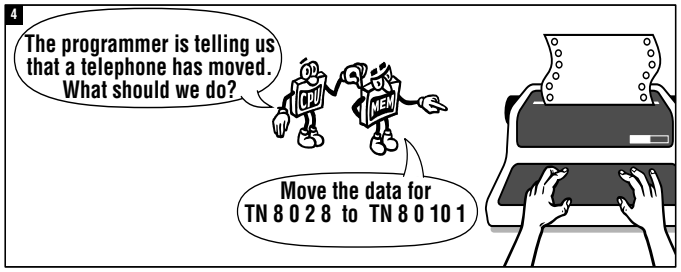
Moving a telephone

TTY programming method









553-0114T MOVE

Moving a telephone

TTY programming method

This command tells the system the TN of the jack that the telephone is leaving and the TN of the jack in the new location.

CAUTION
Check your maintenance agreement before you attempt to use the MOV command to program a telephone you wish to move.

The MOV command takes the data from the old TN and moves it, intact, to be associated with the new TN.

You need to ensure that the jack in the new location has been connected to a line card and that it is, or will be, cross-connected on the panel as well. If the telephone is moving to a jack which was already connected to a line card and cross-connected, the jack might be in a disabled state before the telephone moves there. During the MOV programming, however, the disabled jack automatically re-enables.

If the cross-connect work has not been done in advance, you need to coordinate the completion of that work before your programming will be effective in getting service to the telephone.

Once the telephone has been moved, if there are modifications you want to make to the programming, you can make them *after* you have used the MOV command. It is probably less time consuming to do this using the CHG command and to change a few prompts, once the telephone has been moved, than to take all data for the telephone out of the old jack and re-program the entire telephone at the new jack.

There is some coordination needed between the programmer and the person who is moving the physical telephone. It is likely best if the telephone is moved from one jack to another before the programmer enters the MOV commmand on the TTY.

If calls come into the old jack once the telephone has been removed, and before the MOV programming has been done, they will go unanswered and redirect to the Call Forward No Answer DN. Before

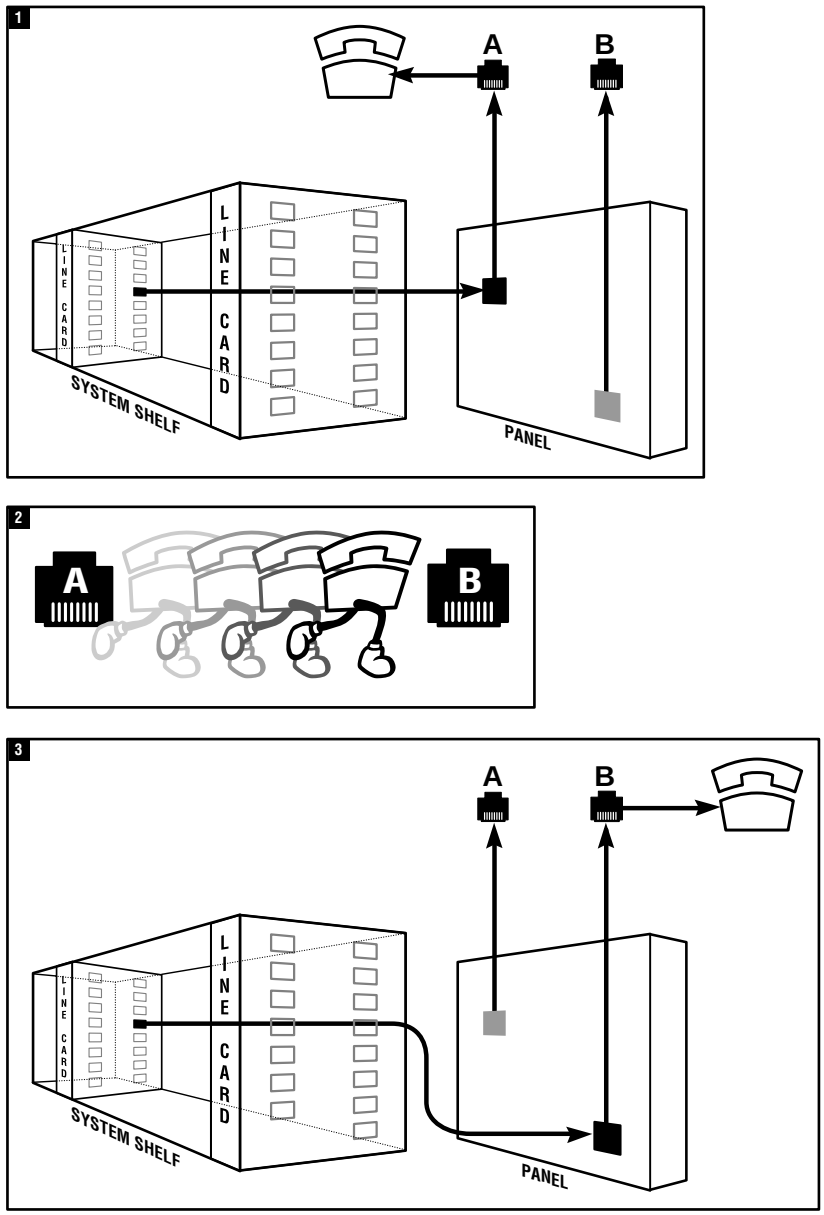
Moving a telephone

they move, users can activate the Call Forward All Calls feature to redirect calls to DNs of their choice, while they are moving. After the jack is installed at the new location, the users can call to get messages. They can deactivate Call Forward All Calls to start receiving calls at the new location.

If the telephone is already at the new location and the MOV programming has not been done yet, the system might do a check of the hardware and find the telephone at the new location with no associated programming. Maintenance messages print out on the maintenance printer for the system maintainer to analyze. If you inform the maintainer about the move in advance, the maintainer will not be concerned about these messages.

Moving a telephone

Cross-connect method



553-0115T MOVE

Moving a telephone

Cross-connect method

This method requires the system maintainer to change the cross-connect panel so that the wires from jack A are no longer connected to the TN. The wires from jack B are connected instead.

If there are changes you want to make to the programming of the telephone after the cross-connect work is done, you can do it by using the CHG command.

This method might require more coordination and scheduling than the TTY method since you must arrange to do any programming changes when your system maintainer does the cross-connect work, and the person moves the physical telephone.

Coordinate programming with the physical move of the telephone

Do not simply unplug the telephone, coordinate the programming with the physical move of the telephone. Jacks with no connected telephones cause different results depending on the type of line card to which the jack is connected. If you unplug a telephone a long time before you move it to the new location and program the MOV command, the following things can happen:

- if the telephone is digital or SL-1-type, the system disables the jack that has no connected telephone after a period of time, and prints out a warning message on the maintenance printer
- if the telephone is dial or Digitone-type, the jack remains in service and a user can plug in another telephone of the same type and get service. You can catch this when you monitor your Call Detail Recording printouts. If you are not doing this monitoring, the user can use that jack to make calls that cost you money.

Line cards

Line cards should be checked when you move a TN using the TTY method. You can check if the old jack TN was the last one programmed on a particular line card. If it was, and no other telephone is being moved here, your system maintainer can remove the card from the system. You can keep it as a spare card or even use the card slot for another type of card that you need for other types of terminals.

Moving a telephone

You will be doing a printout of the TN Block before you move the telephone, and you can look at the printout to see if there are any other programmed TNs on the same card. If not, the technician can remove the card from the card slot.

TN-Block printout

You need to do a TN Block (TNB) printout before you move the telephone for a number of reasons.

- It shows the programming of the telephone that you are about to move.
- It shows the programming of other telephones which will be affected when you move this telephone.
- It shows the programming of telephones that are near the new location of the telephone.
- It shows whether there are any other TNs on the same line card.
- In the case of a digital telephone, it shows you whether there is an associated data terminal to move, along with the telephone.

Make the necessary adjustments, if any, to other telephones before you move this one.

Use the TNB printout to find out the following:

- Look at the TNB printout of one telephone or several telephones near the new location for this telephone. Those that are in the same department or need the same features as the new telephone are good reference points. Interview the user or the user's manager to find out how the new user's needs match with the features programmed for others at the new location.
- If the telephone is getting a new DN assigned to it, update your Numbering Plan records, if you keep them. The DN Block in the system memory is automatically changed when the telephone is changed in the database.
- If the telephone is the Multiple Appearance DN Redirection Prime (MARP) for the DN(s) assigned to it, when you move the telephone and if the DN(s) change, the system reassigns the MARP.

Moving a telephone

If *you* want to assign the MARP, decide what telephone for each DN(s) on this telephone is to be the MARP and reprogram accordingly.

For more information on the MARP feature, refer to Task 40, *Multiple Appearance DN Redirection Prime*.

- If you keep records of the TNs in use, separate from the TN Block printouts, you should update your records. Show what TN is available once the telephone is removed and what TN is used at the new location.
- If the telephone is digital or SL-1-type, are any DN(s) on the telephone programmed for Multiple Call functionality?

  Look for MCR or MCN as the mnemonic in front of the DN number associated with a key.

  If you are going to change the DN to a new one after you move the telephone, look for other telephone(s) with the same DN as the old one programmed. If there is only one other, change that other telephone to a Single Call functionality, unless you intend to add other telephones with the same DN and set them up for Multiple Call. There is no point in having the one remaining single appearance DN programmed for Multiple Call functionality.

  For more information on Single Call and Multiple Call functionality, refer to any of the Tasks 1–14.
- Is this telephone a Speed Call Controller?

  Look for SSC (System Speed Call Controller) or SCC (Speed Call Controller) followed by a Speed Call list number.

  Look for other telephones in the printout that control the same list number. If the telephone you are moving is the only Controller of the list, and you want another telephone to become the Controller after this telephone moves, program the change on the other telephone before you move this telephone. Train the user on how to be a Speed Call Controller.

Moving a telephone

Change the telephone that is moving to have access to the list that best suits its needs at the new location. Check if there is a Controller of that list. If not, decide if there should be one and program accordingly. If you do not have a Speed Call Controller for this list, you will have to program new numbers on that list from the TTY.

For more information on the Speed Call feature, refer to Task 32, *Speed Call and System Speed Call.*

- Are other telephones programmed to Hunt calls to this telephone when they are busy?

  Look for other telephones programmed with the DN of this telephone as the HUNT DN (or EHT DN, if you have activated Call Forward by Call Type).

  For more information on the Hunting feature, refer to Task 38, *Hunting*. Refer to *Basic programming instructions* for more information on how to print out Hunt chains.

  Decide whether these same telephones are to Hunt to this telephone after the telephone has moved to the new location.

  Decide if the Hunting programmed for this telephone should stay the same after it moves.

- Are other telephones programmed to forward calls to this telephone when they are not answered?

  Look for other telephones programmed with the DN of this telephone as the FDN (or EFD DN, if you have activated Call Forward by Call Type).

  If your Customer Data Block is not programmed for FDN but is programmed for HNT instead, then look for the HUNT DN (or EHT DN, if you have activated Call Forward by Call Type).

  For more information on the Call Forward No Answer feature, refer to Task 37, *Call Forward No Answer*.

  Decide whether these same telephones are to forward to this telephone after the telephone has moved to the new location.

Moving a telephone

Decide if the Call Forward No Answer programmed for this telephone should stay the same after it moves.

- Is there another telephone that is a Hot Line which has the DN of this telephone as the DN signaled by that Hot Line telephone?

  You might need to reprogram the Hot Line telephone to signal some other DN.

  For more information on the Hot Line feature, refer to *X11 features and services*.

- Is this telephone the last or second to the last telephone in a Dial Intercom Group?

  Look for the DIG mnemonic followed by a group number.

  If this telephone is one of two remaining members in the group, you might need to reprogram the other telephone to remove the DIG function if the two users no longer need the Intercom feature once the telephone moves.

  For more information on the Dial Intercom Group feature, refer to *X11 features and services*.

- Is there a name in your database associated with the DN(s) on this telephone?

  If the user name is changing along with the move of the telephone, change the name(s) in LD 95, if you have access to it, or ask your system supplier to change the name(s) for you.

  For more information on the Call Party Name Display feature, refer to *X11 features and services*.

- If the telephone is moving and there will be a new user at the new location, you might want to take the telephone OUT at the old location and program it as a NEW telephone at the new location. This depends on the number of changes you will have to make and which would be the most time-saving approach.

  Compare the programming you see in the TNB and what you plan to input for the new user's needs. (Use the worksheet you have filled out with the new data, if you are using a worksheet).

Moving a telephone

Use the Station Review Worksheet in *Appendix 3* to remind you of what questions you need to ask, as a minimum, to be sure you have covered off the new user's needs.

You should also refer to the *X11 input/output guide* for the full set of prompts you will see in LD 10 or LD 11, to ensure you have considered all the prompts that will appear for your system software.

Interactions with other features

Moving a telephone can affect features and other telephones. You need to be aware of, and understand, these interactions before programming.

Improving performance

The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Control tips

The information in the *Preparation* section of this module pertains to control issues related to moving telephones.

Moving a telephone

Administration tips

- Record keeping is critical when you move telephones. This is especially true if you are using the Automatic Set Relocation feature. For this reason, you might not want to permit users to know the security password for this feature so that you are the only one who can move telephones this way. In this way, your records stay up-to-date.

Training tips

- If the move of a telephone causes you to reprogram other telephones, assess whether any training is required to tell the users about the changes.

Moving a telephone

What to have ready

The following checklist summarizes the steps you should take before moving a telephone.

