Meridian 1

M3900 Series Meridian Digital Telephones

Description, Installation and Administration

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Revision history

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Standard 5.00. Up-issued to include content for Meridian 1 Release 25.40 and M3900 Phase III.

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Standard 4.00. This is a global document and is up-issued for X11 Release 25.0x. Document changes include removal of: redundant content; references to equipment types except Options 11C, 51C, 61C, and 81C; and references to previous software releases.

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Standard 3.00.

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Contents

About this document

This document applies to Meridian 1 Internet Enabled systems.

This document is a global document. Contact your system supplier or your Nortel Networks representative to verify that the hardware and software described is supported in your area.

This document introduces the M3900 Series Meridian Digital Telephones and provides the user with description, installation, and administration information for the M3900 Series telephones.

Related documents

Refer to the following documents for additional information:

- *Digital Telephone Line Engineering* (553-2201-180)

- *Spares Planning* (553-3001-153)

- *Equipment Identification* (553-3001-154)

- *Line Cards: Description* (553-3001-105)

- *Features and Services* (553-3001-306)

- *Administration (553-3001-311)*

- *System Messages Guide* (553-3001-411)

- *Maintenance* (553-3001-511)

Functional description

Contents

The following are the topics in this section:

Reference list

The following are the references in this section:

• *Software Conversion Procedures* (553-2001-320)

Overview

M3900 telephones communicate with the Meridian 1 through digital transmission over standard twisted pair wiring. M3900 telephones can interface with all versions of the Intelligent Peripheral Equipment (IPE) Digital Line Card (DLC). The DLC supports 16 voice ports and 16 data ports. The system software assigns a Terminal Number (TN) to each port in the system.

Note: M3900 Series telephones are not supported by the Enhanced Peripheral Equipment (EPE) based Digital Line Card.

Enhancements for X11 Release 25 and X11 Release 25.40

The following enhancements to the M3900 Series telephones are introduced with X11 Release 25:

- Context Sensitive Soft Keys (M3903 and M3904)

- Set-to-Set Messaging (M3903 and M3904)

- Corporate Directory (M3903 and M3904)

- Virtual Office (M3903 and M3904)

- Support for the Display-based Expansion Module accessory (M3904)

- Flash Download of firmware to M3902, M3903, M3904 and M3905 telephones

- Language selection, during software installation, for M3900 Series telephone displays

The following enhancements to the M3900 Series telephones are introduced with X11 Release 25.40 (M3900 Phase III):

- Full Duplex Handsfree (M3904 Phase III)

- System-Initiated Language Selection (M3902, M3903, M3904, and M3905)

- Call Forward Enhancements (M3903, M3904, and M3905)

- 31-digit dialing (M3902, M3903, M3904, and M3905)

- Callers List soft key (M3903, M3904, and M3905)

- Redial List soft key (M3903, M3904, and M3905)

- Pause in Dialing String (M3902, M3903, M3904, and M3905)

- Special Character Support (M3902, M3903, M3904, and M3905)

- Headset State Support (M3903, M3904, and M3905)

- Set to Set Messaging Enhancements (M3903, M3904, and M3905)

- One-button Feature Access to Corporate Directory (M3903, M3904, and M3905)

- Corporate Directory Search Enhancement (M3903, M3904, and M3905)

- Virtual Office Enhancements (M3903 and M3904)

- Virtual Office Clearing of the Callers List and Redial List (M3903 and M3904)

- Context Sensitive Soft Keys (M3905)

- Automatic Logout for Virtual Office

- Speed Call for Virtual Office

- System-Initiated Language Download

- Set-to-Set Messaging Enhancements

- Personal Directory fixed feature key

Full Duplex Handsfree

The Full Duplex Handsfree (FDHF) functionality allows simultaneous two-way communication during a handsfree call. For Full Duplex Handsfree functionality, you require an M3904 Phase III set equipped with an FDHF cartridge.

Refer to "Full Duplex Handsfree" on page 52 for information on the FDHF hardware requirements.

The receive audio level is attenuated during the FDHF mode while both parties are speaking. Therefore, fluctuations in the receive volume can occur during the FDHF call.

During a call, the FDHF cartridge can be inserted or removed from the ACM without interrupting an established call. If the FDHF cartridge is removed, half-duplex operation is restored.

Table 1 shows FDHF interoperability with other M3900 cartridges.

Table 1
FDHF Interoperability

	External Alerter and Recording Interface	**CTIA**	**ATA**	**PC Utility**
FDHF	YES See Note below	YES	NO	YES
Note: FDHF works with the External Alerter and Recording Interface functionality; however, FDHF does not work with the External Alerter and Recording Interface when a recording device is connected.				

To initiate Full Duplex Handsfree functionality, follow the existing steps for Handsfree operation in the *M3901, M3902, M3903, and M3904 User Guide.*

System-Initiated Language Selection

With the System-Initiated Language Selection feature, the system administrator can define a default language on a customer basis for M3902, M3903, M3904, and M3905 sets. The default language defined by the system administrator applies to all new M3900 sets configured for the customer group.

When the system administrator configures a new M3900 set, the default language is sent to the set as part of the key map download. If necessary, the system administrator can override the system default.

Note: If the system administrator overrides the system default, it only affects the language on the set; it does not affect the system default.

If the user changes the default language for their set, the new language selection is uploaded to the Meridian 1 system. The new language selection overrides the language configured for the Terminal Number (TN).

This functionality allows Virtual Office workers to store their language selection on the Meridian 1 system. When the virtual worker logs in to a host set, the language selection changes to the language defined for the virtual worker.

Call Forward Enhancement for M3900 sets

The Call Forward Enhancement feature modifies the method for activating Call Forward on M3903, M3904, and M3905 sets.

To forward your calls or change the previously stored Call Forward number, perform the following steps:

1   Press the Forward key.
The previously stored Call Forward number appears, if one exists.

2   If you want to keep the previously stored Call Forward number, press Done.

If you want to enter a new Call Forward number, go to Step 3.

3   Enter the new Call Forward number.
When you start to enter the new number, the initial Call Forward number automatically deletes.

Note 1:   You can use the Delete key to delete each digit in the Call Forward number shown. To edit the number, use the Left or Right Navigation keys to move the cursor.

Note 2:   A Cancel key also appears. Press the Cancel key to exit without changing the previously stored Call Forward number.

4   Press Done.

31-Digit Dialing

With the 31-Digit Dialing feature, M3900 display screens accommodate dialing strings of up to 31 digits. This allows the screens to fully display long dialing strings, such as Calling Card numbers and access codes.

The M3902 set has a one-line display. Use the Left/Right Navigation keys to scroll through the digits on the line.

M3903, M3904, and M3905 display screens accommodate 24 characters on each line. For dialing strings greater than 24 characters, the number automatically wraps to the second line.

Table 2 lists the features that support 31-Digit Dialing on M3902, M3903, M3904, and M3905 sets.

Table 2
Features that support 31-Digit Dialing

	M3902	**M3903**	**M3904**	**M3905**
Personal Directory			X	X
Call Log		X	X	X
Redial		X	X	X
Predial	X	X	X	X

Context Sensitive Soft Keys

The four keys immediately below the display on the M3903, M3904, and M3905 telephones are referred to as Soft Keys. The function or features accessed by these keys varies depending on:

• the features configured for the telephone

• whether the phone is on-hook, off-hook, or on a call

• whether the Options List, Directory/Log, or Applications are in use

With Context Sensitive Soft Keys, only the features that are applicable and configured for your telephone appear on the soft labels above these keys.

For example, while you are on a call, you may have access, via the Soft Keys, to features such as Transfer and Conference. You will not, however, have access to Forward since you do not forward your telephone while on a call.

The following features can be accessed through the Context Sensitive Soft Keys:

• Call Log (Callers List)

• Call Log (Redial List)

• Call Transfer (TRN)

• 6 Party Conference (AO6)/3 Party Conference (AO3)

- Call Forward (CFW)

- Ring Again (RGA)

- Call P ark (PRK)

- Ringing Number Pickup (RNP)

- Speed Call (SCU/SCC/SSU/SSC)

- Privacy Release (PRS)

- Charge Account (CHG)

- Calling Party Number (CPN)

Callers List

M3900 Phase III introduces a Callers List soft key for M3903, M3904, and M3905 sets. Press either the soft key or the programmable feature key to go directly to the new callers in the list.

Note: If there are no new callers in your Callers List, when you press the Callers List soft key or programmable feature key, you go directly to the old Callers List.

The default soft key assignment for the Callers List is 27. However, if the system administrator configures a Callers List programmable feature key, the Callers List soft key is automatically removed. If necessary, the system administrator can add the soft key back on the predefined soft key number.

Password protection applies to One-Button Feature Access to the Callers List. If the password is enabled, when you press the Callers List soft key, a prompt appears requesting password entry. Once you enter the correct password, you can access the "new" Callers List.

Redial List

M3900 Phase III introduces a Redial soft key for M3903, M3904, and M3905 sets. Press either the soft key or the programmable feature key to go directly to the Redial List.

The default soft key assignment for the Redial List is 28. However, if the system administrator configures a Redial List programmable feature key, the Redial List soft key is automatically removed. If necessary, the system administrator can add the soft key back on the predefined soft key number.

Password protection applies to One-Button Feature Access to the Redial List. If the password is enabled, when you press the Redial List soft key, a prompt appears requesting password entry. Once you enter the correct password, you can access the Redial List.

Pause in Dialing String

With M3900 Phase III, M3902, M3903, M3904, and M3905 sets support a pause in dialing. This pause is often required when a user dials remote devices, such as answering machines, Interactive Voice Response (IVR) systems, auto attendants, and tandem switches.

The Pause feature enters a 1.5-second delay in a dialing sequence. The user can add the delay while programming or editing an entry in the Personal Directory, Callers List, Redial List, and Predial List.

This feature introduces a Pause soft key. To enter a Pause in the dialing string while editing a number, press the Pause soft key. A Pause place marker appears in the dialing string. The place marker appears as two parallel bars, and takes up one space in the dialing string.

Note: You can enter multiple pauses for longer delays.