Table 250
Checklist

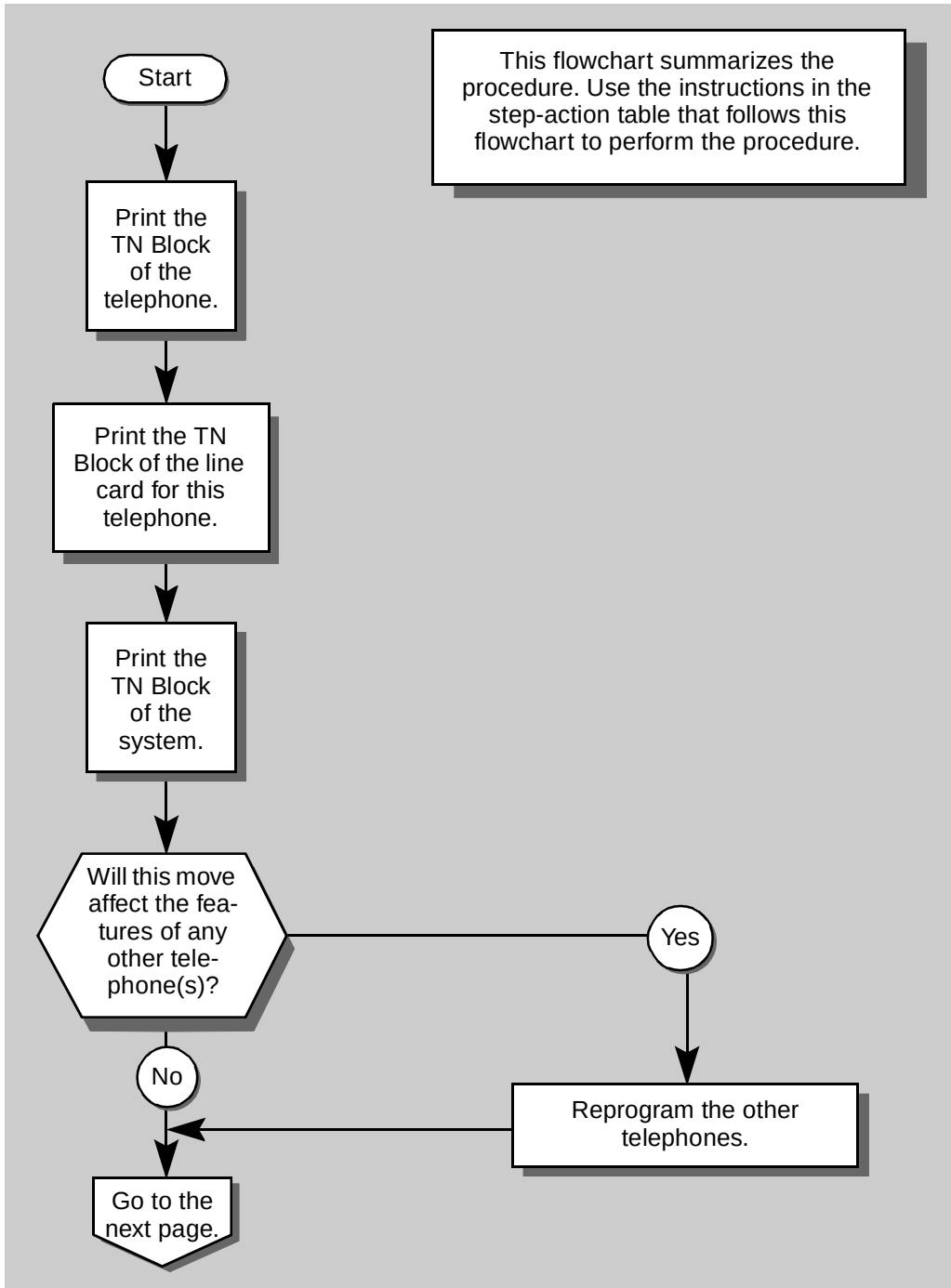
Basic	Optional	Preparation
✔		Decide whether you are choosing the cross-connect method or the TTY method or the Automatic Set Relocation method.
✔		Do a physical check of the new and old telephone location, before the telephone is moved.
✔		Arrange the physical work, if required.
✔		Schedule the move of the telephone with the physical work and the programming, if required.
✔		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✔		Determine the new TN of the telephone, if you are using the TTY method.
✔		Print a TN Block of the telephone before it is moved.
✔		Print a TN Block of the line card to which this telephone is connected before it is moved.
✔		Print a TN Block of the system.
✔		Find out the user's needs at the new location. Refer to TNB of telephone(s) nearby for help.
✔		Assess impact on other telephones at the old and new location, when this telephone moves.
✔		Make programming changes to the other telephones.
	✔	Train users who will be affected by the changes caused by the move.
	✔	Update your records.

What's next?

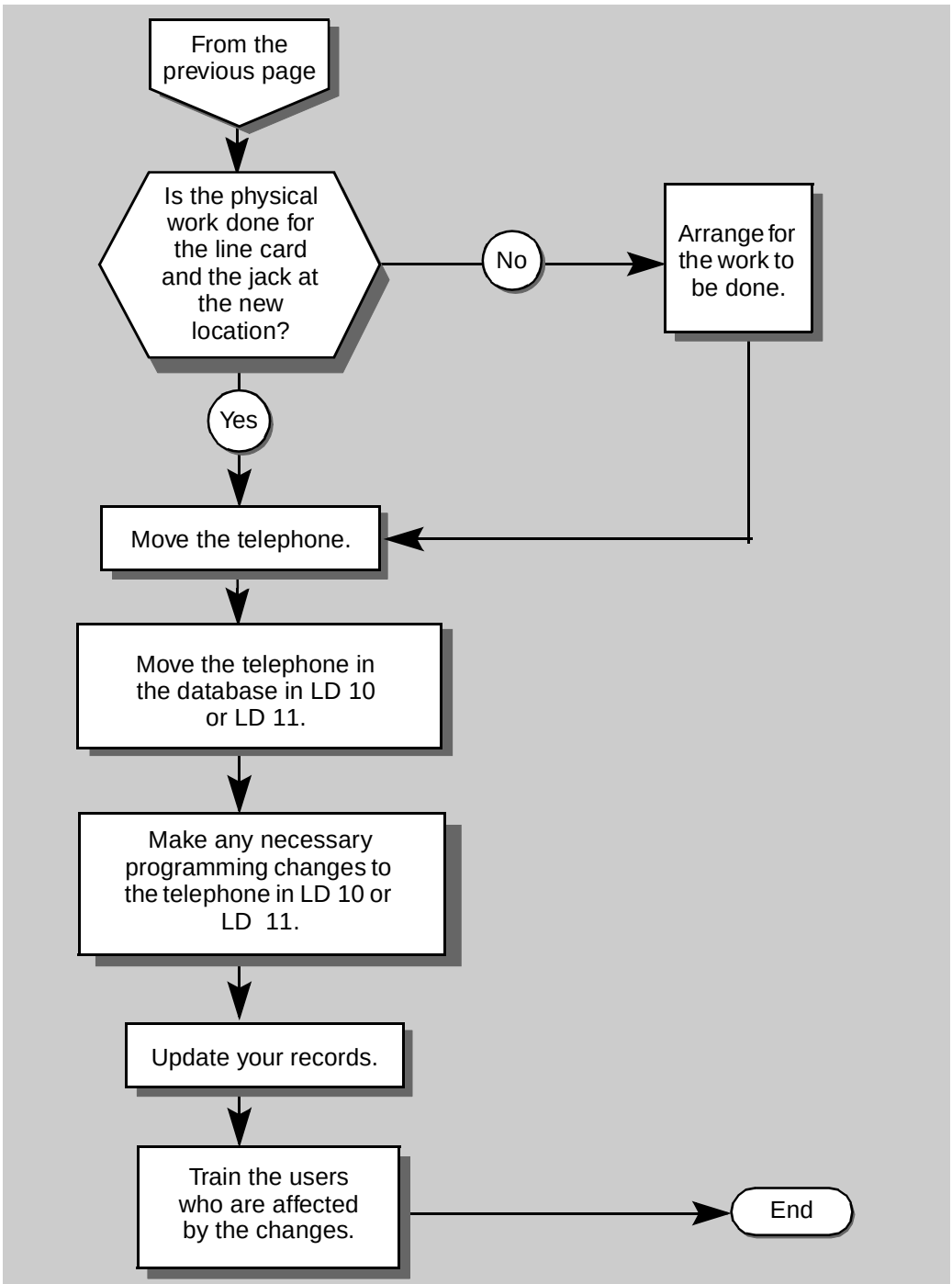
A flowchart follows which summarizes the implementation decisions and procedures for moving a telephone.

A step-action table follows the flowchart. The table explains the programming steps necessary to move a telephone.

Moving a telephone



Moving a telephone



Moving a telephone

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to moving a telephone using the TTY method only.

If you are using the cross-connect method, arrange the necessary work with your system maintainer. If programming changes are required for the telephone at the new location, refer to step 10 in the table below.

SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION
1	**Login**
	For information on proper login procedures, refer to the *Basic programming instructions* section in this book.
2	**Print a TN Block of the telephone you plan to move.**
	Refer to the *Basic programming instructions* section in this book for more information on printing a TN Block for one telephone Remove this TN from any records you might have.
3	**Print a TN Block of the line card to which this telephone is connected.**
	Refer to the *Basic programming instructions* section in this book for more information on printing a TN Block for the TNs on one line card.
4	**Look for a data TN associated with this telephone.**
	Look at the TN Block of the line card.

— continued —

Moving a telephone

STEP ACTION

4 continued ...

If	Do
you know there is a data terminal to be moved, and this telephone is dial, Digitone-type or SL-1-type	You should ask your system supplier what the data terminal TN is. Go to step 5.
the telephone is digital and connected to a card with 16 total TNS	Look for the unit numbers of the telephone TNs coupled with the data TNs in the following manner: 0–8, 1–9, 2–10, 3–11, 4–12, 5–13, 6–14, 7–15. Go to step 5.
the telephone is digital and connected to a card with 32 total TNS	Look for the unit numbers of the telephone TNs coupled with the data TNs in the following manner: 0–16, 1–17, 2–18, 3–19, 4–20, 5–21, 6–22, 7–23, 8–24, 9–25, 10–26, 11–27, 12–28, 13–29, 14–30, 15–31. Go to step 5.

5 Look at the printout to see if there will be any TNs programmed on that line card, after you move the telephone.

If	Do
there will not be any TNs programmed	Decide, with your system maintainer, whether the line card should be removed from the card slot. Update your records. Go to step 6.
there will be at least one TN programmed	step 6.

— continued —

Moving a telephone

STEP	ACTION
6	**Print a TN Block of the system.**

Refer to the *Basic programming instructions* section in this book for more information on printing a TN Block for the TNs on your system.

Assess the impact that the move of this telephone will have on other telephones at the old jack and new jack locations.

Make the necessary changes to the programming of these telephones. Refer to the earlier information in this module for help.

STEP	ACTION
7	**Move the telephone in the database.**

Refer to *Basic programming instructions* in this book for information on the types of telephones and the overlay program to use for each type.

> LD 10 or **>** LD 11

REQ	MOV	Move the telephone or data terminal
	MOV PAIR	Move the telephone and its associated data terminal (only for octal-density line cards)
TYPE		Input correct type of 500 (dial or Digitone-type), SL-1 or digital telephone, or data terminal (MCA or MCU)
TN	L S C U	Input the old Terminal Number of the telephone (**L**oop number, **S**helf number, **C**ard number, **U**nit number)
TOTN	L S C U	Input the new Terminal Number of the telephone (**L**oop number, **S**helf number, **C**ard number, **U**nit number)

— continued —

Moving a telephone

STEP	ACTION
8	**Finish the overlay program.**
	Carriage return until you see one of the following messages: **`U.data P.data`** small systems or **`MEM AVAIL: (U/P) USED:TOT:`** large systems When one of these messages appears, your Service Change has been entered into the memory.
9	**Check that the programming which you have just done is correct.**
	Request two printouts of the TN Block for the telephone you moved, one for the old TN and another for the new TN. **If** — **Do** TNB prints correctly — step 10. TNB does not print correctly — step 1.
10	**Make any changes you want to make to the telephone.**
	Refer to the Task modules in this book that apply to the changes you want to make. Refer to the *X11 input/output guide* for the changes you want to make that are not in this book.
11	**Arrange for a data dump to be performed.**
	If — **Do** you do not have access to LD 43 — Contact your system supplier. you have access to LD 43 — step 12.

— continued —

Moving a telephone

STEP	ACTION
12	**Perform a data dump to permanently store the programming you have just completed.**

CAUTION
Check your maintenance agreement before working in LD 43.

Refer to the *Basic programming instructions* module in this book or refer to the *X11 input/output guide* for more information on LD 43.

```
> LD 43

. EDD <cr>
```

STEP	ACTION
13	**Verify that the dump was successful.**

TTY response:

NO GO BAD DATA

or

DATA DUMP COMPLETE

If	Do
data dump fails	Contact your system supplier.
data dump succeeds	step 14.

— continued —

Moving a telephone

STEP	ACTION
14	**Terminate this overlay program.**
	. ****
15	**Terminate this programming session.**
	Log off.
	> LOGO
16	**You have completed the programming required to move a telephone.**
	END

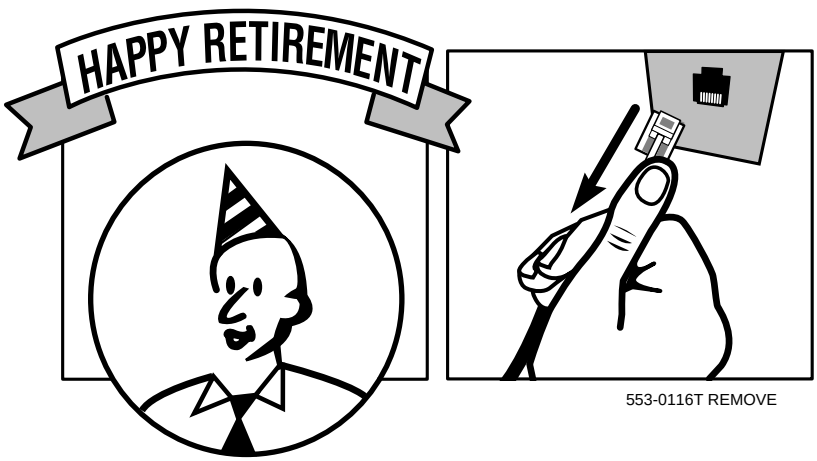
Moving a telephone

Removing a telephone

Purpose

You remove a telephone from the data base when:

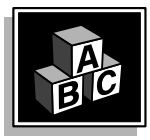
- the user no longer needs a telephone
- there is no longer a user at that location
- the user is moving to a new location



553-0116T REMOVE

Removing a telephone

Preparation



This part tells you what issues to consider before you remove a telephone from the data base.

Physical check

Before you remove a telephone from a jack and disconnect the service in the data base, you might want to look at the location where the telephone is. This helps you to discover other equipment, related or unrelated to the telephone system, which you must also disconnect. For example, there might be a PC, a printer, or a fax which you need to move or remove at the same time.

Do not simply unplug the telephone

- It is not a good idea to remove the telephone from the jack without removing it in the database also.
  - If the telephone is digital or SL-1-type, the system disables the jack after a period of time, and prints out a warning message on the maintenance printer.
  - If the telephone is dial or Digitone-type, the jack remains in service and a user can plug in another telephone of the same type and get service. You can catch this when you monitor your Call Detail Recording printouts. If you are not doing this monitoring, the user can use that jack to make calls that cost you money.
- A jack is connected to a unit on a line card (a Terminal Number or TN). If you leave jacks programmed with active TNs that have no connected telephones, you end up purchasing additional line cards for new telephones when in fact you already have the necessary line cards with enough capacity. This is a needless expense. If the situation is allowed to continue, you can end up buying extra shelves and modules for the extra line cards and your system gets increasingly difficult to manage.

Removing a telephone

Line cards

When you remove a TN, you can check if that is the last one programmed on a particular line card. If it is, you might want the technician who maintains your system to remove the card from the system. You can keep it as a spare card or even use the card slot for another type of card that you need for other types of terminals.