Figure 1
Example of the Pause place marker in a dialing string

553-A0102
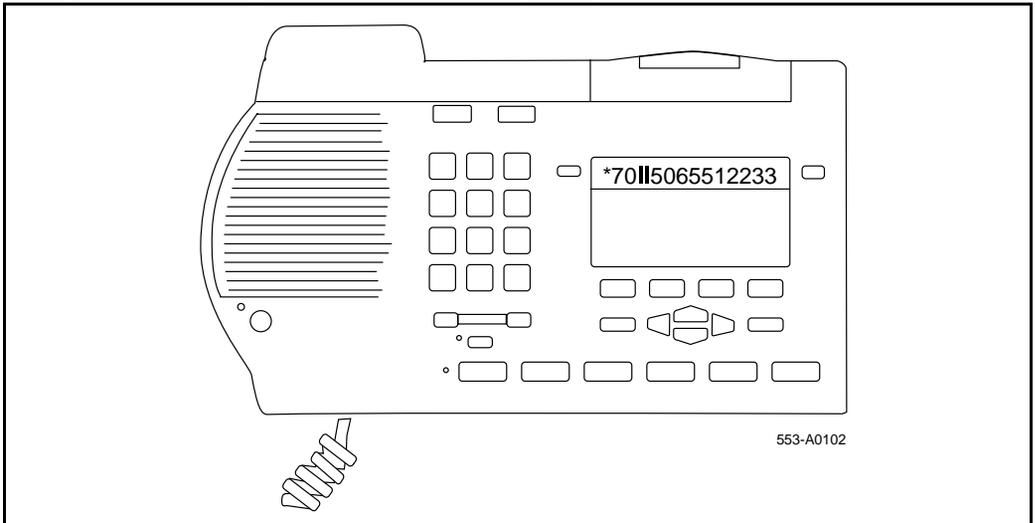
Special Character Support

With M3900 Phase III, M3902, M3903, M3904, and M3905 sets support all special characters found on a PC keyboard. Special character support allows a user to input special characters when using the edit mode in the Personal Directory and Set-to-Set Messaging. For example, a user can enter a name with an accent in their Personal Directory (for example, Josée).

Special Character Support also supports "Change feature key labels" in the Options menu.

The special character set includes all characters from the extended portion of the ASCII character set. The extended ASCII character set that supports the set's current language is the character set appears in the edit mode. The special character set contains up to 130 characters. It is displayed in six lines with 24 characters on each line. Use the navigation keys to scroll through the list or to move through an individual 24-character line.

The special character set does not include upper- and lower-case letters or numerals. Use the keypad of the set to define these characters.

M3900 Headset State Support

The M3903, M3904, and M3905 sets support the use of a headset. With M3900 Phase III, for the headset to operate, the system administrator no longer has to set the Class of Service to Handsfree Allowed (HFA) in LD 11.

Set-to-Set Messaging

The Set-to-Set Messaging feature provides a visual message from one M3900 telephone to another M3900 telephone when a user makes a call to that telephone. The user on an M3903, M3904, or M3905 set enters the Set-to-Set message text at the telephone. Set-to-Set Messaging is accessed through the Applications Key.

The maximum length for Set-to-Set message text is 24 characters (one line of the set display).

Table 3
Sample of Message Text

OUT TO LUNCH

BACK TO WORK: 4 Dec 99

BACK TO OFFICE: Jan 00

WILL REPLY AFTER 1 PM

BACK @ 4:00 PM

NOT IN TODAY

RETURN SOON -- 8:10 AM

GONE FOR THE DAY

The user can have only one Set-to-Set message on their telephone at a time. To activate Set-to-Set Messaging, the user must first define a message. If password protection is active for the M3900, it also applies to Set-to-Set Messaging.

If the Multiple Appearance Redirection Prime (MARP) feature is active, then MARP determines which DNs receive the Set-to-Set message. If MARP is not active, then Multiple Appearance Directory Number (MADN) determines which DNs configured on the telephone receive the Set-to-Set message.

To use Set-to-Set Messaging the M3903 or M3904 telephone must have:

• the Set-to-Set feature Class of Service enabled in LD 11

• a Set-to-Set message text created

• the Set-to-Set Messaging feature enabled

When Set-to-Set Messaging is active, the caller hears an audible tone and the Set-to-Set Message appears on their display. The caller then hears ringback and the call goes to voice messaging. If the called set is busy, a call waiting tone is heard by the called party.

Set-to-Set Messaging Enhancements for Phase III sets allow the system administrator to predefine ten messages for the M3903, M3904, and M3905 sets. The telephone user can select one of the messages as their set-to-set message. The telephone user can also edit a message before selecting it as their set-to-set message.

When the system administrator chooses the system-initiated language for the M3900 sets, the list of ten predefined set-to-set messages for that language is loaded into memory from the hard disk.

When the predefined messages are in memory, the system administrator can customize them for a particular customer group.

Note: Each customer group on the Meridian 1 system can have its own default language and list of predefined set-to-set messages for its end users.

When a set has Set-to-Set Messaging Allowed (STSA) Class of Service defined, the user can select and edit any of the ten messages listed in Table 3. However, only one of the messages is stored as the user's set-to-set message.

The user presses the Up and Down navigation keys to scroll through the list of predefined messages. When scrolling down, the list wraps from message ten to message one. When scrolling up, the list wraps from message one to message ten.

Table 4
Predefined set-to-set messages

Message #	Message
1	Please leave message
2	Back to work
3	In a meeting
4	On a conference call
5	At lunch
6	Busy, call

Message #	Message
7	Out of the office today
8	On a business trip
9	Project deadline today
10	Will reply after

With M3900 Phase III, the Set-to-Set Messaging screen has three soft keys. The ON/OFF key toggles the Set-to-Set Messaging feature on or off. The ON/OFF key only appears if the currently displayed message is saved. The Edit key allows the user to customize the message displayed on the screen. The Select soft key appears only if the currently displayed message is not saved. When pressed, this soft key selects the currently displayed message as the set-to-set message to be stored.

Set-to-Set Messaging Enhancements introduces a Message (Msg) field. This field contains either the number of the displayed message or the word "Saved". The system saves only one message. A message is saved when the user does one of the following:

• highlights a message and then presses Select

• edits a message and then presses Done

   Note: When the user performs one of the above, the new message overrides any previously saved messages.

When the user edits a message, the modified message is displayed when the user scrolls through the list. However, if the user then edits another message, that message replaces the previously modified message.

One-Button Feature Access to Corporate Directory

With One-Button Feature Access, users have more direct access to the Corporate Directory.

Press the Applications key to access the corporate Directory on M3903, M3904, and M3905 sets. With M3900 Phase III, you do not have to press the Select key after pressing the Applications key. Once you press the Applications key, you can immediately begin a search using the dial pad keys, provided that Corporate Directory was highlighted in the Applications selection list.

Corporate Directory Search Enhancement

With M3900 Phase III, the Corporate Directory Search Enhancement introduces the Resume soft key to the Corporate Directory screens of the M3903, M3904, and M3905 sets. The Resume key allows you to return to the Corporate Directory Find screen to enter additional characters and to continue your search without starting over from the beginning.

The Resume key appears on the following Corporate Directory screens:

- List view

- Card view

- No matches found

When you press the Resume soft key, the Corporate Directory Find screen returns with the information that you previously entered. The cursor is placed after the last letter that you entered. You can enter additional letters and then press the Done soft key. This brings you to a new point in the directory.

The M3903, M3904, and M3905 telephones provide access from the telephone to a corporate wide directory. The Corporate Directory is accessed through the Applications Key. The Corporate Directory allows:

- users to search by name

- a user to view additional information on each entry

- the user to dial from the Corporate Directory

- the user to copy and paste an entry into the Personal Directory (M3904 and M3905)

- an alphabetical listing of entries by using the last names (system generated)

  Note: When names are copied to the Personal Directory (M3904 and M3905), the names are listed by first name.

- the system administrator to configure Meridian Administration Tools (MAT) to download the directory database manually or automatically to the system

Operating parameters for the Corporate Directory

The user must have an M3903, M3904, or M3905 telephone to support the Corporate Directory feature. To access the Corporate Directory from the telephone, the user must have the Corporate Directory Class of Service enabled.

When the Corporate Directory is being updated with new data, the user cannot access the Corporate Directory. The user exits the Corporate Directory by pressing the Quit Key or the Applications Key.

The MAT or Optivity Telephony Manager (OTM) Corporate Directory utility gathers data from the MAT or OTM databases and downloads it to the Meridian 1 system. To use the Corporate Directory utility, MAT 6.6 or OTM 1.0 or later must be installed. For Release 25.40, OTM must be used.

Virtual Office

The Virtual Office feature allows users to log in to a designated M3903 or M3904 telephone and use their individual telephone configurations at that telephone. The calls to the user's primary DN are routed to the Virtual Office Host Terminal where the Virtual Office Worker is logged in.

The Host Terminal is the physical telephone that a user can use to log in as a Virtual Office worker. Both the M3903 and M3904 can be configured as Host Terminals; however, a Virtual Office Worker is required to login to a Host Terminal that matches their Virtual Terminal set type. For example, when the Virtual Terminal of a Virtual Office Worker is configured as an M3904, the login process is blocked if they attempt to login to an M3903 Host Terminal.

The Virtual Terminal is a set of features configured for a user and defined on a phantom loop. There is no permanent physical telephone associated with a Virtual Terminal.

The Virtual Office recognizes all system configuration related to the Virtual Office Worker. The Virtual Office feature operates on stand-alone Meridian 1 systems only.

Only one active session per user login ID is allowed at one time in the system. The Virtual Office Worker is identified by their primary DN, which cannot be used as the primary DN for any other set, virtual or physical, in the system. Use the Station Control Password (SCPW, configured in overlay 11), to validate the login.

Nortel Networks recommends that the Host Terminal have at least internal call and emergency call (911 in North America) capability.

Clearing of the Directory Services Password

With M3900 Phase III, the Meridian 1 system clears the Directory Services password when a virtual office worker logs in or out of an M3903 or M3904 Host set. The system administrator configures this functionality by defining Class of Service as Erase List Allowed (ELA) in Overlay 11 for the M3903 or M3904 Virtual set.

This Clearing of Password functionality allows multiple virtual workers, using the same host set, to have access to password-protected features if one of the users sets the password and does not turn it off when they log out.

Clearing of the Callers List and Redial List

With M3900 Phase III, the Meridian 1 system clears the Redial and Callers lists when a virtual office worker logs in or out of an M3903 or M3904 Host set. The system administrator configures this functionality by defining Class of Service as Erase List Allowed (ELA) in Overlay 11 for the M3903 or M3904 Virtual set. When the ELA Class of Service is defined, the Callers List and Redial List are automatically cleared when the virtual worker logs in or out.

Automatic Logout for Virtual Office

M3900 Phase III introduces automatic logout for virtual workers. If a virtual worker, who is already logged on to Set A, tries to log on to Set B, the system automatically logs the virtual worker off Set A and logs them on to Set B (provided that the virtual worker enters the correct login password). The system administrator enables this functionality in Overlay 15 at the Virtual Office Automatic Logout (VO_ALO) prompt.

The system administrator can also define a time at which all virtual terminals are automatically logged out. The system administrator configures the automatic logout time at the Virtual Office Automatic Logout Time (VO_ALOHR) prompt in Overlay 15.