You will be doing a printout of the TN Block before you remove the telephone, and you can look at the printout to see if there are any other programmed TNs on the same card. If not, the technician can remove the card from the card slot.

TN-Block printout

You need to do a TN-Block (TNB) printout before you remove the telephone for a number of reasons.

- It shows the programming of the telephone that you are about to remove.
- It shows the programming of other telephones which will be affected if you remove this telephone.
- It shows whether there are any other TNs on the same line card.
- In the case of a digital telephone, it shows you whether there is an associated data terminal to remove, along with the telephone.

Make the necessary adjustments, if any, to other telephones before you remove this one.

Use the TNB printout to find out the following:

- If the telephone is the only one using the DN that is assigned to it, remove the DN from your Numbering Plan, if you keep one. The DN Block in the system memory is automatically changed when the telephone is removed from the database.
- If the telephone is the Multiple Appearance DN Redirection Prime (MARP) for the DN(s) assigned to it, when you remove the telephone, the system reassigns the MARP. If *you* want to assign the MARP, decide what telephone for each DN (or DNs) on this telephone is to be the MARP and reprogram accordingly.

  For more information on the MARP feature, refer to Task 40*Multiple Appearance DN Redirection Prime.*

Removing a telephone

- If you keep records of the TNs in use, separate from the TN Block printouts, you should update your records to show the TN is available, after the telephone is removed.
- If the telephone is digital or SL-1-type, are any DN(s) on the telephone programmed for Multiple Call functionality?

  Look for MCR or MCN as the mnemonic in front of the DN number associated with a key. Look for other telephone(s) with the same DN programmed. If there is only one other, change that other telephone to a Single Call functionality, unless you intend to add other telephones with the same DN and set them up for Multiple Call. There is no point in having a single appearance DN programmed for Multiple Call functionality.

  For more information on Single Call and Multiple Call functionality, refer to any of the Tasks 1–14.
- Is this telephone a Speed Call Controller?

  Look for SSC (System Speed Call Controller) or SCC (Speed Call Controller) followed by a Speed Call list number. Look for other telephones in the printout that control the same list number. If the telephone you are removing is the only Controller of the list, then you should make another telephone the Controller before you remove this telephone.

  If you do not have a Speed Call Controller for this list, you will have to program new numbers on that list from the TTY. Reprogram the other telephone. Train the user on how to be a Speed Call Controller.

  For more information on the Speed Call feature, refer to Task 32*Speed Call and System Speed Call*.

- Are other telephones programmed to Hunt calls to this telephone when they are busy?

  Look for other telephones programmed with the DN of this telephone as the HUNT DN (or EHT DN, if you have activated Call Forward by Call Type).

  For more information on the Hunting feature, refer to Task 38*Hunting*. Refer to *Basic programming instructions* for further information on how to print out Hunt chains.

Removing a telephone

- Are other telephones programmed to forward calls to this telephone when they are not answered?

  Look for other telephones programmed with the DN of this telephone as the FDN (or EFD DN, if you have activated Call Forward by Call Type).

  If your Customer Data Block is not programmed for FDN but is programmed for HNT instead, then look for the HUNT DN (or EHT DN, if you have activated Call Forward by Call Type).

  For more information on the Call Forward No Answer feature, refer to Task 37*Call Forward No Answer*.

- Is there another telephone that is a Hot Line which has the DN of this telephone as the DN signaled by that Hot Line telephone?

  You might need to reprogram the Hot Line telephone to signal some other DN.

  For more information on the Hot Line feature, refer to *X11 features and services*.

- Is this telephone the last or second to the last telephone in a Dial Intercom Group?

  Look for the DIG mnemonic followed by a group number. If this telephone is one of two remaining members in the group, reprogram the other telephone to remove the DIG function. If this telephone is the only remaining member, update your records, if you keep them, to reflect the removal of this group from your system.

  For more information on the Dial Intercom Group feature, refer to *X11 features and services*.

- Is there a name in your database associated with the DN(s) on this telephone?

  Remove the name(s) in LD 95, if you have access to it, or ask your system supplier to remove the name(s) for you.

  For more information on the Call Party Name Display feature, refer to *X11 features and services*.

Removing a telephone

- Is this telephone the last one with a particular Trunk Group Access Restrictions (TGAR) code?

  Are there any other telephones with the same TGAR code?

  If not:

  – update your records to indicate that the TGAR code is no longer in use, after you remove this telephone

  – arrange to have the programming of your trunk groups changed so the TGAR code for this telephone is no longer programmed as a TARG code on any trunk group

  For more information on the Trunk Group Access Restrictions feature, refer to Task 45*Trunk Group Access Restriction*.

- Is this telephone the last one with a particular Network Class of Service (NCOS) number?

  Are there any other telephones with the same NCOS number?

  If not:

  – update your records to indicate that the NCOS number is no longer in use, after you remove this telephone

  – arrange to have the programming of your route lists assessed (if you have Basic Automatic Route Selection [BARS], or Network Alternate Route Selection [NARS], or Coordinated Dialing Plan [CDP]) so the routing of calls reflects the NCOSs which remain.
  If you have New Flexible Code Restriction (NFCR), ask your system supplier to evaluate any changes to that database which are required, if you remove the telephone and it is the last one in this NCOS group.

  For more information on the Network Class of Service, refer to BARS/NARS in the *Networking binder.*

- Is this telephone the last one with a particular Scheduled Access Restrictions Group (SGRP) number?

  Ask your system supplier to assess the impact this has on the reprogramming of the Scheduled Access Restrictions database. Update your records.

Removing a telephone

For more information on the Scheduled Access Restrictions feature, refer to *X11 features and services*.

- Does the user of this telephone have an Authorization Code assigned?

  When you remove the telephone from the database you should arrange to have the Authorization Code deactivated or removed from the database.

  For more information on the Authorization Code feature, refer to *X11 features and services*.

Moving a telephone

Instead of removing the telephone programming from the database and then reprogramming it as a new telephone at another location, you can use the MOV command when you are programming. There is more information on moving telephones in Task 47.

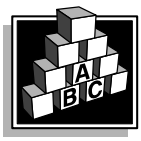
Your system maintainer might prefer to move telephones by working on the cross-connect panel, instead of using the software. Discuss the alternatives with your system maintainer.

Interactions with other features

Removing a telephone can affect features and other telephones. You need to be aware of, and understand, these interactions before programming. Refer to the information presented in the previous section called, *Use the TNB printout to find out the following.*

Removing a telephone

Improving performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Control tips

- The information in the *Preparation* section of this module pertains to control issues related to removing telephones.

Administration tips

- Record keeping is critical when you remove telephones from your system. When such things as Speed Call lists are no longer used because telephones were removed, it is a good idea to reassign these list numbers to new users instead of assigning the highest new list numbers. This way your system uses less memory and is easier to manage.
- Update your directories and any outside publications showing the DN which is removed.

Training tips

- If the removal of a telephone causes you to reprogram other telephones, assess whether any training is required to tell the users about the changes. One common example is when a frequently dialed DN is removed and a new DN is assigned. Users, including the attendant(s), need clear instructions in advance about the change.

Removing a telephone

What to have ready

The following checklist summarizes the steps you should take before removing a telephone.

Table 251
Checklist

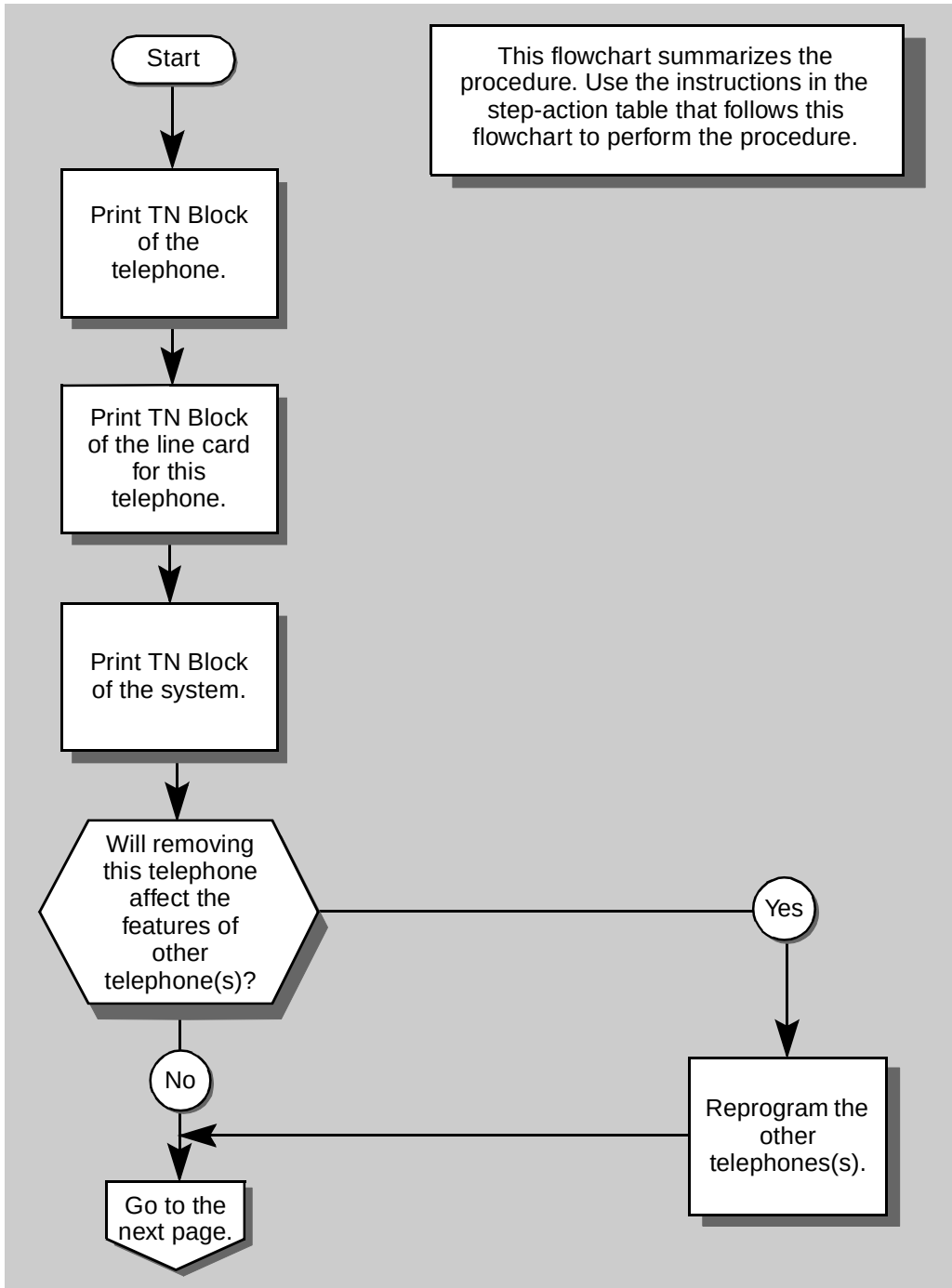
Basic	Optional	Preparation
✔		Determine the TN which is assigned to this telephone. If you do not have a record of the TN, ask your system supplier.
✔		Print a TN Block of the telephone.
✔		Print a TN Block of the line card to which this telephone is connected.
✔		Print a TN Block of the system.
✔		Do a physical check of the telephone location.
✔		Make the necessary programming changes to other telephones and features affected by the removal of this telephone.
	✔	Train users, if necessary, on any changes which affect them.
	✔	Update your records.

What's next?

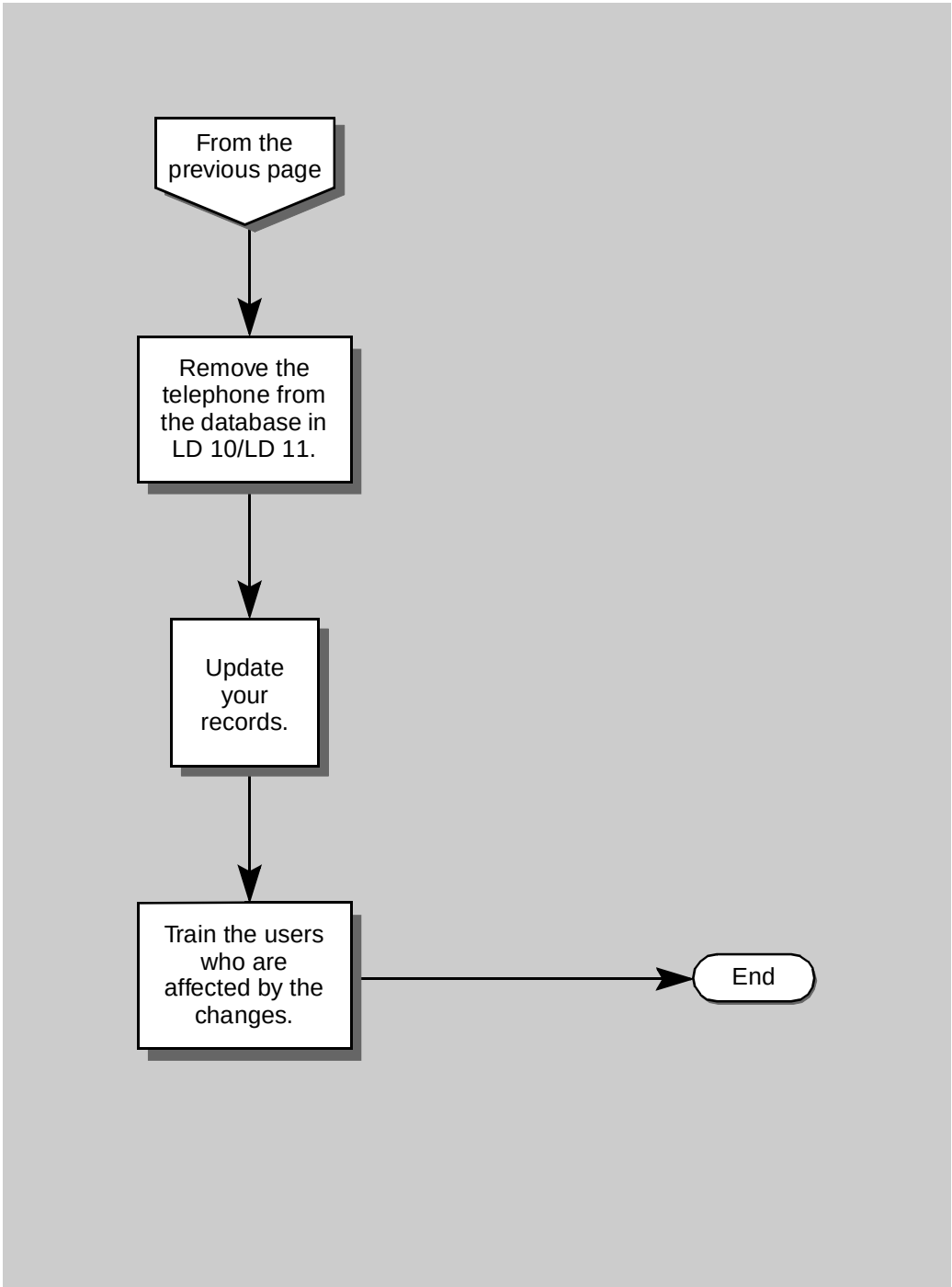
A flowchart follows which summarizes the implementation decisions and procedures for removing a telephone.