If the set is busy at the automatic logout time (for example, if the virtual worker is using Corporate Directory or Set-to-Set Messaging), it is not logged out until it becomes idle.

> *Note:* If a user logs in to a virtual set after automatic logout, the set does not automatically log out a second time.

Speed Call for Virtual Office

With M3900 Phase III, M3900 sets support Speed Call (SCU/SCC) and System Speed Call (SSU only) on Virtual Terminal Numbers.

Operating parameters for Virtual office

The Virtual Terminal Prime DN cannot be a Primary DN on another terminal.

The Virtual Terminal Prime DN (user A) can be the secondary DN of another Virtual Terminal (user B).

If both user A and user B are logged in, a call to user A's Primary DN can be answered by user B's Secondary DN.

If virtual user A logs out, user B logs in, and a user calls the Primary DN of set A, the scenarios are as follows:

• If user A has Call Forward configured before logout, the call is forwarded.

- If user A does not have Call Forward configured, but has the default Call Forward (DCFW) configured, the call is forwarded to that DN (the DN can be Meridian Mail).

- If neither of the above two scenarios apply, the caller receives overflow tone.

Display-based Expansion Module

The Display-based Expansion Module is an accessory that provides a single strip of eight additional keys for the M3904 and M3905 telephones. The user presses the Page Key on the Display-based Expansion Module to access three different layers of keys. A single Display-based Expansion Module can be configured to provide up to 24 soft-labeled programmable feature or DN keys (eight keys on each of the three layers).

Flash Download

Flash Download provides the ability to download a new version of firmware from the Meridian 1 to a single M3900 Series telephone, or to a range of M3900 Series telephones. For X11 Release 25, this feature is applicable to M3902, M3903, M3904, and M3905 telephones. Flash Download enables firmware upgrades without the necessity of replacing the telephones in the field, thereby "future-proofing" the M3900 Series telephones.

System-Initiated Language Download

For the initial system-initiated language download, if the system administrator chooses a language that is not supported by one of the sets, the language selection remains at the default (English). When the system administrator chooses an unsupported language, an error message appears on the TTY.

Set-to-Set Messaging

If the system administrator chooses a language and the file containing the ten predefined messages for that language cannot be found on the hard disk, the list of messages stored in memory will be completely blank. The system administrator can still create a list of customized messages in the same manner as if they were only modifying one or two of the predefined messages.

When the administrator enters Yes at the STS_MSG prompt in overlay 15, the prompt MSG xx appears (Where xx=01~ 10) and this predefined default message will not be printed out in overlay 15. The administrator can update the message or press the Enter key to accept the default message. The administrator can print out the messages in overlay 21 after the changes are made in overlay 15. A message can be deleted by typing X and pressing the <CR> key. This piece of message then becomes empty.

Language selection during software installation

With X11 Release 25, the software installer has been given the ability to select one of the following language sets to be installed on the Meridian 1. This selection determines the languages available to M3900 Series telephone users.

- Global 10 Languages (Release 3)⸺English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana

- Western Europe 10 Languages (Release 3)⸺English, French, German, Spanish, Swedish, Norwegian, Danish, Finnish, Italian, Brazilian Portuguese

- Eastern Europe 10 Languages (Release 3)⸺English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish

- North America 6 Languages (Release 3)⸺English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana

- Spare Group A

- Spare Group B

During the software installation process, the installer selects one of the above Peripheral Software DownLoad (PSDL) files. Please see *Software Conversion Procedures* (553-2001-320) for information on software installation.

General features

The specific characteristic of the five models of the M3900 Series telephones is found on the following pages. Refer to:

- "M3901" on page 36

- "M3902" on page 37

- "M3903" on page 39

- "M3904" on page 41

- "M3905" on page 43

The M3900 Series Meridian Digital Telephones support features through:

- Fixed Feature Keys

- Programmable Line/Feature Keys (self-labeled)

- Programmable Soft Keys (self-labeled) (M3902 and M3905)

- Context Sensitive Soft Keys (M3903, M3904, and M3905)

- Applications Key

    — Set-to-Set Messaging (M3903, M3904, and M3905)

    — Corporate Directory (M3903, M3904, and M3905)

- M3900 "Hardware options" on page 45

Feature keys

Personal Directory

With *M3900 Phase III*, press the Directory/Log fixed feature key to access the Personal Directory on M3904 sets. On M3905 sets, press the Directory self-labelled programmable feature key. You do not have to press the Select key after pressing the Directory/Log or DIR/LOG key. Once you press the Directory/Log or DIR/LOG key, you can immediately begin a search using the dial pad keys, provided that Personal Directory was highlighted in the selection list.

Note: M3900 Phase III allows you to perform a three-letter search in the Personal Directory.

The Fixed Feature Keys (see Table 5) are the feature keys on the M3900 Series Meridian Digital Telephone that are prelabeled with the assigned feature. The Fixed Feature Keys appear on the telephone with text or icon labels. Telephones with icon labels are only available in specific market areas.

Table 5
Fixed Feature Key text and icon labels (Part 1 of 3)

Feature	Text Key Label	Icon Key Label
Goodbye	Goodbye	
Hold	Hold	or
Mute	Mute	
Handsfree		
Volume		
Headset	Headset	
Options	Options	
DN line	Line	
Feature (M3901)	Feature	Fx
Message	Message	
Directory/Log (M3904)	Directory/Log	

Table 5
Fixed Feature Key text and icon labels (Part 2 of 3)

Feature	Text Key Label	Icon Key Label
Call Log (M3903)	Call Log	
Shift	⬆ Shift	⬆
Application	Applications	
Navigation	◀⬢▶	◀⬢▶
Copy	Copy	
Quit	Quit	Quit
Transfer (M3902)	Transfer	
InCalls (M3905 Call Center)	In - Calls	
Not Ready (M3905 Call Center)	Not Ready	
Make Busy (M3905 Call Center)	Make Busy	
Call Supervisor (M3905 Call Center)	Supervisor	
Answer Agent (M3905 Call Center)	Ans Agent	
Activity Code (M3905 Call Center)	Activity	
Answer Emergency (M3905 Call Center)	Ans Emerg	

Table 5
Fixed Feature Key text and icon labels (Part 3 of 3)

Feature	Text Key Label	Icon Key Label
Emergency (M3905 Call Center)	Emergency	
Observe Agent (M3905 Call Center)	Obv Agent	
Display Queue (M3905 Call Center)	Dsply Queue	

Note: Icon key labels are available in specific markets areas.

Programmable Line/Feature Keys (self-labeled)

The Programmable Line/Feature Keys (self-labeled) are the keys located at the left and right sides of the upper section of the display area. The user can change the LCD label of these keys (with the exception of the primary Directory Number Key) to meet their business needs.

The Programmable Line/Feature Key (self-labeled) provides two layers of functionality on the M3903 and M3904. The two layer keys on the M3903 and M3904 provides the user access to two Lines/Features per key. For example, the M3904 has six Programmable Line/Feature Keys (self-labeled), which provide the user with 12 line/feature keys accessible on the six keys.

Soft Keys (self-labeled)

The Soft Keys (self-labeled) are the three (M3902) or four (M3903, M3904, and M3905) keys located below the display on the M3900 Series Meridian Digital Telephones. The labels and corresponding functionality of these keys change depending on the features available or the application in use.

Programmable Features

The M3901 can have five Programmable Features assigned. The user activates the features by pressing the Feature Key and assigned key pad keys as indicated by the Feature Card. The system administrator programs selected features for the M3901 telephone.

For feature key assignment information see:

- Table 8, "M3901 key description," on page 74

- Table 9, "M3902 key description," on page 76

- Table 10 "M3903 key description" on page 77

- Table 11 "M3904 key description" on page 80

- Table 12 "M3905 key description" on page 83

M3901 Entry Telephone

The features of the M3901 include:

- one line (Directory Number (DN)) capability

- five programmable features

- Fixed Feature Keys: Line, Feature, Hold, Goodbye, and Volume control

- Feature Activation and Message Waiting/Incoming Call Status Indicator LED

- support for an amplified headset

Figure 2
M3901
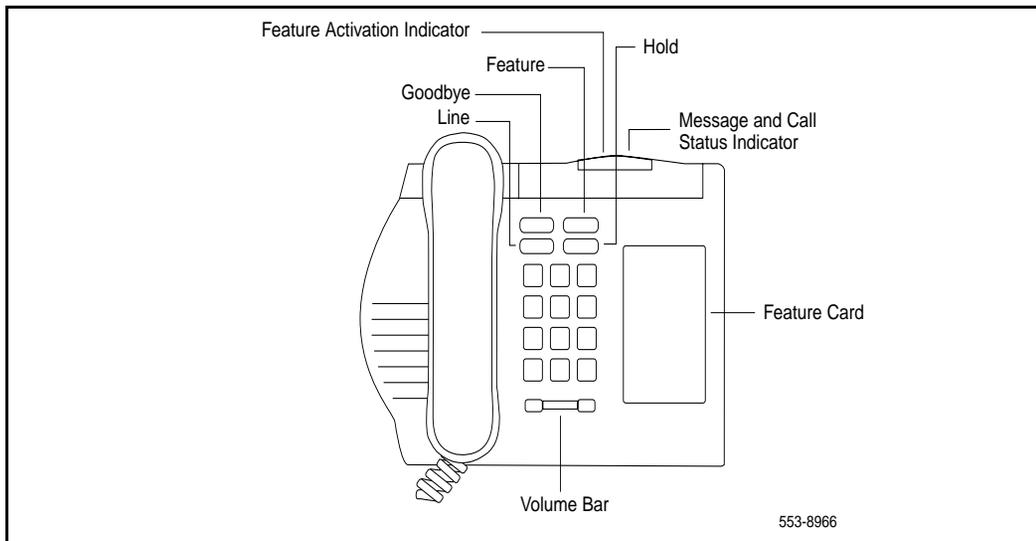
M3902 Basic Telephone

The features of the M3902 include:

- one line (Directory Number (DN)) capability

- three Programmable Soft Keys (self-labeled)

- Fixed Feature Keys: Options, Message, Transfer, Goodbye, Hold, "Smart" Mute, and Volume control