A step-action table follows the flowchart. The table explains the programming steps necessary to remove a telephone.

Removing a telephone



Removing a telephone



Removing a telephone

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the removal of a telephone only.

SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION
1	**Log in**
	For information on proper login procedures, refer to *Basic programming instructions* in this book.
2	**Print a TN Block of the telephone you plan to remove.**
	Refer to the *Basic programming instructions* section in this book for more information on printing a TN Block for one telephone Remove this TN from any records you might have.
3	**Print a TN Block of the line card to which this telephone is connected.**
	Refer to the *Basic programming instructions* section in this book for more information on printing a TN Block for the TNs on one line card.
4	**Look for a data TN associated with this telephone.**
	Look at the TN Block of the line card. **If** / **Do** you know there is a data terminal to be removed, and this telephone is dial, Digitone-type or SL-1-type, you should ask your system supplier what the data terminal TN is. — Arrange with your system supplier to have the data terminal removed.

More choices on next page...

— continued —

Removing a telephone

STEP	ACTION
4 continued ...	
	the telephone is digital and connected to a card with 16 total TNs: Look for the unit numbers of the telephone TNs coupled with the data TNs in the following manner: 0–8, 1–9, 2–10, 3–11, 4–12, 5–13, 6–14, 7–15. Ask your system supplier to remove the associated data terminal unit number after you remove the telephone unit number. Go to step 5.
	the telephone is digital and connected to a card with 32 total TNs: Look for the unit numbers of the telephone TNs coupled with the data TNs in the following manner: 0–16, 1–17, 2–18, 3–19, 4–20, 5–21, 6–22, 7–23, 8–24, 9–25, 10–26, 11–27, 12–28, 13–29, 14–30, 15–31. Ask your system supplier to remove the associated data terminal unit number when you remove the telephone unit number. Go to step 5.
5	**Look at the printout to see if there will be any TNs programmed on that line card, after you remove the telephone.**
	If / **Do**
	there will not be any TNs programmed: Decide, with your system maintainer, whether the line card should be removed from the card slot. Update your records. Go to step 6.
	there will be at least one TN programmed: step 6
6	**Print a TN Block of the system.**
	Refer to the *Basic programming instructions* section in this book for more information on printing a TN Block for the TNs on your system.
	You will need the printout for the following steps.

— continued —

Removing a telephone

STEP	ACTION
7	**If this is a single appearance DN, update your Numbering Plan records.**
	Look at the system TN Block. If no other telephone has the same DN(s) as this telephone, remove the DN(s) from your record of used DNs.
8	**Look at the TN Block for the telephone to see if it is the MARP TN for any DN it has.**

If	Do
it is the MARP TN	Look at the TN Block for the system. Find other telephones with the same DN. Decide what telephone you will change to be the MARP TN. Refer to Task 40*Multiple Appearance DN Redirection Prime*, for help programming the other telephone. Go to step 9.
it is not the MARP TN	step 9

9	**Look at the TN Block for the telephone to see if any DN it has is a Multiple Call DN.**
	For further information on Multiple Call DNs refer to any of the Tasks 1–14 in the *Making a telephone work* section. Look at the TN Block of your system. Find other TNs with the same DN.

If	Do
there is only one other telephone with this DN	Change that telephone DN appearance to Single Call type.
there is only one other telephone with this DN but you plan to add another telephone with this DN	You can leave the other appearance of the DN programmed as Multiple Call type.
there is more than one other telephone with this DN	You can leave the other appearance of the DN programmed as Multiple Call type.

— continued —

Removing a telephone

STEP	ACTION
10	**Look at the TN Block for the telephone to see if it is a Speed Call Controller.**

Look at the TN Block of your system. Look for other telephones that are Controllers of the same Speed Call list.

Look for a Speed Call Controller (SCC XXXX) or a System Speed Call Controller (SSC XXXX) where XXXX represents a list number.

If there are no other telephones that control the same list, decide what telephone you want to change to become the Controller and make the change.

For further information on programming the Speed Call feature, refer to Task 32*Speed Call and System Speed Call*. For further information on System Speed Call refer to *X11 software features and services*.

Plan to train the user who is the new Controller.

11 Find out how the removal of the telephone might impact a Hunt chain.

Look at the TN Block of the system. Find other telephones that use a DN from this telephone as the Hunt DN (or EHT DN if you have Call Forward by Call Type activated).

If you have ODAS software package 20, and Call Forward by Call Type is not active, you can print the Hunt chain this telephone is involved in. Use LD 82.

```
> LD 82
```

REQ	HNT	Print a hunt chain
CUST	X	Input your customer group number (0–31 pre-Release 14)
		(0–99 Release 14 and later)
DATE	<cr>	disregard date restrictions
PAGE	<cr>	data not printed on a per-page basis
DES	<cr>	disregard DES
DN	X..X	Input one of the DNs on this telephone

— continued —

Removing a telephone

STEP	ACTION
11 continued ...	

carriage return until your printout appears

For the DN you specified, it shows you the DN which Hunts to it and the DN to which it Hunts.

Repeat the printing until you have specified all the DNs on this telephone.

If	Do
no other telephone Hunts to this telephone	step 12
there is another telephone remaining with the same DN as the telephone you are removing	step 12
another telephone Hunts to a DN on this telephone and the telephone you are removing is the only appearance of that DN	Reprogram the other telephone to Hunt to a different DN. Refer to Task 38*Hunting*. Then go to step 12.

12 Find out how the removal of the telephone might impact Call Forward No Answer for another telephone.

Look at the TN Block of the system. Find other telephones that use a DN from this telephone to forward calls when unanswered.

Find out what treatments are programmed in your Customer Data Block for Call Forward No Answer.

Refer to Task 37*Call Forward No Answer*, if you need more information.

— continued —

Removing a telephone

STEP ACTION

12 continued ...

If	Do
LD 15 treatments are HNT	Look for other telephones that have a DN from this telephone as their Hunt DN (or EHT DN, if you have Call Forward by Call Type activated).
LD 15 treatments are FDN	Look for other telephones that have a DN from this telephone as their FDN (or EFD, if you have Call Forward by Call Type activated).

If	Do
no other telephone forwards to this telephone	step 13
there is another telephone remaining with the same DN as the telephone you are removing	step 13
another telephone forwards to a DN on this telephone and the telephone you are removing is the only appearance of that DN	Reprogram the other telephone to forward to a different DN. Refer to Task 37*Call Forward No Answer*. Then go to step 13.

13 Find out how the removal of the telephone might impact the Hot Line feature programmed at another telephone.

Look at the TN Block of the system. Look for any telephones that use the Hot Line feature to signal a DN from this telephone.

Refer to *X11 features and services*, if you need more information on the Hot Line feature.

— continued —

Removing a telephone

STEP	ACTION

13 continued ...

If	Do
there are no Hot Lines	step 14
there are other appearances of the DN(s) on this telephone	step 14
there are Hot Lines programmed to signal a DN on this telephone and this telephone is the only appearance of the DN	Arrange with your system supplier to have the Hot Line(s) reprogrammed to signal a different DN. Then go to step 14.

14 Find out how the removal of the telephone might impact the Dial Intercom Group feature programmed at another telephone.

Look at the printout of the TN Block for the telephone. Look for the Dial Intercom Group (DIG) number for this telephone.

Look at the system TN Block. Look for other telephones that belong to the same group.

If there is only one other telephone in this group, arrange to have it reprogrammed to remove the feature, unless you will be adding other telephones to the group.

Refer to *X11 features and services*, if you need more information on the Dial Intercom Group feature.

15 Remove the Call Party Name Display (CPND) name(s) from the database.

Ask your system supplier to check the programming of the CPND database (LD 95) to find out whether there are names associated with the DN(s) on this telephone.

These names should be removed from LD 95, if the DN(s) on this telephone do not appear on any other telephones.

Refer to *X11 features and services*, if you need more information on the Call Party Name Display feature.

— continued —

Removing a telephone

STEP	ACTION
16	**Adjust TARG and TGAR programming.**
	Look at the system TN Block printout and the TN block printout for this telephone. Find out if this telephone is the only one with the Trunk Group Access Restrictions (TGAR) code it has. If it is the only telephone with that TGAR code, ask your system supplier to remove the code from the TGAR programming of the trunk groups. Remove the TGAR from your records. Refer to Task 45 *Trunk Group Access Restriction* if you need more information.
17	**Adjust NCOS related data.**
	Look at the system TN Block printout and the TN block printout for this telephone. If this telephone is the only one with a particular Network Class of Service (NCOS), arrange to have your system supplier assess the impact that removing this telephone might have on the Basic Automatic Route Selection (BARS), Network Alternate Route Selection (NARS), Coordinated Dialing Plan (CDP), or New Flexible Code Restriction (NFCR) programming at your site. Refer to the *Networking* binder if you need more information on these features.
18	**Adjust Authorization Code data.**
	If the user of the telephone to be removed has an authorization code, arrange to have the code removed from the data base or deactivated. Refer to *X11 features and services* if you need more information on the Authorization Code feature.
19	**Adjust Scheduled Access Restrictions Group (SGRP) data.**
	Look at the system TN Block printout and the TN block printout for this telephone. If this telephone is the only one with a particular SGRP code, arrange to have your system supplier assess the impact that removing this telephone might have on the SAR Group programming at your site. Refer to *X11 features and services*, if you need more information.

— continued —

Removing a telephone

STEP	ACTION

20 Remove the telephone from the database.

Refer to *Basic programming instructions* in this book for information on the types of telephones and the overlay program to use for each type.

> LD 10 or **>** LD 11

REQ	OUT	Remove from the database You can follow the OUT command with a number from 1 to 32, if you are removing several telephones at once. You are prompted for the starting TN only, the next TNs in sequence are automatically removed.
TYPE		Input correct type of 500 (dial or Digitone-type), SL-1 or digital telephone
TN	L S C U	Input the Terminal Number of the telephone (**L**oop number, **S**helf number, **C**ard number, **U**nit number)

21 Finish the overlay program.

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your Service Change has been entered into the memory.

— continued —

Removing a telephone

STEP	ACTION
22	**Check that the programming which you have just done is correct.**

Attempt a printout of the TN Block for the telephone you removed.

If	Do
TN data does not print	step 23
TN data does print	step 20

STEP	ACTION
23	**Remove any associated data terminal TN.**

If	Do
there is no data terminal	step 24
there is a data terminal	Ask your system supplier to remove the data TN. Then go to step 24.

STEP	ACTION
24	**Arrange for a data dump to be performed.**

If	Do
you do not have access to LD 43	Contact your system supplier.
you have access to LD 43	step 25

— continued —

Removing a telephone

STEP	ACTION

25 Perform a data dump to permanently store the programming you have just completed.

CAUTION
Check your maintenance agreement before working in LD 43.

Refer to the *Basic programming instructions* module in this book or refer to the *X11 input/output guide* for more information on LD 43.

```
> LD 43

. EDD <cr>
```

26 Verify that the dump was successful.

TTY response:

NO GO BAD DATA
or
DATA DUMP COMPLETE

If	Do
data dump fails	Contact your system supplier.
data dump succeeds	step 27

— continued —

Removing a telephone

STEP	ACTION
27	**Terminate this overlay program.**
	. ****
28	**Terminate this programming session.**
	Log off.
	> LOGO
29	**You have completed the programming required to remove a telephone.**
	END

Removing a telephone

Terms and abbreviations

2500 set

A Digitone telephone. It is an analog telephone that has buttons, on a key-pad, on the front. When each button is pressed, the telephone transmits a unique tone which represents the digit corresponding to the button pressed. Calls are made by pressing these buttons for the digits in the phone number to be called.

500 set

Dial telephone, sometimes called a rotary telephone. It has a rotary device on the front, used for the purpose of dialing digits to make calls. Each time a person turns the dial with a finger in one of the holes, the dial returns to its rest position. In doing so, the circuit connecting the telephone to the system is broken and reconnected the number of times marked beside the hole in the dial.

Access Restrictions

Sometimes called the Class of Service of a telephone. It is only one component of the Class of Service. The access-restriction type controls the types of calls which can be made from a telephone. For example, if the access-restriction type is programmed as Toll Denied, the telephone cannot be used to make any calls where the digit 1 or 0 is the first or second digit following the access code digits.

There are many different Access Restrictions types that have different levels of control of the types of calls that can be made from the telephone.

ACD (Automatic Call Distribution)

Application software that puts incoming calls in a queue to one or more telephones referred to as agent telephones. The longest-waiting call is sent to the agent telephone that has been idle for the longest time. Incoming calls can be given a priority and answered at a

prioritized telephone as an option. There are enhancements which can be added to basic ACD functionality to help with management and reporting tasks and also to customize and enhance the treatment incoming calls are given. ACD software packages A, B, C, D, and Custom Controlled Routing offer enhancements to management tools and reports, in order to add to the functionality of basic ACD.

analog (500/2500 type) telephone

A name that replaces PBX set. The name describes a standard telephone set that works on many telephone systems. Examples of these systems are the Meridian 1, DMS or other vendors systems. Analog (500/2500 type) telephone describes the North American 500 set, United Kingdom analogue rotary dial, North American 2500 set, United Kingdom MF 4 and Unity telephones.

application processor

A special purpose computer that attaches to the Meridian 1 system to decrease the load on the system processor. The application processor provides value-added and special services. Application processors are used with voice mail, interactive voice response, and automatic call distribution.

Aries telephones

Digital telephones called the M2006, M2008, M2216ACD, M2616 telephones. They are also known as Meridian Modular Digital telephones.

attendant

The main answering position on a system. From the attendant position, incoming calls are transferred to internal telephones. The terminal used at the attendant position is called a console. There can be one or more attendants on a system, although some systems do not have any attendants. Attendants can answer incoming calls for the main listed number, recalls which have not been answered, calls from users who are dialing incorrectly, and calls from users who are attempting to place restricted calls.

Automatic Call Distribution (ACD)

Application software that puts incoming calls in a queue to one or more telephones referred to as agent telephones. The longest-waiting call is sent to the agent telephone that has been idle for the longest time. Incoming calls can be given a priority and answered at a prioritized telephone as an option. There are enhancements which can be added to basic ACD functionality to help with management and reporting tasks and also to customize and enhance the treatment incoming calls are given. ACD software packages A, B, C, D, and Custom Controlled Routing offer enhancements to management tools and reports, in order to add to the functionality of basic ACD.

backup answering

Otherwise known as Call Redirection, backup answering refers to the answering of calls done at a telephone or voice messaging port when the originally dialed caller is busy, not answering, or does not wish to be disturbed, and features like Call Forward are active.