- two lines by twenty-four character display area

- Group Listening

- on-hook dialing

- support for an amplified headset

- one accessory port

- handsfree calling option with LED

Figure 3
M3902
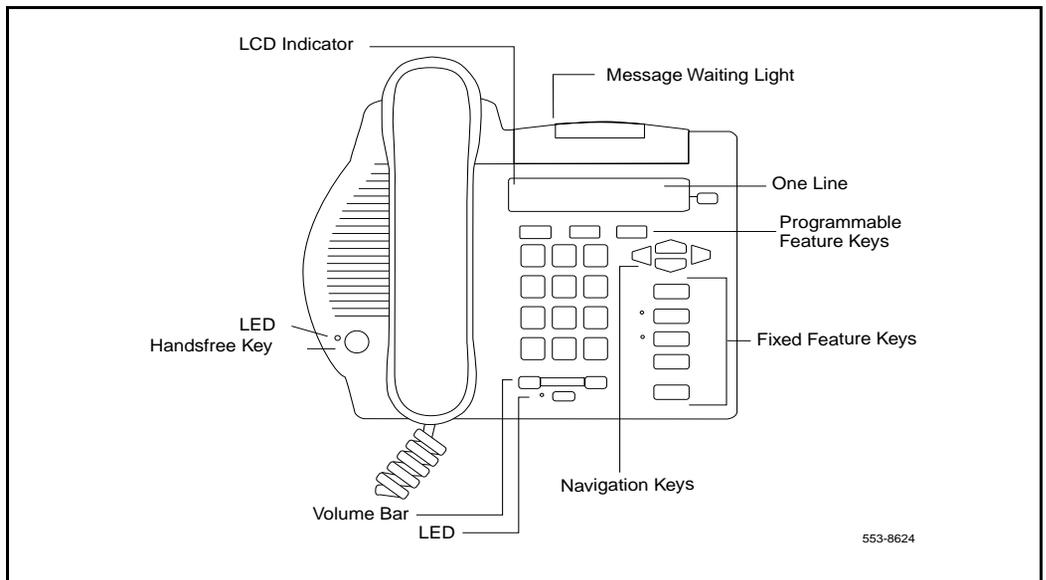
M3903 Enhanced Telephone

The features of the M3903 include:

- two Programmable Line/Feature Keys (self-labeled) which have two layers each, giving the user access to four Line/Feature keys

- four Context Sensitive Soft Keys (self-labeled) that change functionality depending on the features available or the application in use

- Handsfree calling with LED

- Fixed Feature Keys: Goodbye, Message, Call log (including Redial List), Applications, Shift, Goodbye, Hold, "Smart" Mute, and volume control

- Navigation cluster, Quit, and Copy

- three line by twenty-four character display area

- Call Log (includes Redial List)

- Group Listening

- on-hook dialing

- two accessory ports

- support for an amplified or unamplified headset

- Direct Connect Headset port

Figure 4
M3903

553-8625
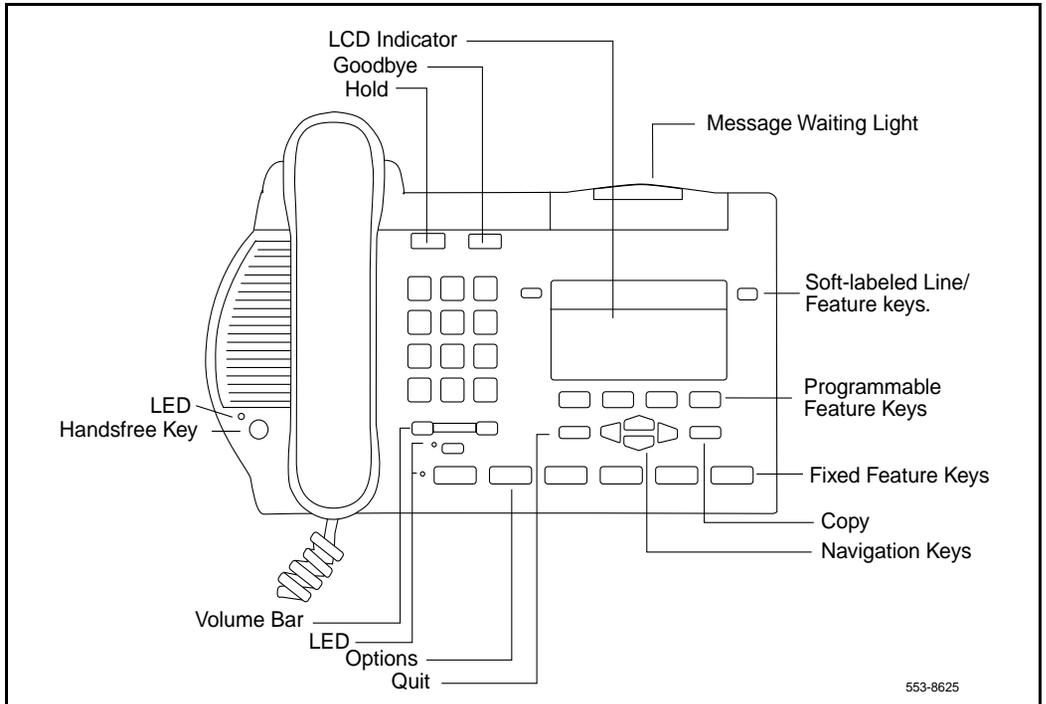
M3904 Professional Telephone

The features of the M3904 telephone include:

- six Programmable Line/Feature Keys (self-labeled) which have two layers each, giving the user access to 12 Line/Feature keys

- four Context Sensitive Soft Keys (self-labeled) that change functionality depending on the features available or the application in use

- Handsfree Calling with LED

- Fixed Feature Keys: Options, Message, Directory/Log (including Redial List), Applications, Shift, Goodbye, Hold, "Smart" Mute, Volume control

- Navigation cluster, Quit, and Copy

- five line by twenty-four character display

- Personal Directory

- Call Log (includes Redial List)

- Group Listening

- on-hook dialing

- two accessory ports (support for an amplified/unamplified headset)

- Direct Connect Headset port

Figure 5
M3904

553-8626
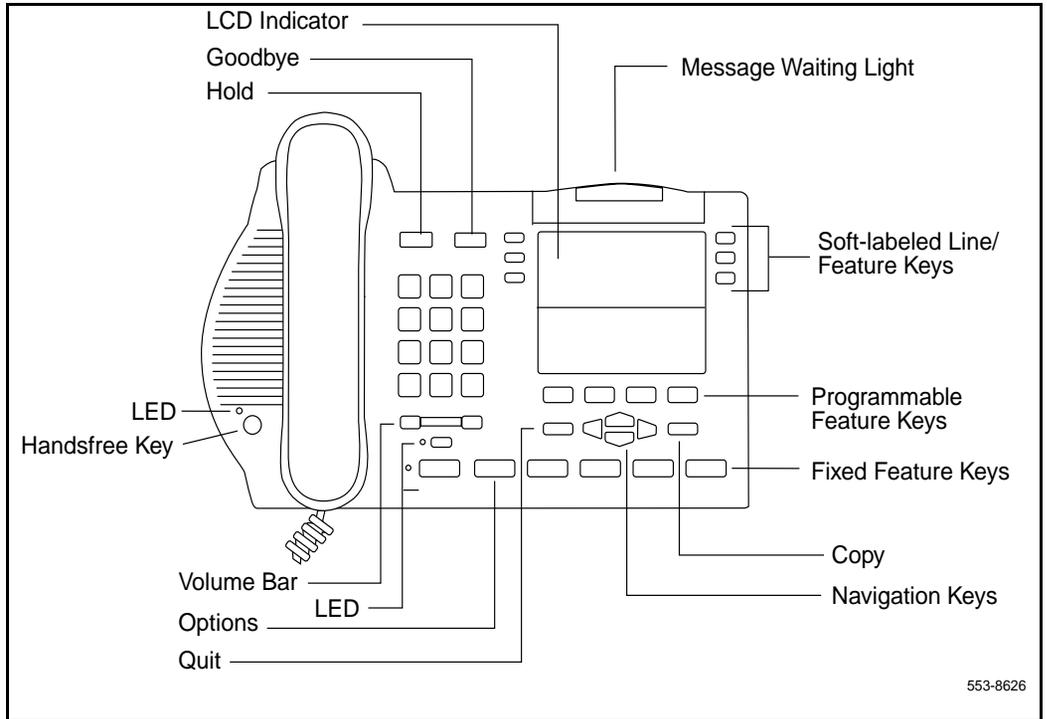
M3905 Call Center Telephone

The features of the M3905 Call Center Telephone include:

- eight Programmable Line/Feature Keys (self-labeled), giving the user access to eight Line/Feature Keys

- four Context Sensitive Soft Keys (self-labeled) that change functionality depending on the features available or the application in use

- Fixed Feature Keys with LED: Headset, Supervisor, Emergency, Not Ready, Make Busy, In-Calls, goodbye, Hold, "Smart" Mute, Volume control

- Navigation cluster, Quit and Copy

- four line by twenty-four character display

- an optional handset

- two accessory ports (supports amplified/unamplified headset)

- Supervisor Observe Key with LED

- Supervisor Headset Observe port

Figure 6
M3905
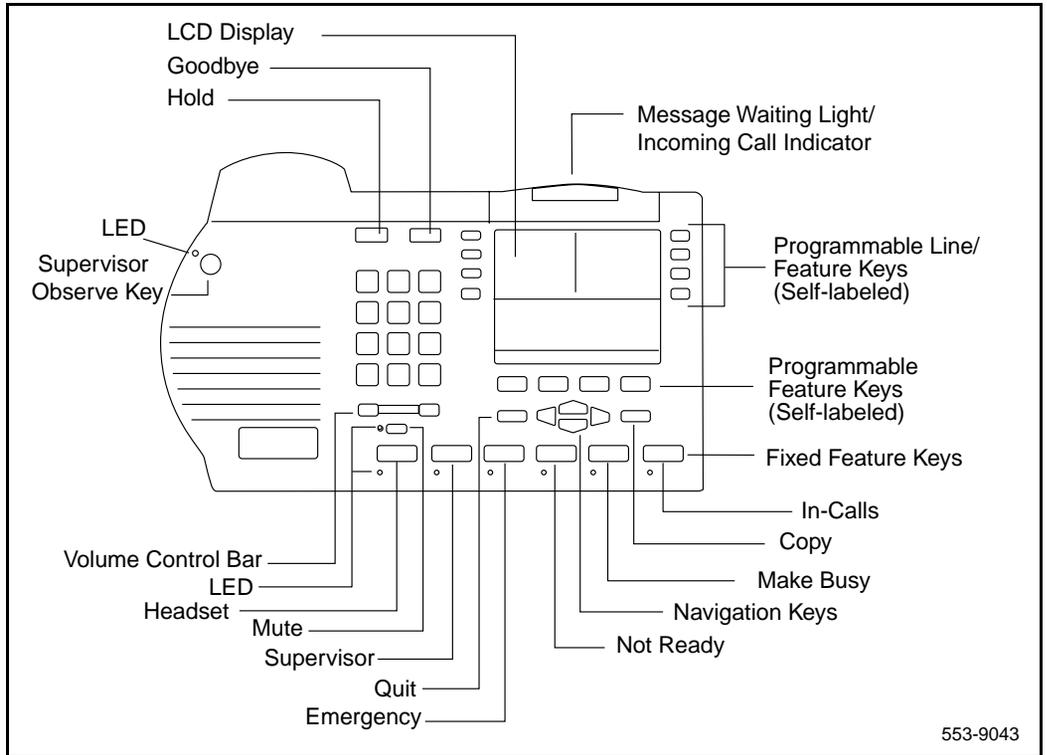
Note: The system administrator can configure four of the bottom six Fixed Feature Keys (Make Busy, Not Ready, Supervisor and Emergency) to Feature Keys that suit the business needs of the Call Center user.

Hardware options

Contents

The following are the topics in this section:

Description

Table 6 lists the features and optional hardware available for each M3900 series telephone.

Table 6
M3900 Series telephone accessories compatibility (Part 1 of 2)

Accessory	X11 release introduced	M3900 phase introduced	M3902	M3903	M3904	M3905
Accessory Connection Module (ACM)			NA	Supports	Supports	Supports
Analog Terminal Adapter (ATA)	Release 24.24	Phase I	Supports	Supports	Supports	Supports
Computer Telephony Integration Adapter (CTIA)	Release 25.40	Phase 3	Supports	Supports	Supports	Supports[1]
Display-based Expansion Module (DBA)	Release 25.10	Phase 2	NA	NA	Supports	Supports[1]
Key-based Expansion Module	Release 24.24	Phase 1	NA	Supports	Supports	NA
External Alerter and Recording Interface	Release 24.24	Phase 1	Supports	Supports	Supports	Supports
Full Duplex Handsfree	Release 25.40	Phase 3	Supports	NA	NA	NA
Personal Directory PC Utility	Release 24.24	Phase 1	Supports	Supports[1]	NA	NA
Headset (non-amplified) connects thought he direct connect headset jack			NA	NA	Supports	Supports

Table 6
M3900 Series telephone accessories compatibility (Part 2 of 2)

Accessory	X11 release introduced	M3900 phase introduced	M3902	M3903	M3904	M3905
Headset (amplified) connects through the headset jack			Supports	Supports	Supports	Supports
Handset			Standard	Standard	Standard	Standard

Note 1: M3905 Phase III firmware and X11 Release 25.40 or later software are required to support the Personal Directory PC Utility, DBA, and CTIA accessories.

Accessory Connection Module (ACM)

The Accessory Connection Module provides the interface for adding the Analog Terminal Adapter, External Alerter and Recorder Interface, Computer Telephony Integration Adapter, and Personal Directory PC Utility. The ACM is available for the M3902, M3903, M3904 and the M3905. The ACM requires a wall transformer to power any of the accessory cartridges. You must order the wall transformer separately from your Nortel Networks distributor to power the ACM and/or the M3900 accessories.

Table 7
Accessory compatibility (Part 1 of 2)

	ATA	Key-based Expansion Module	Personal Directory PC Utility	External Alerter and Recording Interface	Display-based Expansion Module	CTIA
Analog Terminal Adaptor (ATA)	NA	YES	YES	YES	YES	YES
Key Expansion Module (2)	YES	NA	YES	YES	NO	YES

Table 7
Accessory compatibility (Part 2 of 2)

	ATA	Key-based Expansion Module	Personal Directory PC Utility	External Alerter and Recording Interface	Display-based Expansion Module	CTIA
Personal Directory PC Utility	YES	YES	NA	YES	YES	YES
External Alerter and Recording Interface	YES	YES	YES	NA	YES	YES
Display Expansion Module (1)	YES	NO	YES	YES	NA	YES
Computer Telephony Integration Adapter (CTIA)	YES	YES	YES	YES	YES	NA
Full Duplex Handsfree	YES	NA	YES	YES	NA	YES
Note: Not all of the above accessories are supported on all telephones in the M3900 Series portfolio.						

Alternate key caps for the M3905

The M3905 Call Center Telephone provides an alternate key cap kit to customize your M3905 telephone to fit your business needs. Use the Key Cap Tool to remove any of the middle four fixed programmable keys, located at bottom front of the M3905, and replace them with alternate keys. The alternate key caps include: Answer Emergency, Answer Agent, Activity Code, Call Agent, Observe Agent, and Display Queue.

Analog Terminal Adapter (ATA)

The Analog Terminal Adapter (ATA) lets you connect an analog device such as a fax machine or modem to your telephone. You can have simultaneous use of the telephone and the analog device. The ATA is available for the M3902, M3903, M3904 and the M3905 models.

Computer Telephony Integration Adapter (CTIA)

The Computer Telephony Integration Adapter (CTIA) along with the TAPI software provides an interface to connect a Personal Computer (PC) to the M3900 telephone.

An RS-232C cable is required to connect the PC to the CTIA. The CTIA connects to the M3900 Series telephone through the Accessory Connection Module (ACM). The CTIA is a small cartridge accessory and can be inserted into either the small or large footstand opening.

The CTIA is powered through the ACM. The ACM receives power through the telephone via the telephone line cord which is connected to a Teladapt wall transformer power supply (see Figure 13 on page 93). Check with your Nortel Networks distributor for the recommended wall transformer for the M3900 accessories. Install the Accessory Connection Module (ACM) into your M3900 Series Meridian Digital Telephone (refer to the ACM Installation Sheet) before you install your CTIA.

The CTIA cartridge provides the user:
- connectivity to the PC
- voice call control

Telephone Application Programming Interface (TAPI) software

TAPI software accompanies your CTIA Cartridge. The TAPI software allows a user to program telephone-line-based devices to work independently from their computer or other devices.

Personal Directory PC Utility Software

In addition to the TAPI software which is included with the CTIA, you may wish to purchase the Personal Directory PC Utility Software. The Personal Directory PC Utility software uses your CTIA Cartridge to connect your PC and M3904 telephone so that you may exchange data between your PC and your telephone's directory. For more information see Personal Directory PC Utility.

Personal Directory PC Utility

The Personal Directory PC Utility software provides a faster, easier way to create or modify a Personal Directory on the M3904 and M3905 telephones. You can enter names and numbers into a Personal Directory file on your Personal Computer (PC). You can download (program) the PC file directly to the M3904 and M3905 telephones. You can upload (read) a directory from the M3904 and M3905 telephones to your PC to modify the directory.

An RS-232C cable is required to connect the PC to the Personal Directory PC Utility Interface Cartridge. The cartridge connects to the M3900 Series telephone through the Accessory Connection Module (ACM). The Personal Directory PC Utility Interface Cartridge is a small cartridge accessory and can be inserted into either the small or large footstand opening.

The Personal Directory PC Utility Interface Cartridge is powered through the ACM. The ACM receives power through the telephone via the telephone line cord which is connected to a Teladapt wall transformer power supply (see Figure 13 on page 93). Check with your Nortel Networks distributor for the recommended wall transformer for the M3900 accessories. You must install the Accessory Connection Module (ACM) into your M3900 Series Meridian Digital Telephone (refer to the ACM Installation Sheet) before you install your Personal Directory PC Utility Interface Cartridge.

> *Note:* The CTIA Cartridge and the Personal Directory PC Utility Interface Cartridge are identical.

The Personal Directory PC Utility supports the following languages: English, French, Spanish, German, Danish, Portuguese, Italian, Norwegian, Swedish, Finnish, Dutch. The default language is English.

Expansion Modules

Display-based Expansion Module

The Display-based Expansion Module (DBA) provides additional Line/Programmable Feature Keys (Self-labeled) for the M3904 and M3905. The DBA supports up to three layers of eight additional keys for a total of 24 keys.

> *Note:* Refer to Table 7 on page 47 for a list of the telephones with which the Display-based Expansion module is compatible.

A Page fixed key located on the DBA allows a user to switch between the three layers of Self-labeled Programmable Feature Keys. Visual indication is also provided to indicate which page (or layer) of Self-labeled Programmable Feature Keys is in use. Feature activation and deactivation on the DBA Keys is the same as the Programmable Feature Keys on the M3904 and M3905.

The user may change the feature key labels by selecting "Change feature key label" from the Options List on the M3904 or M3905.

The Display-based Expansion Module is only supported on the M3904 and M3905. You can attach a maximum of one Display-based Expansion Module to an M3904 or M3905 set.

Key-based Expansion Module

The Key-based Expansion Module (KBA) attaches to the M3904 and M3905 Meridian Digital Telephones. The KBA provides 22 additional Line/Feature Keys. You can attach a maximum of two Key-based Expansion Modules to the M3904 and M3905.

External Alerter and Recording Interface

The External Alerter and Recording Interface provides an interface for a remote ringer device installed in a location separate from the telephone. The External Alerter and Recording Interface provides access to a standard, off-the-shelf remote ringer, call status relay, audio recorder or visual indicator.

You can program the External Alerter interface to activate a ringer (or light) when the telephone rings or when the telephone is in use (off hook).

Note: The External Alerter is an interface only, the ringer, light, buzzer etc. is available through a third party vendor.

Handset option for the M3905 Call Center Telephone

The Handset does not accompany the M3905 Call Center Telephone. The Handset kit is a hardware option for the M3905 Call Center Telephone. The handset can be added to the M3905 by removing the front plate of the telephone. A handset kit is available for the M3905.

Headset options

The M3901, M3902, M3904, and M3905 supports an amplified headset when the headset connects to the handset jack.

The M3903, M3904 and M3905 have a dedicated headset jack which supports a non-amplified headset. The M3903, M3904 and M3905 have a Headset Fixed Feature Key to turn the Headset on and off.

Contact your Nortel Networks distributor for recommended headset equipment.

Telephone Wall Mount Kit

The telephone wall mount bracket kit contains a one piece wall mount plate that attaches the M3903, M3904 and M3905 telephone to the wall. The Wall Mount Kit is available from your local Nortel Networks distributor. The M3901 and M3902 have built in wall mount brackets.

Full Duplex Handsfree

The Full Duplex Handsfree (FDHF) functionality allows simultaneous two-way communication during a handsfree call. For Full Duplex Handsfree functionality, you require an M3904 Phase III set equipped with an FDHF cartridge.

The FDHF functionality requires the following hardware:

• M3904 Phase III set (NTMN34GA)

  Note: NTMN34TA is the M3904 Phase III Icon set.