Basic Rate Interface (BRI)

An international standard for connecting terminals to a system. One BRI connection is composed of 2 B-channels at 64 kbit/s each, and 1 D-channel at 16 kbit/s.

BCS set (Business Communication Set)

Nortel Networks term for analog telephones called SL-1 telephones and M1009, M1109, and M1309 telephones.

BRI (Basic Rate Interface)

An international standard for connecting terminals to a system. One BRI connection is composed of two B-channels at 64 kbit/s each, and one D-channel at 16 kbit/s.

Business Communication Set (BCS set)

Nortel Networks term for analog telephones called SL-1 telephones and M1009, M1109, and M1309 telephones.

Call Center

Another term for a queue of incoming calls being answered by one or more telephones.

Call Detail Recording (CDR)

CDR records can be printed when calls are dialed. CDR records show information about the number dialed, the telephones involved and the duration of the call. Additional information can be printed when CDR enhancements are installed on a system.

Call Pickup

Also called pickup, ringing number pickup. The feature that allows one user to answer an incoming call ringing at another telephone.

call redirection

Also known as backup answering, call redirection refers to the answering of calls done at a telephone or voice messaging port when the originally dialed caller is busy, not answering, or does not wish to be disturbed, and features like Call Forward are active.

Camp-On

This feature allows an attendant to extend a call to a busy telephone. The user of the telephone hears a tone indicating a call is Camped-On. When the user hangs up, the Camped-On call rings the telephone. If the user does not hang up within a programmed amount of time after hearing the tone, the Camped-On call recalls to the attendant.

carriage return

An instruction directing you to press the key on the keyboard marked ENTER, or RETURN. You press the key to indicate that you have finished a line of input. In this book the symbol <cr> is used for carriage return.

CCS (Centa Call Seconds)

A unit of measurement of time. 1 ccs is 100 seconds.

CCSA (Common Control Switching Arrangement)

A service offered by AT&T for private networks that allows any telephone in the network to call another using a seven-digit number.

CDR (Call Detail Recording)

CDR records can be printed when calls are dialed. CDR records show information about the number dialed, the telephones involved and the duration of the call. Additional information can be printed when CDR enhancements are installed on a system.

CE (Common Equipment)

A term for the part of the system that controls the operation of other system components. Common equipment is composed of CPU, memory, input/output ports, and disk storage.

Central Office (CO)

A large telephone switching system that provides service to subscribers located over a large geographic area, usually as part of a public or military switched telephone network.

Central Office trunk (COT)

A central office trunk is a circuit between a public exchange network switch and a Meridian 1 system.

central processing unit (CPU)

The card that controls the functions of the other system components, following instructions it gets from the system memory. Some systems have one CPU and others have two.

Centrex

A type of telephone system that usually resides in the central office and can serve telephones distributed over a wide area. The Nortel Networks system that provides this functionality is called the DMS. It provides services and features that are similar to those of a PBX and some that are different.

Terms and abbreviations

channel

A transmission path capable of carrying voice or data.

Class of Service

There are many different capabilities and features which can be activated or deactivated for each telephone or trunk. A programming term is used to refer to these capabilities and features collectively. It is Class of Service. For example, the Last Number Redial feature is activated in the Class of Service.

Some people use the term Class of Service when they are referring to one particular feature called Access Restrictions. When you program Trunks, Meridian Mail channels, Authorization Codes, and Direct Inward System Access ports, you assign a class of service which is in fact the access-restriction type.

CO (Central Office)

In North America a central office is the facility containing the switching equipment that provides telephone service to subscribers in the immediate geographical area.

CODEC (coder-decoder)

A device that codes analog signals into digital signals. It also decodes digital signals into analog signals.

Common Equipment (CE)

A term for the part of the system that controls the operation of other system components. Common equipment is composed of CPU, memory, input/output ports, and disk storage.

COMPANION™

Meridian COMPANION ™ systems offer digital wireless telephone capabilities to Meridian 1 systems that use software later than Release 15. Wireless telephone users can travel around their coverage area while answering, initiating, continuing, or transferring telephone calls using low-powered, pocket-size telephones.

CONF (Conference Card)

The interface card in the system that is responsible for adding additional timeslots to an existing call so that more than two people can be bridged together for one call.

configuration record

A programmable data block that describes the location and function of the CE hardware in the system. The configuration record is programmed in overlay program (load) 17.

confirmation tone

A form of special dial tone that indicates to a telephone user that a feature has been activated.

COT (Central Office trunk)

A central office trunk is a circuit between a public exchange network switch and a Meridian 1 system.

CPU (central processing unit)

The card that controls the functions of the other system components, following instructions it gets from the system memory. Some systems have one CPU and others have two.

cross-connect panel

Sometimes called the jumper panel or main distribution frame (MDF). The panel where wires from telephones and trunks are interconnected with corresponding wires from the system's line and trunks cards.

CSA trunk

Common Control Switching Arrangement trunk. See CCSA.

customer group

A group of users with their own trunk groups, attendants, features and Numbering Plan. A system can be used by one or more unique customer groups.

Terms and abbreviations

Data dump

Storing information from memory onto disks.

DDI (Direct Dialing In)

External callers dialing internal telephones directly, without the intervention of an attendant or interactive voice response system.

default

The response which is preprogrammed in the system software for a prompt which must have a response. If the programmer does not enter any value for this particular element or prompt, then the default value is retained in the database. These default responses, along with the changed data, are shown when a printout is made. They are also explained in the programming sections of this book and the other programming guides available from Nortel Networks.

density

A term that refers to the number of terminals that can be connected to a card. Early vintages of cards, such as line cards and trunk cards, had capacities for fewer terminals than the cards that are made today. Early cards are referred to as single density. Later cards are called double density to indicate that the capacity had doubled. Still later, cards were introduced that are called quadruple (quad) density and octal density.

Designator (DES)

An alphanumeric code that a programmer associates with a telephone, if the system is equipped with Office Data Administration Software package 20 (ODAS). The code can be up to six characters in length. It can be used to identify the telephone in some way that helps the programmer, usually for record keeping purposes. The programmer decides what the codes will be, and what they will mean. Printouts can be made of telephones with specified DES codes to sort the telephone database according to DES code parameters.

For example, the DES system could be set up to identify what department the telephone is in and the floor and building where it is installed. A telephone that is in the accounting department, and on floor 2 of building 1 could have a DES code which is ACF2B1. The programmer could request a printout of all telephones with DES codes that begin with the letters AC, to find out what telephones belong to the accounting department.

Dial tone

The tone produced by the system after a user lifts the telephone handset to initiate a call. This tone is heard through the handset or on the handsfree speaker, if the user is doing on-hook dialing. The user can dial a call when this tone is heard.

DID (Direct Inward Dialing)

External callers dialing internal telephones directly, without the intervention of an attendant or interactive voice response system.

DID trunk

A trunking feature that allows telephone callers connected to the public exchange network to dial directly to a telephone connected to the Meridian 1 system. DID happens without the intervention of an attendant or interactive voice system.

digital telephones

A telephone which uses digital signaling. Analog voice is converted into a digital signal within the telephone. A Macintosh, IBM-PC or other data terminal can be connected to the telephone. The data to and from that terminal is multiplexed on the same set of wires used by the telephone for voice calls.

Digitone

Tones used for signaling the digits 0 through 9, # and *. The tones are a combination of two voice frequencies, a high tone and a low tone.

Digitone-type telephone

An analog telephone that has buttons, on a key-pad, on the front. When each button is pressed, the telephone transmits a unique tone which represents the digit corresponding to the button pressed. Calls are made by pressing these buttons for the digits in the phone number to be called.

DIP

A signaling system that uses electrical pulses to transmit digits.

Direct Inward Dialing (DID)

External callers dialing internal telephones directly, without the intervention of an attendant or interactive voice response system.

Direct Inward System Access (DISA)

A port configured to allow external callers to use the system as if they were internal users.

Directory Number (DN)

A telephone number. This is the number internal callers dial to ring a telephone.

DISA (Direct Inward System Access)

A port configured to allow external callers to use the system as if they were internal users.

disks

Magnetic data storage media.

Distinctive Ringing

There are three features that you can program that cause a telephone to ring differently from the way it rings normally.

You can use the feature called Distinctive Ringing to allow a user to recognize when a call from a particular trunk group is ringing a telephone. If this feature is activated on all trunk groups, then the telephone rings distinctively whenever an external call comes in.

You can program digital telephones to ring in one of four different ringing styles called Distinctive Ringing Groups. This allows a user to differentiate the various telephones when they ring.

You can program a telephone to ring distinctively when a call from a Dial Intercom Group member comes into the telephone. The user can then differentiate a call to a DN as opposed to an incoming call from the intercom group.

DLC (Digital Line Card)

An intelligent digital line card used on systems with Superloops. It can accommodate up to 16 digital telephones and 16 associated data terminals.

DN (Directory Number)

A telephone number. This is the number callers dial to ring a telephone.

download

To receive data from another device.

DTMF

Dual Tone Multi Frequency. See Digitone.

DTN (Digitone)

Tones used for signaling the digits 0 through 9, # and *. The tones are a combination of two voice frequencies, a high tone and a low tone.

DTR (digitone receiver)

A card with Digitone receiver units on it. The DTR units translate analog Digitone signals into a digital format.

Terms and abbreviations

Enhanced network

A card accommodating two loops. Each loop has 32 timeslots.

exchange network

The global network made up of telephone switches operated for the public by telephone utility companies and governments.

fast busy tone

A tone that sounds like busy tone, but turns on and off at a faster rate. Typically, fast busy tone is used to indicate that a call is not progressing or cannot be completed. It may also be called overflow or reorder tone.

features

Capabilities assigned to the terminals which allow the users to do more than make and receive basic calls. Features range from basic Call Transfer to something as complex as Network-wide Message Waiting. Features are provided by system software which is sometimes basic to every system or packaged as separate options which are either chargeable or non-chargeable. In programming a regular telephone there is an element of programming referred to as the “feature prompt”. This element of programming controls certain capabilities which can be activated for that telephone. Some capabilities are activated in the Class of Service. This book explains which capabilities are activated as a feature and which are activated in the Class of Service.

FEX (Foreign Exchange Trunk)

A trunk that provides telephone service to and from a public exchange switch that is outside the subscriber’s local exchange area. A user in one city can dial the access code for his FEX trunk and receive dial tone from the foreign public exchange switch. The user can also receive calls dialed from the foreign exchange switch.

Flexible Features Codes

User-defined numbers of up to four digits that can be used in place of the preprogrammed Special Prefix (SPRE) feature access codes. Flexible Feature Codes allow users to define feature access codes of their choosing.

floppy disks

Magnetic data storage media.

Foreign exchange trunk (FEX)

A trunk that provides telephone service to and from a public exchange switch that is outside the subscriber's local exchange area. A user in one city can dial the access code for his FEX trunk and receive dial tone from the foreign public exchange switch. The user can also receive calls dialed from the foreign exchange switch.

FTM (Failure to Match)

A traffic statistic that prints out when timeslots were not available during the previous study period.

Generic

A family of software releases that are designed to apply to a certain market or application. For example, the Generic called X11 was designed to be used in the North American business market. There are other generics that have existed through the years that were designed for the European market and for the hospitality market. In the future there will be one software generic for all markets.

grade of service

A term for the level of blockage experienced by the system. It is usually expressed as a percentage.

group

A pair of interconnected network modules or shelves. A single network module or shelf is known as a half-group.

Terms and abbreviations

Group Call

The name of a feature that allows one user to press a key on a proprietary telephone and automatically call several telephones. When users answer these telephones they are automatically bridged into a conference connection with other users on the same Group Call.

handset

The receiver of a telephone.

Handsfree

Using a telephone without requiring a handset or headset. During handsfree operation, a properly equipped telephone picks up the user's voice through a microphone built into the telephone, and broadcasts the far end user's voice through a built-in speaker.

Initialization

During initialization, transient (unprotected) data is cleared from memory until the initialization is complete. During this time, established calls can remain connected. Calls cannot be originated or disconnected during this time. It generally lasts for a few seconds.

Input/output (I/O) ports

The connection points through which the system outputs data and through which the system receives data input.

intercept treatments

Invalid or denied actions coming from a telephone, TIE trunk, attendant, or CCSA/DID trunk are given a treatment called an intercept treatment. These treatments are defined customer wide. For example, if a user who is Toll Denied tries to dial a toll call, then the intercept treatment for that situation determines what will happen to that user. The user can hear overflow tone, or be routed to the attendant or can hear a recorded announcement.

IPE (Intelligent Peripheral Equipment)

The part of the system composed of interface cards that connect to terminals such as telephones and trunks, and the shelves on which these cards reside. The interface cards are equipped with microprocessors.

ISDLC (Integrated Services Digital Line Card)

Peripheral Equipment line cards that are used to support digital telephones. They can accommodate up to eight digital telephones and eight associated data terminals.

ISDN (Integrated Services Digital Network)

A digital telephony network that allows the transmission of voice and data using internationally approved protocols.

Issue

During development of a new release of software several versions, or issues, are developed in sequence. Each issue fixes problems that have been identified from the previous issue.

jumper panel

Sometimes called the cross-connect panel or main distribution frame (MDF). The panel where wires from telephones and trunks are interconnected with corresponding wires from the system's line and trunks cards.

Key system

A type of telephone system where the exchange lines can be directly accessed using keys or buttons on the telephones.

key

The term used to describe a button on a proprietary telephone that you can assign as a feature or DN function. You assign these keys using overlay program 11. The programming for these keys is stored in the system memory.

LD (Load)

An abbreviation for the term load; otherwise known as overlay program.

link

1. Another name for a communications channel or circuit.
2. A button on certain types of telephones that users can press when they want to perform a switch-hook flash, instead of pressing the switch-hook under the handset.
3. A connection to another system, as in the Meridian Link application.

lockout mode

When a telephone or trunk remains off-hook longer than the preset time given for dialing a DN, a lockout timer expires. The timer causes the telephone or trunk to enter a busy state, return to an idle state, or to some other suitable condition.

loop

A transmission path within the system. Line cards and trunk cards share the transmission path using 32 timeslots.

Main Distribution Frame (MDF)

Sometimes called the cross-connect panel or jumper panel. The panel where wires from telephones and trunks are interconnected with corresponding wires from the system's line and trunk cards.

MARP (Multiple Appearance Directory Number Redirection Prime)

The telephone designated as the controlling one when the same DN appears on more than one telephone. The programming of the MARP telephone controls features such as Hunting, Call Forward No Answer, and Call Forward All Calls.

MCA (Meridian Communications Adapter)

A device that provides an interface between an IBM-PC, Macintosh, or data terminal, and a Meridian Modular digital telephone.