• Full Duplex Handsfree cartridge (NTMN72AA)

- Accessory Connection Module (ACM) (NTMN71AA)
- One of the following wall transformers to power the FDHF cartridge:
   —110V wall transfer (NTMN80AA)

   —220V wall transformer (NTMN80BA)

   —EU 230V wall transformer (NTHC08AA)

   —UK 230V wall transformer (NTHC09AA)

Configure the M3900 Series Meridian Digital Telephone

Contents

The following are the topics in this section:

Reference list

The following are the references in this section:

- *Administration* (553-3001-311)

- *Maintenance* (553-3001-511)

- *System Messages Guide* (553-3001-411)

Description

To configure the M3900 Series Meridian Digital Telephones and related features, follow the procedures in the following tables:

- "LD 11 – Configure the M3900 Series Digital Telephone," on page 57

- "LD 11 – Configure the Server-based Applications (Corporate Directory and Set-to-Set Messaging)," on page 65

- "LD 32 – Clear Personal Directory Password for M3900 set," on page 66

- "LD 57 – Configure the Flexible Feature Codes for the Virtual Office feature," on page 67

- "LD 97 – Configure a Phantom loop for the Virtual Office feature," on page 68

- "LD 20 – Print Terminal Number Block (TNB) data for Virtual and Host Terminals," on page 69

- "LD 22 – Print request for peripheral software versions," on page 69

- "LD 97 – Configure parameters for System-wide Flash Download," on page 70

- "LD 32 – Flash Download commands," on page 73

  Note 1: The (...) within the table indicate additional prompts not shown.

  Note 2: For more information refer to *X11 Administration* (553-3001-311), *X11 Maintenance* (553-3001-511), and *X11 System Messages Guide* (553-3001-411).

Configure the M3901, M3902, M3903, M3904, and M3905 telephone

LD 11 – Configure the M3900 Series Digital Telephone (Part 1 of 4)

Prompt	Response	Description
REQ:	NEW	New data.
	CHG	Change current data.
TYPE:	x..x	Type of telephone.
		3901 = M3901. 3902 = M3902. 3903 = M3903. 3904 = M3904. 3905 = M3905. 3903H = M3903 Host Terminal. 3904H = M3904 Host Terminal. 3903V = M3903 Virtual Terminal. 3904V = M3904 Virtual Terminal.
		Note 2: The M3903, M3904, and 3905 telephones only support the Host Terminal and the Virtual Terminal feature.
		Note 3: If the M3901, M3902 or M3905 are configured as a Virtual Terminal, the error message SCH0099 is output.
		Note 4: M3903, M3904, and M3905 are the telephone types supported for Corporate Directory and Set-to-Set Messaging.
TN		Terminal number.
	l s c u	l = loop address. If confirmed as 3903V or 3904V, the loop must be a phantom. If confirmed as 3903H or 3904H, the loop must NOT be a phantom s = shelf address. c = card address. u = unit address.
	c u	For Option 11C, input only the card and unit address. If confirmed as 3903V or 3904V the card must be a phantom (card slots 61-80).
		Note: If the telephone has an Analog Terminal Adapter (ATA), then use the voice Terminal Numbers 16-31.
...	...	...

LD 11 – Configure the M3900 Series Digital Telephone (Part 2 of 4)

Prompt	Response	Description
DES	d...d	Designator.
		d...d = represents an Office Data Administration System (ODAS) Station Designator of 1-6 alphanumeric characters.
...	...	...
CUST	xx	Customer number as defined in LD 15.
...	...	...
KBA	(0)-2	Key-based Expansion Module accessory (configuration prompt KBA).
		The KBA prompt appears when the set type is M3904 or M3905.
		0 = allows configuration of up to and including key number 31.
		1 = allows configuration of up to and including key number 53.
		2 = allows configuration of up to and including key number 75.
DBA	(0)-1	Display-based Expansion Module accessory (configuration prompt DBA)
		If KBA is a non-zero value, then DBA is not prompted. If KBA is a zero value or if the carriage return is pressed, then the DBA prompt appears.
		0 = allows configuration of up to and including key number 31.
		1 = allows configuration of up to and including key number 55.
FDN	xxx...x	Flexible CFNA (Call Forward No Answer) DN.
...	...	...
SCPW	xxx...x	Station Control Password.
...	...	...

LD 11 – Configure the M3900 Series Digital Telephone (Part 3 of 4)

Prompt	Response	Description
CLS	aaaa	Class of Service options where aaaa:
		= (GRLD) Group Listening Denied, (M3902, M3903, M3904). = GRLA Group Listening Allowed, (M3902, M3903, M3904). = (HFD) Handsfree Denied,M3902, M3903, M3904). = HFA Handsfree Allowed (M3902, M3903, M3904). = ADD Automatic Digit Display, default for M3902, M3903, M3904, M3905. = (VCE) Voice Terminal, required if ATA equipped. = DTA Data Terminal. = (FLXD) Flexible voice/data denied. = FLXA Flexible voice/data allowed, required if ATA equipped. = (STSD) Set-to-Set Messaging Denied, (M3903, M3904, and M3905). = STSA Set-to-Set messaging Allowed, (M3903,M3904, and M3905). = (CRPD) Corporate Directory Denied, (M3903, M3904, and M3905). = CRPA Corporate Directory Allowed. (M3903, M3904, and M3905).
		Note 1: If ATA is equipped, CLS = FLXA, VCE required.
		Note 2: M3903 and M3904 must have HFA class of service for the Headset to operate.
...	...	...
DCFW	z..z	Default Call Forward DN.
		DN where calls are forwarded (the target DN). The maximum length of the DCFW is 31.
	x <CR>	x = remove the DCFW DN.
		Note: The DCFW prompt appears only for Virtual Terminals (3903V, 3904V).

LD 11 – Configure the M3900 Series Digital Telephone (Part 4 of 4)

Prompt	Response	Description
KEY	xx aaa yyyy zzz	Telephone function key assignments where: xx = key number. aaa = key name or function. yyyy, zzz = additional information required. Refer to the Key description table for each M3900 telephone: "M3901 key description" on page 74. "M3902 key description" on page 76. "M3903 key description" on page 77. "M3904 key description" on page 80. "M3905 key description" on page 83. MTAD (Meridian 1 Time and Date) - The system puts a block on the time/date key on all the M3900 Series Meridian Digital Telephones. ***Note 1:*** VTN primary DN cannot be a primary DN for any other TN, and the VTN must be defined as a MARP TN. ***Note 2:*** The DN of a Virtual Terminal cannot be defined on a Host Terminal, and the Host Terminal DN cannot be defined on a Virtual Terminal.
...	...	...

Task summary list

The following is a summary of the tasks in this section:

5   LD 15 - Assign a default language and customize set-to-set messages.

6   LD 15 - Enable Virtual Office Automatic Logout and configure the automatic logout time for Virtual Office terminals.

7   LD 11 - Configure the Callers List and Redial List keys on Context-Sensitive Soft Keys or a Programmable feature keys.

8   LD 11 - Configure the default language for the M3900 set.

9   LD 11 - Allow or deny the erasing of the Callers and Redial lists for virtual terminals.

LD 15 – Assign a default language and customize set-to-set messages.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	FTR	Features and options.
CUST	xx	Customer number.
...		
DFLT_LANG		M3900 default language.
	(ENG) FRE GER DUT SPA ITA NOR SWE DAN POR FIN POL CZE HUN JAP RUS LAT TUR	English (default) French German Dutch Spanish Italian Norwegian Swedish Danish Portuguese Finnish Polish Czech Hungarian Japanese Russian Latvian Turkish
STS_MSG	(NO) YES	Modify Set-to-Set messages.
MSG 01	<CR> <text string>	Keeps current message. Input the new message to be displayed (up to 24 characters).
...		
MSG 10	<CR> <text string>	Keeps current message. Input the new message to be displayed (up to 24 characters).

LD 15 – Configure the automatic logout time for Virtual Office terminals.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	FTR	Features and options.
CUST	xx	Customer number.
...		
VO_ALO	(NO) YES	Disable Virtual Office Automatic Logout (default). Enable Virtual Office Automatic Logout.
VO_ALOHR	(0) - 23	Virtual Office Automatic Logout time. Use the 24-hour clock.

LD 11 – Configure the Callers List and Redial List keys on Context-Sensitive Soft Keys or Programmable feature keys.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:		M3900 series telephone types.
	3903H 3904H 3903V 3904V 3905	M3903 Host set M3904 Host set M3903 Virtual set M3904 Virtual set M3905 set
...		
KEY	27 CLT	Configure Callers List key on a Context-Sensitive Soft Key. CLT and NUL are the only options for KEY 27.
KEY	28 RLT	Configure the Redial List key on a Context-Sensitive Soft Key. RLT and NUL are the only options for KEY 28.

KEY	XX CLT	Configure the Callers List key on an available programmable feature key.
KEY	XX RLT	Configure the Redial List key on an available programmable feature key.

LD 11 – Configure the default language for the M3900 set.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:		M3900 series telephone types.
	3902 3903H 3904H 3903V 3904V 3905	M3902 set M3903 Host set M3904 Host set M3903 Virtual set M3904 Virtual set M3905 set
...		
MLNG		M3900 language selection. The default is the language selection chosen for the customer in Overlay 15. *Note:* The user can change the language defined at the MLNG prompt from their set.

	ENG	English
	FRE	French
	GER	German
	DUT	Dutch
	SPA	Spanish
	ITA	Italian
	NOR	Norwegian
	SWE	Swedish
	DAN	Danish
	POR	Portuguese
	FIN	Finnish
	POL	Polish
	CZE	Czech
	HUN	Hungarian
	JAP	Japanese
	RUS	Russian
	LAT	Latvian
	TURK	Turkish

LD 11 – Allow or deny the erasing of the Callers and Redial lists for virtual terminals.

Prompt	Response	Description
REQ:	NEW	Add new data.
	CHG	Change existing data.
TYPE:		M3900 series telephone types.
	3903V	M3903 Virtual set
	3904 V	M3904 Virtual set
...		
CLS	(ELD) ELA	Erase Lists (Denied)/Allowed.

Configure Corporate Directory and Set-to-Set Messaging

LD 11 – Configure the Server-based Applications (Corporate Directory and Set-to-Set Messaging)

Prompt	Response	Description
REQ:	NEW	New data.
	CHG	Change current data.
TYPE:	3903 3904 3905	M3900 set types that support the Corporate Directory and the Set-to-Set Messaging.
...	...	...
CLS	aaaa	Class of Service options where aaaa:
		= ADD - Automatic Digit Display, default for M3903, M3904, and M3905.
		= (VCE), DTA - Voice Terminal, Data Terminal.
		= (FLXD) - Flexible voice/data Denied
		= FLXA - Flexible voice/data Allowed
		Note 1: Class of Service must be VCE, FLXA if telephone is equipped with the optional Analog Terminal Adapter.
		= (STSD) Set-to-Set Messaging Denied.
		= STSA, Set-to-Set Messaging Allowed.
		Note 2: STSD and STSA Class of Service applies to M3903, M3904, and M3905.
		= (CRPD), Corporate Directory Denied.
		= CRPA, Corporate Directory Allowed.
		Note 3: (CRPD) and CRPA class of service applies to M3903, M3904, and M3905.
...	...	...

Messaging

To clear or reset a Directory Password for the M3900 Series telephone

LD 32 – Clear Personal Directory Password for M3900 set

Prompt	Response	Description
.	CPWD l s c u	Clear Directory Password.
		Terminal number.
		l = loop address. s = shelf address. c = card address. u = unit address.
		Note: This Clear command allows the system administrator to clear the M3900 Directory password of the specified M3900 set. This allows a user to access the M3900 Directory if the password has been forgotten or if the user wants to change the current password.

Configure the Virtual Office Flexible Feature Codes

LD 57 – Configure the Flexible Feature Codes for the Virtual Office feature

Prompt	Response	Description
REQ	NEW	Add new data block information.
	CHG	Change data block information.
	OUT	Remove data block information.
	END	Exit data block overlay program.
TYPE	FFC	Flexible Feature Codes data block.
...	...	...
CODE	VTLN	FFC for logging a Virtual Terminal onto a Host Terminal.
	ALL	Every FFC is prompted.
	<CR>	No further prompt; returns to "REQ".
VTLN	xxxx	Enter Virtual Terminal logging code.
	<CR>	Returns to "CODE"
CODE	VTLF	FFC type for logging off a Virtual Terminal.
	ALL	Every FFC is prompted.
	<CR>	No further prompt; returns to "REQ".
VTLF	xxxx	Enter Virtual Terminal logging off code.
	<CR>	Returns to "CODE".
		Note: Cannot move or copy a Virtual Terminal Number.

Print a list or count of Virtual Office telephones

LD 81 – Print a list or count of telephones with a specified class of service or feature

Prompt	Response	Description
REQ	LST	LST = Print list of telephones.
	CNT	CNT = Print count of telephones.
CUST	xx	xx = Designates a customer number.
	xx yy	xx yy = Designates a range of customer numbers.
	<CR>	<CR> = Carriage return prints all customers.
...	...	...
FEAT	aaaa	aaaa = Designates a feature mnemonic.
	3900	3900 = Prints M3900 type terminals, including virtual and host terminals.
	DCFW	DCFW = Prints default call forward phantom TNs, including virtual terminals.
...	...	...

Configure the Virtual Office Phantom loop

LD 97 – Configure a Phantom loop for the Virtual Office feature

Prompt	Response	Description
REQ	CHG	Change the loop configuration.
TYPE	SUPL	Superloops.
SUPL	Naaa	N = designates the superloop as a phantom loop.
		aaa = designates the superloop number.
...	...	...

Print data for Virtual and Host Terminals

LD 20 – Print Terminal Number Block (TNB) data for Virtual and Host Terminals

Prompt	Response	Description
REQ:	PRT	Print data block for the requested terminal type(s).
	LTN	List Terminal Numbers of the requested terminal type(s).
TYPE:	xxxxx	Enter appropriate telephone model where xxxxx:
	3903V	3903V = M3903 Virtual Terminal.
	3904V	3904V = M3904 Virtual Terminal.
	3903H	3903H = M3903 Host Terminal.
	3904H	3904H = M3904 Host Terminal.
	TNB	*Note 1:* The only telephone types of the M3900 Series that can be configured as a Virtual or Host Terminal are the M3903 and M3904.
		Note 2: The Print TNB and List TNB requests always show the logged-off TNB data. In logged-in state, an indication of the logged-in TN ("HOST TN" or "VIRTUAL TN") is added.
...	...	...

Print M3900 firmware versions found on the system disk

LD 22 – Print request for peripheral software versions

Prompt	Response	Description
REQ:	PRT	Print
TYPE:	PSWV	Peripheral software versions on disk.

The firmware versions for each M3900 Series set type will printed along with the versions of any other downloadable peripheral software.

Configure parameters for System-wide Flash Download

LD 97 – Configure parameters for System-wide Flash Download (Part 1 of 2)

Prompt	Response	Description
REQ	CHG	Change Flash Download Parameters.
	PRT	Print Flash Download Parameters.
TYPE	FDL	Flash Download for M3900 Sets
FDTP	t <CR>	Enter M3900 set type selected for Flash Download 3902 = M3902. 3903 = M3903. 3904 = M3904. 3905 = M3905. ALL = All of the above. NONE = None of the above (default). No further prompt; returns to "REQ".
FDTM	(NO) YES <CR>	Time interval restriction for Flash Download NO = Do not change time intervals (default). YES = Proceed to change time intervals ***Note 1:*** Flash Download is automatically paused one hour before virtual midnight (see TODR in LD 17) to allow midnight routines to run. ***Note 2:*** This option is not applicable to reporting.
FDAY	dn <CR>	Enter day and number of time intervals for Flash Download. Prompt appears only if FDTM = YES Day is re-prompted until carriage return <CR> alone is entered. d = day of the week (0-6 for Sunday to Saturday) n = number of time intervals (0-4); to disallow download for the day, enter 0. ***Note:*** If two or more intervals are specified, they must be non-overlapping, non-consecutive, and in increasing order.
FINT	sl <CR>	Enter starting hour and length for a time interval. Prompted n times if n>0. s = starting hour (0-23) l = length of interval in hours (1-24)

LD 97 – Configure parameters for System-wide Flash Download (Part 2 of 2)

Prompt	Response	Description
FTNR	(NO) YES <CR>	TN range restriction option for Flash Download NO = no TN restriction (default) YES = specify TN range
FSTN	l s c u c u	Starting terminal number for Flash Download Prompt appears only if FTNR = YES.
FETN	l s c u c u	Ending terminal number for Flash Download Prompt appears only if FTNR = YES.
FDNR	(NO) YES <CR>	DN range restriction option for Flash Download NO = no DN restriction (default) YES = specify DN range
FDDN	c d1 d2 <CR>	Flash Download Prime Directory Number range Prompt appears only if FDNR = YES. c = Customer number (0-99) d1 = starting Prime DN d2 = ending Prime DN
FRCE	(NO) YES <CR>	System-wide Flash Download control option NO = Conditional (default). System-wide Flash Download (via FDLS in LD 32) applies only to an M3900 series set whose flash firmware version is different from the version currently found on the system disk YES = Forced. Force System-wide Flash Download to all of the specified M3900 series sets regardless of their current flash firmware versions. *Note 1:* Use this option with caution! Once the download tree is built (i.e., after executing FDLS in LD 32), this option automatically reverts to NO. *Note 2:* This option is not applicable to reporting.
FVER	v <CR>	Flash firmware version specified for full report v = Flash firmware version (0-99) If 0, report all versions (default). *Note:* This option is applicable to reporting only (via FSUM ALL in LD 32).

Configure parameters for the Full Duplex Handsfree (FDHF) functionality

LD 11 – Allow the Handsfree Class of Service.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	3904	M3900 series telephone type. Full Duplex Handsfree functionality requires an M3904 Phase III set.
...		
CLS	HFA	Handsfree Allowed. HFD = Handsfree Denied (default).

Commands in LD 32 to support the Flash Download feature

LD 32 – Flash Download commands (Part 1 of 2)

Prompt	Response	Description
.	FDLU l s c u	Initiate conditional download to one telephone.
		Terminal number.
		l = loop address. s = shelf address. c = card address. u = unit address.
	FDLI l s c u	Initiate conditional download to an M3900 Series telephone when it becomes idle.
	FDLF l s c u	initiate a forced download to an M3900 Series telephone regardless of its version and state.
	FWVU l s c u	Query and print the firmware versions currently on an M3900 Series telephone.
	FDLS	Initiate system-wide flash download to all, or a specified type of M3900 Series telephones, based on parameters specified in LD 97
	FDLC	Cancel or gracefully stop the system-wide flash download for M3900 Series telephones.
	FSUM	Display summary report of current firmware versions on all M3900 Series telephones.
		The format of the report is as follows:
		* * M390x SUMMARY REPORT * * dd - ON DISK ff (cc) - nnnn SETS FOUND ff (cc) - nnnn SETS FOUND
		Where: x = 2 to 5 for M3902 to M3905 dd = the flash firmware version found on the system disk ff = the downloadable flash firmware version found on the sets cc = the core firmware found on the sets nnnn = the number of sets found with firmware version ff (cc)

LD 32 – Flash Download commands (Part 2 of 2)

Prompt	Response	Description
	FSUM ALL	Display a complete report on all M3900 Series telephones based on parameters specified in LD 97.
		The format of the report is as follows:
		TYPE: tttt CUST: cc PDN: ddddddd TN: l s c u FW: vv Where: tttt = 3902, 3903, 3904 or 3905 cc = 0-99 ddddddd = the Primary DN of the telephone vv = the flash firmware version

M3900 Series key descriptions

This section provides key description and key configuration information for each model of the M3900 series. This section also shows the physical placement of the keys on each model: M3901, M3902, M3903, M3904, and M3905.

M3901 key descriptions

Table 8 gives a description of the keys on the M3901. Figure 7 shows the physical placement of the keys on the M3901.

Table 8
M3901 key description

Key Number	Description
Key 0	Line (Directory Number).
	Note: The system administrator can configure Key 0 as a Voice Call (VCC), HotLine (HOT) Key, Single Call Non-ringing, Private Line Non-ringing, Multiple Call Non-ringing, Private Line Ringing, or Multiple Call Ringing.
Key 1	Feature or Auto Dial.
Key 2	Feature or Auto Dial.
Key 3	Feature or Auto Dial.

Table 8
M3901 key description

Key Number	Description
Key 4	Feature or Auto Dial.
Key 5	Feature or Auto Dial. *Note:* The system administrator can configure Keys 1 - 5 with any feature that does not require a display (DAG, DWG, DSP and RMK). *Note:* recommends that all features be used as Auto Dial. *Note:* Nortel Networks recommends that the M3901 is not configured as an ACD DN.