MCU (Meridian Communications Unit)

A device that provides an interface between an IBM-PC, Macintosh, or data terminal, and the Meridian 1 system.

MDF (main distribution frame)

Sometimes called the cross-connect panel or jumper panel. The panel where wires from telephones and trunks are interconnected with corresponding wires from the system's line and trunks cards.

MEM (memory)

The hardware in the system that is used to store the information the system needs in order to operate.

memory (MEM)

The hardware in the system that is used to store the information the system needs in order to operate.

Meridian 1 proprietary telephone

A term replacing BCS set, describing a telephone set designed to operate exclusively with the Meridian 1 PBX. For example, the SL-1, M1000 series, M2000 series, M3000 series and M3900 series telephones.

Meridian Companion

A cordless handset system that works with the Meridian 1. It complies with the $CT2^{+}$ and PCI North American standards.

Meridian Companion DECT

A cordless handset system that works with the Meridian 1. It complies with the DECT standard. DECT stands for Digital Enhanced Cordless Telecommunications.

Meridian Mail

The voice mail system manufactured by Nortel Networks to be compatible with the Meridian 1. Meridian Mail is provided using an external application processor.

Message Center

A configuration where telephones are programmed to redirect calls to either a specific telephone, the attendant, or voice mail when calls are not answered or the telephone was busy.

mnemonic

A code used as a memory aid. Mnemonic codes are also used in programming.

module

A stylish aluminum box that holds a card cage. It is also called a Universal Equipment Module or UEM.

Multiple Appearance Directory Number Redirection Prime (MARP)

The telephone designated as the controlling one when the same DN appears on more than one telephone. The programming of the MARP telephone controls features such as Hunting, Call Forward No Answer, and Call Forward All Calls.

Multiple Appearance DN

A DN that is programmed to appear on more than one telephone or more than one key on one telephone.

Multiple Call DN

A DN that appears on more than one telephone or more than one key on one telephone. It is capable of handling as many calls as there are appearances.

NANP (North American Numbering Plan)

The North American Public Exchange Network has been divided into geographical areas with three digit codes which precede the seven digit local telephone number of the subscriber. Previous to 1995, the three digit area codes assigned to each geographical area were in the format where the first digit was any digit between 2-9 and the last digit was any digit between 0-9. The middle digit was either 0 or 1. As of January 1, 1995, the middle digit can be any digit between 0-9. This increases the capacity of three digit codes available.

NE (Network Equipment)

The part of the Meridian 1 that serves to interconnect terminal equipment. Network Equipment also provides services such as conferencing and tones.

Network Class of Service

A class of service that determines network access.

Network Equipment (NE)

The part of the Meridian 1 that serves to interconnect terminal equipment. Network Equipment also provides services such as conferencing and tones.

NPA (Numbering Plan Area Code)

The North American Public Exchange Network has been divided into geographical areas with three digit codes which precede the seven digit local telephone number of the subscriber. It is used when dialing a long distance call. For example, when someone in a city in the 205 area code wants to direct dial someone located in the 613 area code, they dial 1613 followed by the person's seven digit telephone number.

NTP (Nortel Networks Technical Publication)

The manuals that are published by Nortel Networks that describe how to install, program and maintain all the features, services and components of a Meridian 1 system. Many of these manuals are shipped with every system. Some of the manuals are optional.

Numbering Plan

The leading digits which are assigned to Directory Numbers, trunk route access codes, and the Special Prefix (SPRE) code for feature activation within one customer group database. The same digits cannot be assigned to two different numbers or codes. This is called the “leftwise unique rule.”

For example, it is permissible to have access code 11 for SPRE and access code 130 for paging trunks but it is not permissible to assign access code 55 to a TIE trunk route and access code 552 to a dictation trunk route.

A typical Numbering Plan:

- 0 Attendant
- 11 Special Prefix Code (SPRE)
- 2XXX Directory numbers (DNs)
- 3XXX DID Directory numbers
- 4 Unassigned (for future use)
- 5 Unassigned (for future use)
- 6 Unassigned (for future use)
- 7X Access codes for TIE trunks, paging trunks, dictation trunks
- 8 Access code to Automatic Route Selection calls
- 9 Access code to COT trunks or local calls

NXX (Public Network Exchange code)

The first three digits of a seven digit telephone number assigned to each subscriber in North America. These digits identify the Central Office to which the subscriber is connected.

off-hook

The status of a telephone when the handset is lifted from the switch-hook. The telephone is described as being in an off-hook condition.

on-hook

The status of a telephone when the handset is resting on the switch-hook. The telephone is described as being in an on-hook condition.

outpulse

To transmit digits on external trunks to other systems. Also, telephones can outpulse digits to the system to which they are connected. The user causes either one of these types of outpulsing to occur by dialing digits on a telephone.

overflow Tone

A tone that sounds like busy tone, but turns on and off at a faster rate. Typically, fast busy tone is used to indicate that a call is not progressing or cannot be completed. It may also be called fast busy or reorder tone.

overlay programs

The programs which must be used for entering the data required to customize a system for the particular site and users connected to it. It includes data for such things as features, telephones, trunk groups, hardware, data devices, Automatic Route Selection to name a few.

PBX (Private Branch Exchange)

A telephone switch that serves trunks and telephones.

PBX set

A term replaced by Analog (500/2500 type) telephone. A PBX set is a standard telephone set that works on many telephone systems. Examples of these systems are the Meridian 1, DMS or other vendors systems.

PE (Peripheral Equipment)

The part of the system composed of interface cards that connect to terminals such as telephones and trunks, and the shelves on which these cards reside.

Phantom DN

A DN which appears on a secondary key of a telephone. It is not published.

Phantom TN

A TN defined in software that does not exist in hardware.

Pickup

Also called call pickup, ringing number pickup. The feature that allows one user to answer an incoming call ringing at another telephone.

Pickup groups

A group of telephones provided to users who have to be able to answer incoming calls for each other.

port

A port is:

1. the connection point for a terminal
2. another term for a Terminal Number
3. the connection point for an input/output (IO) device

Primary Rate Interface (PRI)

An international standard for connecting telephone switches. A PRI connection is composed of 23 B-channels at 64 kbit/s each, and one D-channel at 16 kbit/s. A PRI2 connection is composed of 31 B-channels at 64 kbit/s each, and one D-channel at 16 kbit/s.

Prime DN

The DN programmed on key 0 of a telephone.

Private line service

Also known as leased-line service or point-to-point service.

private network

Trunk connections between PBXs and Centrex systems that carry calls between users who reside on different systems that belong to one organization or company. The private network trunks can be used for calls that end up on the public network, if that is allowed in the area where the systems are installed.

prompt

A mnemonic presented by the system when you are programming or issuing commands to the system.

proprietary telephone

A term replacing BCS set, describing a telephone set designed to operate exclusively with the Meridian 1 PBX. For example, the SL-1, M1000 series, M2000 series, M3000 series and M3900 series telephones.

PSTN (Public Switched Telephone Network)

Otherwise known as the public network. The global network made up of telephone switches operated for the public by telephone utility companies and governments.

Public (Exchange) network

Refer to Exchange network.

redirection

Otherwise known as backup answering, redirection refers to the answering of calls done at a telephone or voice messaging port when the originally dialed caller is busy, not answering, or does not wish to be disturbed, and features like Call Forward are active.

regular telephone

An analog telephone which can operate on any system. These telephones work when connected to a central office, key system or Private Branch Exchange (PBX). They have rotary dial or digitone keypads.

Release

A version of software that contains certain features and capabilities (for example, Release 21). Not all releases can be used on all machine types. Each new release has greater functionality than its predecessor. Nortel Networks introduces at least one new release of software each year.

reorder Tone

A tone that sounds like busy tone, but turns on and off at a faster rate. Typically, fast busy tone is used to indicate that a call is not progressing or cannot be completed. It may also be called overflow or fast busy tone.

response

A mnemonic you type in answer to a prompt when you are programming.

restriction

Preventing telephone users from making certain types of calls or accessing certain features.

return key

The key on the keyboard marked ENTER, or RETURN. You press the key to indicate that you have finished a line of input. In this book the symbol <cr> is used for carriage return.

Ring Again

A feature that allows a telephone user to queue for a busy telephone or trunk group.

Ringback tone

The tone the caller hears when the called telephone is ringing.

Ringing number pickup

Also called pickup, ringing number pickup. The feature that allows one user to answer an incoming call ringing at another telephone.

Rls xx

For example Rls 20. Rls is a short form for the word release. A release is a version of software that contains certain feature packages and enhancements.

SDI (Serial Data Interface)

Input/output port.

secondary DN

A DN programmed on a key other than key 0 of a telephone.

service change

A term used when you are programming in administration overlay programs.

service loop

Another name for Tone & Digit Switch and Conference loops. Service loops provide services such as dial tone and multi-party calls.

set

Another term for telephone.

Set- Based Administration

Simplifies system installation and administration by enabling several administrative and maintenance procedures to be performed using a telephone.

Single Appearance DN

A DN that is programmed to appear on only one telephone and one key of one telephone.

Single Call DN

A DN that appears on one telephone or more than one telephone. It is capable of handling one call at a time.

SL-1 telephone

A telephone designed to work with an SL-1 PBX. It can be configured to have one or more than one Directory Number upon which to make and receive calls. It has buttons called keys which are programmable in the system database for such things as features and Directory Numbers.

SL-1-type telephone

An M1009, M1109, or M1309 telephone.

software package

A component of software that, if equipped, provides certain features and capabilities. Software packages are identified by a mnemonic or a number or both.

Special dial tone

A dial tone that sounds different from normal dial tone and indicates to a telephone user the operation of a feature, that a message is waiting, or that a response is required.

Special prefix code (SPRE)

A code defined customer-wide that users of 500- or 2500-type sets dial to access features. The code can also be used on Meridian Digital and SL-1 telephones to access certain features that have not been assigned to keys.

Standard Network

A card that accommodates one loop. Each loop has 32 timeslots. Timeslots are used in matching pairs.

Station

Another term for telephone.

Station Control Password

A password that is assigned to a telephone in overlay program 10 or 11 that the user of the telephone must dial in order to activate features such as Electronic Lock and Remote Call Forward.

storage medium

A term used for referring to streaming tape or floppy diskette or hard disk.

Superloop

A transmission path within the system. Intelligent line and trunk cards share the transmission path using 128 timeslots.

Switch-hook flash

The term used for pressing the button under the handset of a telephone for a specific amount of time. This is done to access certain features.

Switch-hook

The term used to describe the button that sits under the handset of a telephone.The switch-hook is used to disconnect calls, initiate calls and perform features. These features are activated by the user depressing the switch-hook, lifting the receiver off the switch-hook, and flashing the switch-hook respectively. (Refer to switch-hook flash).

SYSLOAD

The reset and start-up of a telephone switch. During SYSLOAD, data is loaded into the system from storage media, and no call processing can take place.

TDS (Tone and Digit Switch)

A card that the system uses to provide many different tones to users.

Terminal Number (TN)

A physical or hardware location address, consisting of a network loop number, PE shelf number, PE card number, and unit number.

The numbers are written and input with a space between each item. For example, a telephone connected to Loop 8, shelf number 0 on Loop 8, card slot 5 on shelf 0, and unit 1 on card 5 has TN 8 0 5 1. The range for each number is:

Loop 0 – 159

Shelf 0 – 3

Card 0 – 15

Unit 0 – 31

TIE trunk

A dedicated circuit that connects two Meridian 1 systems or a Meridian 1 system and any other kind of PBX.

time slot

An interval of time during which you occupy a shared transmission path during an active call.

TN (Terminal Number)

Refer to Terminal Number.

traffic

A measurement of the level of activity of a specific resource.

trunk group

A defined set of trunks that can be used interchangeably by the system to reach a specific destination.

trunk

One or more pairs of wires or optical fibre cable that connect one system to another. There are many types of trunks, distinguished by the types of calls they are designed to carry, and the types of systems they inter-connect. Trunks are grouped together by type into trunk groups. Some examples of trunk types are TIE trunks, central office trunks, and Foreign Exchange trunks.

TTY

A data terminal used to transmit and receive commands and responses when you are programming. Generically a TTY refers to any dumb terminal or DTE used to pass ASCII data.

A DTE that is used for communicating alphanumeric information with the Meridian 1 system.

UEM (Universal Equipment Module)

A stylish aluminum box holding a card cage.

Unity telephone

A family of telephones manufactured by Nortel Networks. They belong in the 500/2500-type telephone family.

WATS (Wide Area Telephone Service) trunk

In North America, a circuit between a public exchange network switch and a Meridian 1 system. WATS telephone calls are billed at a reduced rate.

X08

An early edition of the software package for International Business applications. X08 was replaced by X11 with Supplementary Features. With the release 20 software, X11 denotes global applications software.

X11

A software package for North American Business applications. With the release 20 software, X11 denotes global applications software.

Terms and abbreviations

LD 10 Prompt, Response, Reference

The prompts and responses listed in this Appendix are those covered in this book. You can find further information about the other prompts and responses in the *Software Input/Output Guide*.

Prompt	Response	Reference
REQ		*Basic programming instructions*
	CHG	Tasks 21 – 43
	END	*Basic programming instructions*
	MOV	Task 47
	NEW	Tasks 1–6
	OUT	Task 48
TYPE		*You should know this-Telephones*
	500	Tasks 1 – 6
TN	L S C U	*Terms and abbreviations*
ECHG	(NO) YES	*Basic programming instructions*
- ITEM	aaaa yyy	*Basic programming instructions*
TOTN	L S C U	Task 47
CDEN	SD DD 4D	Tasks 1–6
DES	dddddd	Tasks 1–6
CUST	XX	Tasks 1–6
DN	X..X	Tasks 1–6
- MARP	(NO) YES	Task 40
HUNT	X...X	Task 38

— continued —

LD 10 Prompt, Response, Reference

Prompt	Response	Reference
TGAR	(0) – 15 (Pre- Release 13) (0) – 31 (Release 13 - 21) 0 - (1) - 31 (Release 22 and later)	Task 43
CLS		*Terms and abbreviations*
	(UNR) (CTD) CUN FR1 FR2 FRE SRE TLD	Task 43
	(C6D) C6A	Task 29
	(CFTD) CFTA	Tasks 35 and 36
	(DIP) (DTN)	Tasks 1– 6
	(FBD) FBA	Task 34
	(FND) FNA	Task 37
	(HBTD) HBTA	Task 39
	(HTD) HTA	Task 38
	(LPD) LPA	Task 25
	(MCRD) MCRA	Task 1– 6
	(MWD) MWA	Task 25
	(SFD) SFA	Task 41
	TSA	Task 30
	(USRD) USRA	Task 42
	(XFD) XFA XFR	Task 28
FTR	CFW	Task 33
	EFD X..X	Task 35
	EHT X..X	Task 36
	FDN X..X	Task 37
	SCC X	Task 32
	SCU X	Task 32
End of table		

LD 11 Prompt, Response, Reference

The prompts and responses listed in this Appendix are those covered in this book. You can find further information about the other prompts and responses in the *Software Input/Output Guide*.

Prompt	Response	Reference
REQ		*Basic programming instructions*
	CHG	Tasks 21 – 43
	CPY X	Task 46
	END	*Basic programming instructions*
	MOV	Task 47
	MOV PAIR	Task 47
	NEW	Tasks 7–14
	NEW X	Task 46
	OUT	Task 48
TYPE		*You should know this — Telephones*
	2006	Task 7
	2008	Task 8
	2216	Task 9
	2317	Task 10
	2616	Task 11-14
CFTN	L S C U	Task 46
SFMT		Task 46
	TNDN	
	TN	
	DN	
	AUTO	
TN	L S C U	*Terms and abbreviations*
ECHG	(NO), YES	*Basic programming instructions — Changing a telephone*

— continued —

LD 11 Prompt, Response, Reference

Prompt	Response	Reference
- ITEM	A..A Y..Y	*Basic programming instructions — Changing a telephone*
TOTN	L S C U	Task 47
CDEN	SD DD 4D	Tasks 7–14
DES	A..A	Tasks 7–14
CUST	XX	Tasks 7–14
FDN	X..X	Task 37
TGAR	(0) – 15 (Pre-Release 13) (0) – 31 (Release 13 - 21) 0 - (1) - 31 (Release 22 and later)	Task 43
SCPW	X..X	Task 44
CLS		*Terms and abbreviations*
	(AHD) AHA	Task 27
	(CCSD) CCSA	Task 44
	(CFTD) CFTA	Tasks 35 and 36
	(FBD) FBA	Task 34
	(FND) FNA	Task 37
	(HBTD) HBTA	Task 39
	(HTD) HTA	Task 38
	(MSID) MSIA	Task 24
	(MWD) MWA	Task 25
	(SFD) SFA	Task 41
	(UNR) (CTD) CUN FR1 FR2 FRE SRE TLD	Task 43
	(USRD) USRA	Task 42

— continued —

LD 11 Prompt, Response, Reference

Prompt	Response	Reference
EFD	X..X	Task 35
HUNT	X..X	Task 38
EHT	X..X	Task 36
LHK	XX	Task 38
KEY	XX NUL	*Basic programming instructions*
	XX ADL	Task 31
	XX AO3 XX AO6	Task 29
	XX CFW	Task 33
	XX MCK XX MIK XX MWK X..X	Task 25
	XX MCN X..X XX MCR X..X	Tasks 7 – 14
	XX MSB	Task 24
	XX SCC X..X XX SCU X..X	Task 32
	XX SCN X..X XX SCR X..X	Tasks 7 – 14
	XX TRN	Task 28
	XX USR	Task 42
- MARP	(NO) YES	Task 40
End of table		

LD 11 Prompt, Response, Reference

Station review checklist

To help you prepare for system programming, fill in the following suggested checklist. The contents of the checklist are related to what is covered in this book.

Question	Response
Type of telephone	
Dial, Digitone, M8000*, M8009*, M8314*, M8417*, M2317, M2006*, M2008/M2008HF*, M2216ACD, M2616*, M2616CT*, M3110*, M3310*, M3820*, M3901, M3902*, M3903*, M3904*, M3905. Wireless: C3050, C3060, C4000, C4010, C4040	
*means the telephone is only available in certain countries	
Busy hour traffic expected	
minutes/hour or CCS/hour	voice _____ data (optional) _____
Terminal Number (TN)	
Loop, Shelf, Card, Unit number	___ ___ ___ ___
second TN (for M8417)	___ ___ ___ ___
second TN (for digital telephone data option)	___ ___ ___ ___
Designator (DES)	
(with ODAS software) 6 character maximum	
— continued —	

Station review checklist

Question	Response
Dial or Digitone-type telephone:	
First Directory Number (DN) DID? Second Directory Number (M8417 only) DID? (Refer to Tasks 1–6)	_____ No____ Yes____ _____ No____ Yes____
Digital or SL-1-type telephone:	
Prime DN (Refer to Tasks 10–11)	Key 0 _____
Single Appearance No____ Yes____ Single Call ____ Ring? ____ Special ringing? Task 26 _____	Multiple Appearance No____ Yes____ Single Call ____ Ring?____ Multiple Call ____Ring?____ Delayed ring? No ___Yes ___ MARP? No____ Yes____
Secondary DN	Key ___ _____
Single Appearance No____ Yes____ Single Call ____Ring?____ Special ringing? Task 26 _____	Multiple Appearance Yes ___ No ___ Single Call ____Ring?_____ Multiple Call ____Ring?_____ Delayed ring? No ___Yes ___ MARP? No____ Yes____

— continued —

Station review checklist

Question	Response
Secondary DN	Key ___ _____
Single Appearance No____ Yes____ Single Call ____Ring?____ Special ringing? Task 26 _____	Multiple Appearance No____ Yes____ Single Call ____Ring?_____ Multiple Call ____Ring?_____ Delayed ring? No____ Yes___ MARP? No____ Yes____
Secondary DN	Key ___ _____
Single Appearance No____ Yes____ Single Call ____Ring?____ Special ringing? Task 26 _____	Multiple Appearance No____ Yes____ Single Call ____Ring?_____ Multiple Call ____Ring?_____ Delayed ring? No____ Yes___ MARP? No____ Yes____
Secondary DN	Key ___ _____
Single Appearance No____ Yes____ Single Call ____Ring?____ Special ringing? Task 26 _____	Multiple Appearance No____ Yes____ Single Call ____Ring?_____ Multiple Call ____Ring?_____ Delayed ring? No____ Yes___ MARP? No____ Yes____

— continued —

Station review checklist

Question	Response
Feature requirements:	
Transfer (Task 28)	N ____Y ____ Key ____
Conference 3 (Task 29)	N ____Y ____ Key ____
Conference 6 (Tasks 29 and 30)	N ____Y ____ Key ____
Speed Call — Controller (Task 32)	N ____Y ____ Key ____
Speed Call — User (Task 32)	N ____Y ____ Key ____
Speed Call list number (Task 32)	
Autodial (Task 31)	N ____Y ____ Key ____ N ____Y ____ Key ____ N ____Y ____ Key ____
Automatic Hold (Task 27)	N ____Y ____
Restricting the user:	
Access Restrictions (UNR, CUN, CTD, TLD, SRE, FRE, FR1, FR2) (Task 43)	
TGAR (Task 31)	NO ___ (0) YES ___ (1–31)
Station Control Password (Electronic Lock) (Task 44)	

— continued —

Station review checklist

Question	Response
Redirecting calls:	
If DID DN, choose 1. or 2. below or use the Hunting feature 1. When busy, all calls are to forward to the attendant? (If this is the MARP TN, verify OK for all other appearances) (Task 34) Call Forward Busy	No ____ Yes____
2. When busy, are external calls to Hunt to a DN and internal callers to hear busy tone? (If this is the MARP TN, verify OK for all other appearances) (Task 39) Hunting by Call Type	No ____ Yes____ DN _____
When busy, are all calls to Hunt? (If this is the MARP TN, verify OK for all other appearances) (Task 38) Hunting	No ____ Yes____ DN _____
When busy, are internal calls to Hunt to a different DN than external calls? (If this is the MARP TN, verify OK for all other appearances) (Task 36) Call Forward by Call Type (Hunting Option	No ____ Yes____ Internal Hunt DN _____ External Hunt DN _____

— continued —

Station review checklist

Question	Response
Redirecting calls: (continued)	
When no answer, are calls to forward? (If this is the MARP TN, verify OK for all other appearances) (Task 37) Call Forward No Answer	No ____ Yes ____ Call Forward No Answer DN: _____
If this is a Call Forward No Answer DN for another telephone, and if there is no answer, is second level forward allowed? (If this is the MARP TN, verify OK for all other appearances) (Task 41) Second Level Call Forward No Answer	No ____ Yes ____
When no answer, are internal calls to forward to a different DN than external calls? (If this is the MARP TN, verify OK for all other appearances) (Task 35) Call Forward by Call Type (Call Forward No Answer Option)	No ____ Yes ____ Internal Forward DN _____ External Forward DN _____

— continued —

Station review checklist

Question	Response
Redirecting calls: (continued)	
Is the user to be able to change the Hunt DN and the Call Forward No Answer DN from the telephone? (If this is the MARP TN, verify OK for all other appearances) (Task 42) User Selectable Call Redirection	N ____Y ____ Key _____ (SPRE +9915 or FFC __, works on any telephone)
Is redirection to change at certain times of day? Is redirection to change on certain days?	Start Time: _____ End Time:_____ Details:
Call Forward All Calls maximum number of digits (Task 33) Call Forward All Calls	N ____Y ____ Key ____ _____
Make Set Busy (Task 24) Make Set Busy Improvement	N ____ Y ____ Key ____
Message Center:	
Message waiting indicator (Task 25) Message Center	N ____Y ____ Key ____
Message waiting key to dial Message Center (Task 25) Message Center	N ____Y ____ Key ____
Is the user to take messages for other users? (Task 25) Message Center	N ____Y ____ MIK Key ____MCK Key ____
— continued —	

Station review checklist

Question	Response
Display	
	N____Y ____ PROGRAM Key 7 (M2008/M2008HF, M2216ACD, M2616, M3310, M3820)
Handsfree unit	
	N____Y ____ HF/MUTE Key 15 (M2216ACD, M2616) HF/Mute Key 6 (M2008HF) HF/MUTE Key 11 (M2317) HF Key 15 (M3110, M3310, M3820) HF Key __ (M3902, M3903, M3904)
Headset	
	N____Y ____ Details: _____ _____ _____ _____

— continued —

Station review checklist

Question	Response
Data option	
	N ____Y ____ PROGRAM Key 5 (M2006) PROGRAM Key 7 (M2008/M2008HF, M2216ACD, M2616, M3110, M3310, M3820) PROGRAM (No Key required) (M3901, M3902, M3903, M3904, M3905)
External alerter interface	
	N ____Y____
Total number of keys required	**Number of programmable keys on this telephone**
Key Expansion Module(s)	
Required? (* check to see if available with this model) (** with M3900 series, activate Key-based Add-on Module)	No ___Yes ___ 1_____ 2____
External power	
Required? **Associated hardware required?**	No ____Yes ____ No ____Yes ____

— continued —

Station review checklist

Question	Response
Approvals	
Notes:	
End of form	

Station review checklist

Meridian Modular Telephones Worksheet (M2006, M2008/M2008HF, M2216ACD, M2616)

KEYS

****15	FTR: or DN:	***7	FTR: or DN: Stop here for **M2008/ M2008HF**
14	FTR: or DN:	*****6	FTR: or DN:
13	FTR: or DN:	**5	FTR: or DN: Stop here for **M2006**
12	FTR: or DN:	4	FTR: or DN:
11	FTR: or DN:	3	FTR: or DN:
10	FTR: or DN:	2	FTR: or DN:
9	FTR: or DN:	1	FTR: or DN:
8	FTR: or DN:	*0	DN:

FTR = Feature

* Note 1 - Key 0 must be programmed with a DN (Prime DN)

** Note 2 - If data unit installed, this key is a PROGRAM key on M2006

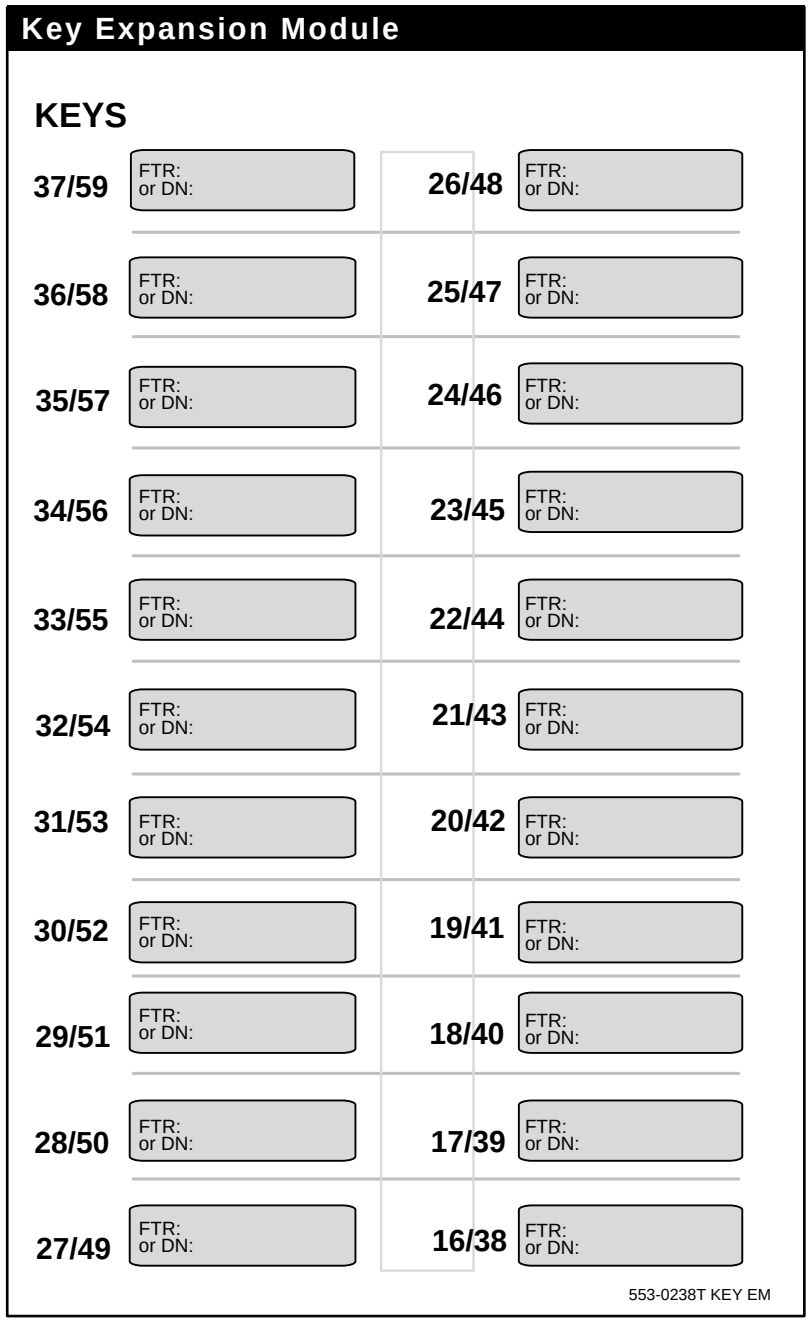
*** Note 3 - If display or data unit is installed, this key is a PROGRAM key on M2008/M2008HF
If no display or data unit is displayed, Key 7 must be NUL on the M2008HF

**** Note 4 - If Handsfree unit is allowed, Key 15 must be a Handsfree/Mute key

***** Note 5 - Key 6 is Handsfree/Mute key on the M2008HF if Handsfree is enabled

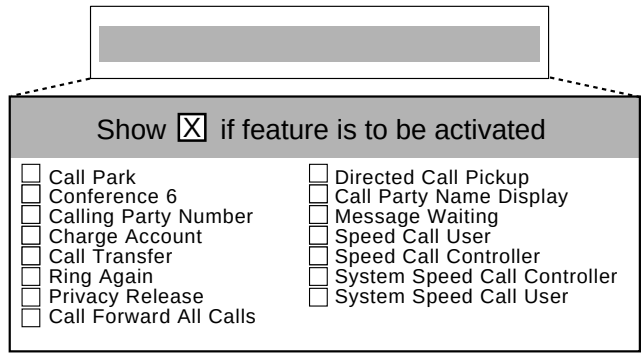
553-0239T DTWM

Station review checklist



M2317 Telephone Worksheet

DISPLAY UNIT



KEYS

	HANDSFREE / MUTE	11		FTR: or DN:	5
	FTR: or DN:	10		FTR: or DN:	4
	FTR: or DN:	9		FTR: or DN:	3

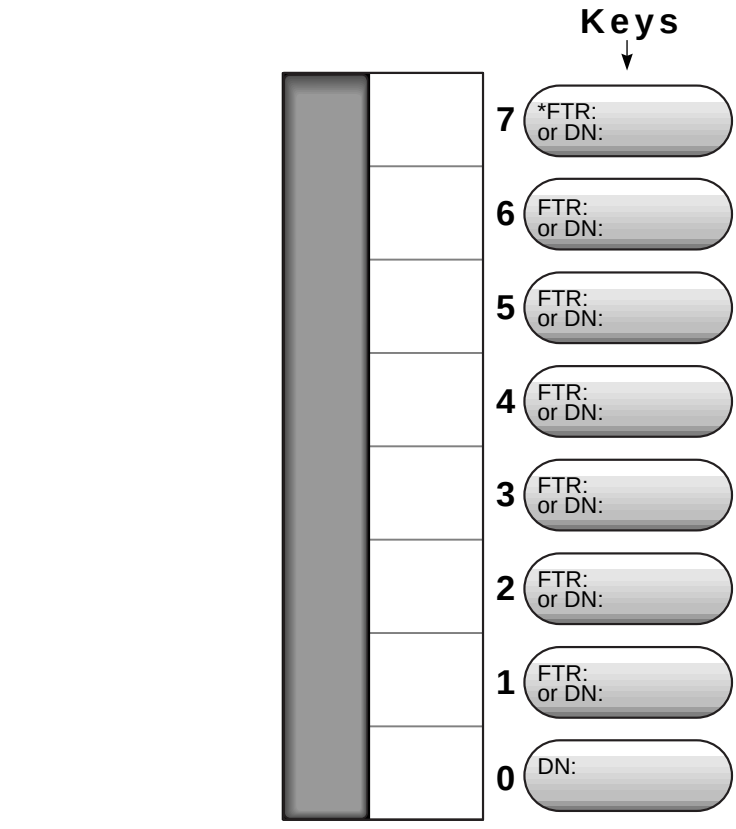
	FTR: or DN:	8		FTR: or DN:	2
	FTR: or DN:	7		FTR: or DN:	1
	FTR: or DN:	6		DN:	0 *

* Note 1 - Key 0 must be programmed with a DN (Prime DN)

553-0240T WS2317

Station review checklist

Meridian Digital Telephone Worksheet (M3110, M3310)



Speaker

Mute

15

Note:

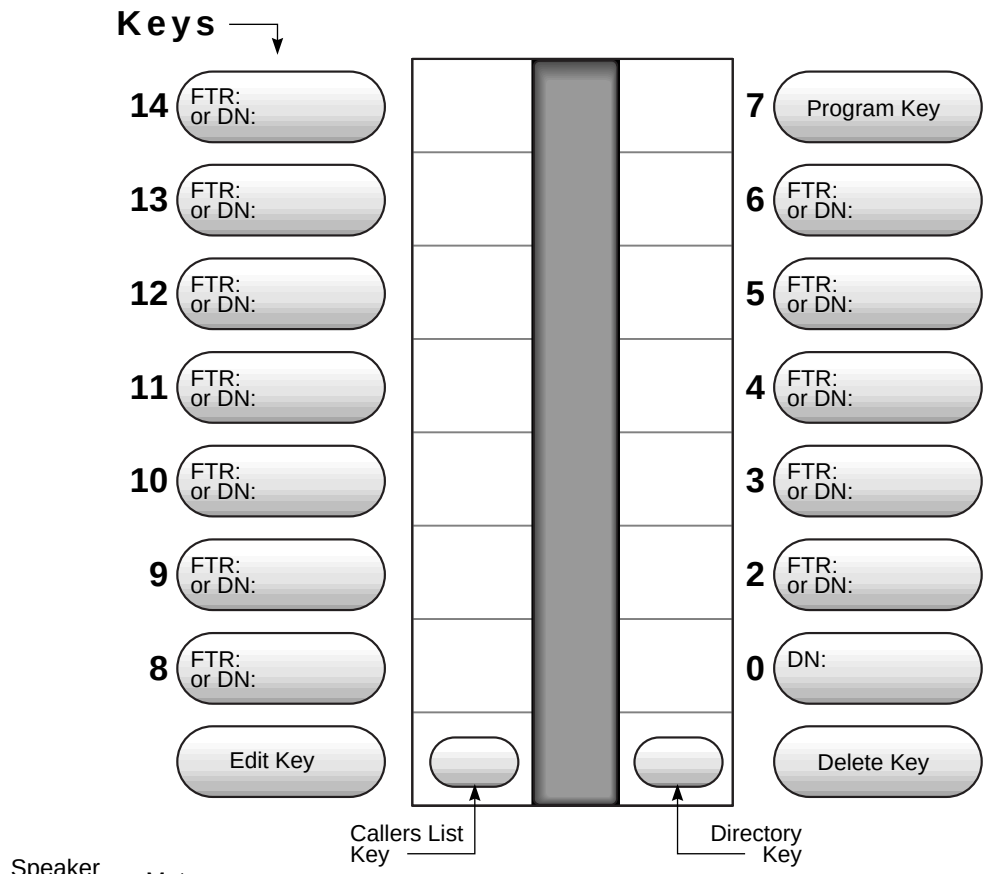
* Key 7 is a Program key on the M3310 only

- Keys 8-14 are programmed as NUL
- Key 15 is a handsfree key if handsfree is enabled; otherwise, it is programmed as NUL

553-0392T DTWS M3110/3310

Station review checklist

Meridian Digital Telephone Worksheet (M3820)



Note:

- Key 1 is programmed with the same DN as Key 0 if Short hunt is required; otherwise, it is programmed as NUL
- Key 15 is a handsfree key if handsfree is enabled
- Key 7 is the Program key
- Key Expansion modules can be added

553-0391T DTWS M3820

Station review checklist

M3901 and M3902 Digital Telephones Worksheet

Key	M3901	Key	M3902
0	Prime DN	0	Prime DN
1	Feature:	1	Feature:
2	Feature:	2	Feature:
3	Feature:	3	Feature:
4	Feature:	4	Feature: TRN
5	Feature:	5	Feature: MWK

Note: TRN is the programming mnemonic for Call Transfer.
MWK is the programming mnemonic for Message Waiting Key.

M3903 and M3904 Digital Telephones Worksheet

Key	M3903	Key	M3904
0	Prime DN	0	Prime DN
1	DN/Feature:	1	DN/Feature:
2	Blocked	2	DN/Feature:
3	Blocked	3	DN/Feature:
4	Blocked	4	DN/Feature:
5	Blocked	5	DN/Feature:
16	MWK	16	MWK
17	TRN	17	TRN
18	AO3/AO6	18	AO3/AO6
19	CFW	19	CFW
20	RGA	20	RGA
21	PRK	21	PRK
22	RNP	22	RNP
23	SSC/SSU/SCC/SCU	23	SSC/SSU/SCC/SCU
24	PRS	24	PRS
25	CHG	25	CHG
26	CPN	26	CPN
27 to 37	NUL	27 to 31	NUL

Note: Refer to the M3903 and M3904 Task modules for explanations of the programming mnemonics.

Station review checklist

M3905 Digital Telephones Worksheet

Key		Key	
0	ACD In-Calls key	16	MWK
1	DN/Feature:	17	TRN
2	DN/Feature:	18	AO3/AO6
3	DN/Feature:	19	CFW
4	DN/Feature:	20	RGA
5	NUL	21	PRK
6	NUL	22	RNP
7	PROGRAM/NUL	23	SSC/SSU/SCC/SCU
8	MSB	24	PRS
9	NRD	25	CHG
10	EMR	26	CPN
11	ASP	27 to 31	NUL

Note: Refer to the M3905 Task module for explanations of the programming mnemonics. The ACD programming mnemonics on keys 9 - 11 are explained in the *Automatic Call Distribution* NTP.

LD 10 Worksheet

To help you get your responses ready before you begin to program at the TTY, use the following sample worksheets.

The prompts and responses listed in this Appendix are those covered in this book. You can find further information about the other prompts and responses in the *X11 input/output guide*.

Prompt	Response	New telephone	Change telephone
REQ	NEW CHG	NEW	CHG
TYPE	500		
TN	L S C U		
ECHG	(NO), YES	----------	
- ITEM	A..A Y..Y	----------	
CDEN	SD DD 4D		
DES	A..A		
CUST	XX		
DN	X..X		
- MARP	(NO), YES		
HUNT	X..X		
TGAR	(0) – 15 (Pre-Release 13) (0) – 31 (Release 13 - 21) 0 - (1) - 31 (Release 22 and later)		
SCPW	X..X		

— continued —

LD 10 Worksheet

Prompt	Response	New telephone	Change telephone
WRLS	(NO) YES		
CLS			
	(UNR) (CTD) CUN FR1 FR2 FRE SRE TLD		
	(C6D) C6A		
	(CCSD) CCSA		
	(CFTD) CFTA		
	(DIP) (DTN)		
	(FBD) FBA		
	(FND) FNA		
	(HBTD) HBTA		
	(HTD) HTA		
	(LPD) LPA		
	(MWD) MWA		
	(SFD) SFA		
	TSA		
	(USRD) USRA		
	(XFD) XFA XFR		
FTR			
	CFW X..X Y..Y		
	EFD X..X		
	EHT X..X		
	FDN X..X		
	SCC X		
	SCU X		
End of form			

LD 11 Worksheet

The prompts and responses listed in this Appendix are those covered in this book. You can find further information about the other prompts and responses in the *X11 input/output guide*.

Prompt	Response	New telephone	Change telephone
REQ	NEW	NEW	CHG
	CHG		
TYPE	2006		
	2008		
	2216		
	2317		
	2616 (Note 1)		
	3901		
	3902		
	3903		
	3904		
	3905		
TN	L S C U		
ECHG	(NO) YES	----------	
- ITEM	aaaa yyy	----------	
CDEN	SD DD 4D		
DES	dddddd		
CUST	XX		
FDN	X..X		

— continued —

LD 11 Worksheet

Prompt	Response	New telephone	Change telephone
TGAR	(0) – 15 (Pre- Release 13) (0) – 31 (Release 13 - 21) 0 - (1) - 31 (Release 22 and later)		
CLS	(AHD) AHA		
	(CFTD) CFTA		
	(DRG1) DRG2 DRG3 DRG4		
	(FBD) FBA		
	(FND) FNA		
	(HBTD) HBTA		
	(HTD) HTA		
	(MSID) MSIA		
	(MWD) MWA		
	(SFD) SFA		
	(UNR) (CTD) CUN FR1 FR2 FRE SRE TLD(USRD) USRA		
EFD	X..X		
HUNT	X..X		
EHT	X..X		
LHK	XX		
KEY	XX NUL		
	XX AO3 XX AO6		
	XX CFW		
	XX MCK XX MIK XX MWK		
	XX MCN X..X XX MCR X..X		
	XX MSB		
	XX SCC X XX SCU X		

— continued —

LD 11 Worksheet

Prompt	Response	New telephone	Change telephone
KEY (continued)	XX SCN X..X XX SCR X..X		
	XX TRN		
	XX USR		
MARP	(NO) YES		
End of form			

Note 1: Program TYPE 2616 for M3110, M3310 and M3820 telephones.

LD 11 Worksheet

Common term, Nortel term, Reference

Common term	Nortel term	Reference
Backup answering	Redirecting calls	Tasks 33–42
Barring	Access Restrictions	Task 43
	Trunk Barring	*X11 features and services*
Call Forward by Call Type	Call Forward by Call Type – Hunting	Task 36
	Call Forward by Call Type (Call Forward No Answer Option)	Task 35
Call Join	Multi-Party Operations	Task 30
Callback	Ring Again	*Terms and abbreviations*
Class of Service	Class of Service	*Terms and abbreviations*
	Access Restrictions	Task 43
Conference	Conference	Task 29
	Multi-Party Conference	Task 30
Direct Dialing In	Direct Inward Dialing	*Terms and abbreviations*
Direct Extension Select	Voice Call	*X11 features and services*
	Dial Intercom Group	*X11 features and services*
	Speed Call	Task 32
Diversion	Redirecting calls	Tasks 33–42
Earth button	Ground button Switch-hook	Task 30 *You should know this*
Forward	Call Transfer	Task 28
	Call Forward All Calls	Task 33
	Call Forward No Answer	Task 37
	Call Forward Busy	Task 34
	Hunting	Task 38
Forward on busy	Hunting	Task 38

— continued —

Common term, Nortel term, Reference

Common term	Nortel term	Reference
Ground button	Earth button	Task 30
	Switch-hook	*You should know this*
Intercom	Dial Intercom Group	*X11 features and services*
	Paging	*X11 features and services*
Intrusion	Override	*X11 features and services*
MARP	Multiple Appearance DN Redirection Prime	Task 40
Night bells	Night Service	*X11 features and services*
Number Redial	Last Number Redial	*X11 features and services*
	Stored Number Redial	*X11 features and services*
Number Unobtainable Tone	Overflow Tone	*Terms and abbreviations*
Password	Level 1 and 2 passwords	*Basic programming instructions*
	Limited Access Passwords	*Basic programming instructions*
	Station Control Password	Task 44
Pickup group	Call Pickup	*Terms and abbreviations*
Ring Group	Group Call	*X11 features and services*
Set	Telephone	*You should know this*
Shared extension	Multiple Appearance DN	Tasks 1–19
Special Control key	Earth button Ground button Switch-hook	Task 30
Three Party Service	Multi-Party Operations	Task 30
	Conference	Task 29
	Call Transfer	Task 28
Touchtone	Digitone	*You should know this — Telephones*
Transfer	Call Transfer	Task 28
Wait on Busy	Camp-on	*X11 features and services*
	Call Waiting	*X11 features and services*
End of table		

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