Figure 7
M3901 key positions

Key 0

553-9131
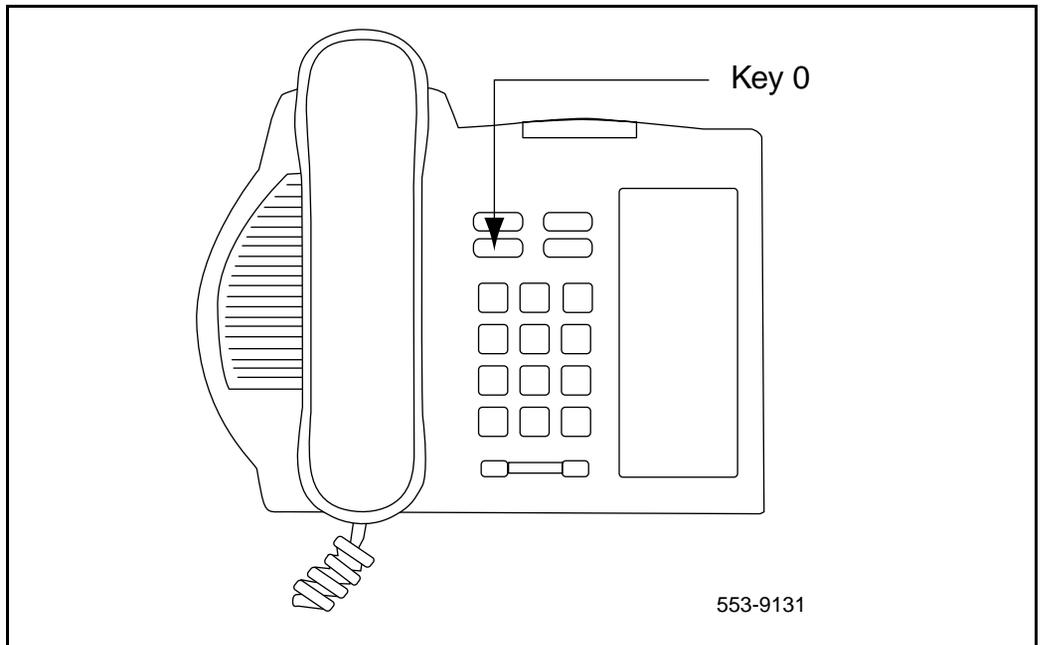
M3902 key descriptions

Table 9 gives a description of the keys on the M3902. Figure 8 shows the physical placement of the keys on the M3902.

Table 9
M3902 key description

Key	Description
Key 0	You must configure Key 0 as the Directory Number line.
	Note: You can configure Key 0 as a Voice Call (VCC), HotLine (HOT) Key, Single Call Non-ringing, Private Line Non-ringing, Multiple Call Non-ringing, Private Line Ringing, or Multiple Call Ringing.
Key 1	Feature or Auto Dial.
Key 2	Feature or Auto Dial.
Key 3	Feature or Auto Dial.
Key 4	Call Transfer (default) or 3 Party Conference or 6 Party Conference.
Key 5	Message Waiting.
	Note: Do not configure Keys 1-5 as: • Multiple Call Non-ringing • Multiple Call Ringing • Private Line Non-ringing • Private Line Ringing • Single Call Non-ringing • Single Call Ringing

Figure 8
M3902 key positions

553-9126

M3903 key descriptions

Table 10 gives a description of the keys on the M3903. Figure 9 shows the physical placement of the keys on the M3903.

Table 10
**M3903 key description (Part 1 of 3)**

Key	Description
Key 0	Primary Directory Number.
Key 1	Secondary Directory Number or Feature or Auto Dial.
Key 2	Secondary Directory Number or Feature or Auto Dial.

Table 10
M3903 key description (Part 2 of 3)

Key	Description
Key 3	Secondary Directory Number or Feature or Auto Dial.
	Note: Keys 1-3 cannot be configured as:
	• 3 Party Conference
	• 6 Party Conference
	• Call Forward
	• Account Charge
	• Calling Party Number
	• Call Park
	• Privacy Release
	• Ring Again
	• RPN
	• Call Transfer
	Note: Keys 1-3 can be configured as Speed Call (Speed Call, System Speed Call, Speed Call Controller and System Speed Call Controller). Nortel Networks recommends that Key 23 be used for Speed Call features.
Key 4-15	Not used at this time.
Key 16	Message Waiting.
Key 17	Call Transfer.
Key 18	A03 (3 Party Conference) or the A06 (6 Party Conference).
Key 19	Call Forward.
Key 20	Ring Again.
Key 21	Call Park.
Key 22	Ringing Number Pickup.
Key 23	Configure as:
	• Speed Call
	• System Speed Call
	• Speed Call Controller
	• System Speed Call Controller (manual configuration -needs speed call list #)

Table 10
M3903 key description (Part 3 of 3)

Key	Description
Key 24	Privacy Release.
Key 25	Charge Account.
Key 26	Calling Party number.
Key 27	Callers List
Key 28	Redial List
Keys 29-31	NUL.

Figure 9
M3903 key positions

Key [1,3]

Key [0,2]

Key [17,20,23]
Key [18,21,24]
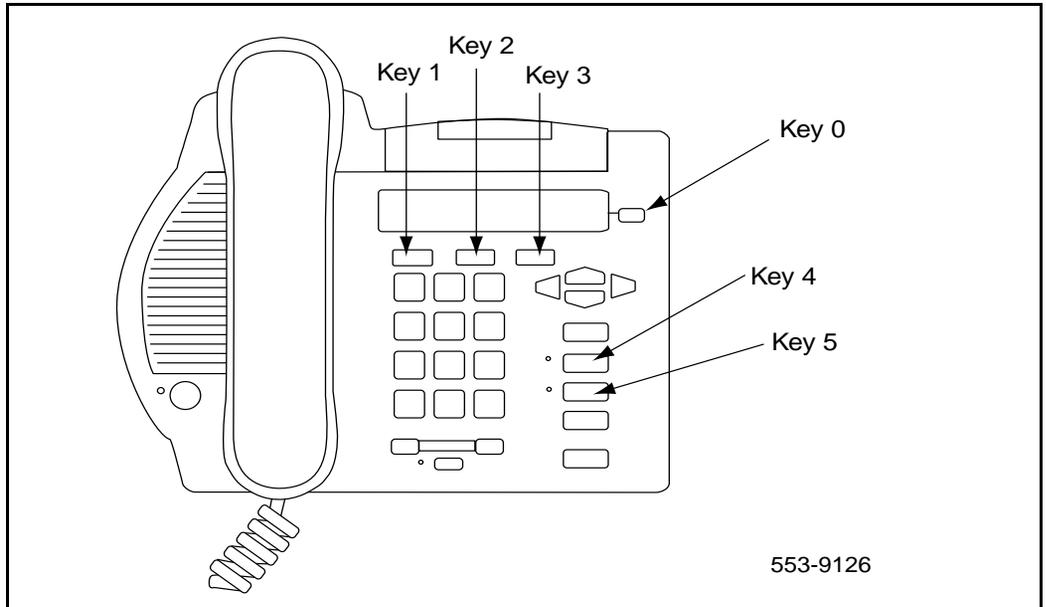Key [19,22,25]

Key 16

553-9127
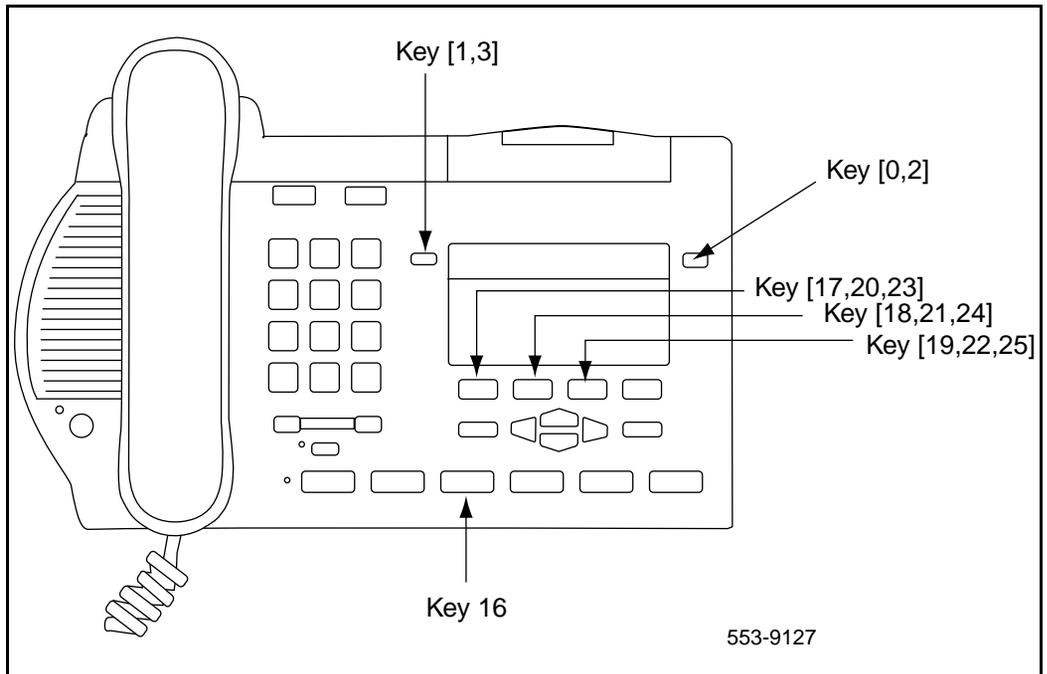
M3904 key descriptions

Table 11 gives a description of the keys on the M3904. Figure 10 shows the physical placement of the keys on the M3904.

Table 11
M3904 key description (Part 1 of 2)

Key	Description
Key 0	Primary Directory Number.
Key 1-11	Secondary Directory Number or Feature or Auto Dial.
	Note: Keys 1-11 cannot be configured as:
	• Message Waiting
	• Transfer
	• 3 Party Conference
	• 6 Party Conference
	• Call Forward
	• Ring Again
	• Call Park
	• Ringing Number Pickup
	• Privacy Release
	• Charge Account
	• Call Party Number
	Note: Keys 1-11 can be configured as Speed Call (Speed Call, System Speed Call, Speed Call Controller and System Speed Call Controller). Nortel Networks recommends that Key 23 be used for Speed Call features.
Keys 12-15	Blocked.
Key 16	Message Waiting is not a default feature for this key.
Key 17	Call Transfer.
Key 18	A03 (3 Party Conference) or the A06 (6 Party Conference).
Key 19	Call Forward.

Table 11
M3904 key description (Part 2 of 2)

Key	Description
Key 20	Ring Again.
Key 21	Call Park.
Key 22	Ringing Number Pickup
Key 23	Configure as one of the following: • Speed Call • System Speed Call • Speed Call Controller • System Speed Call Controller *Note:* The above services are not a default feature for this key, these features can be used on any of the programmable keys.
Key 24	Privacy Release.
Key 25	Charge Account.
Key 26	Calling Party Number.
Key 27	Callers List
Key 28	Redial List
Keys 27-31	NUL.

Figure 10
M3904 key positions

Key [4,10]

Key [5,11]   Key [3,9]

Key [2,8]

Key [1,7]

Key [0,6]

Key [17,20,23]

Key [18,21,24]

Key [19,22,25]

Key 16

553-9128
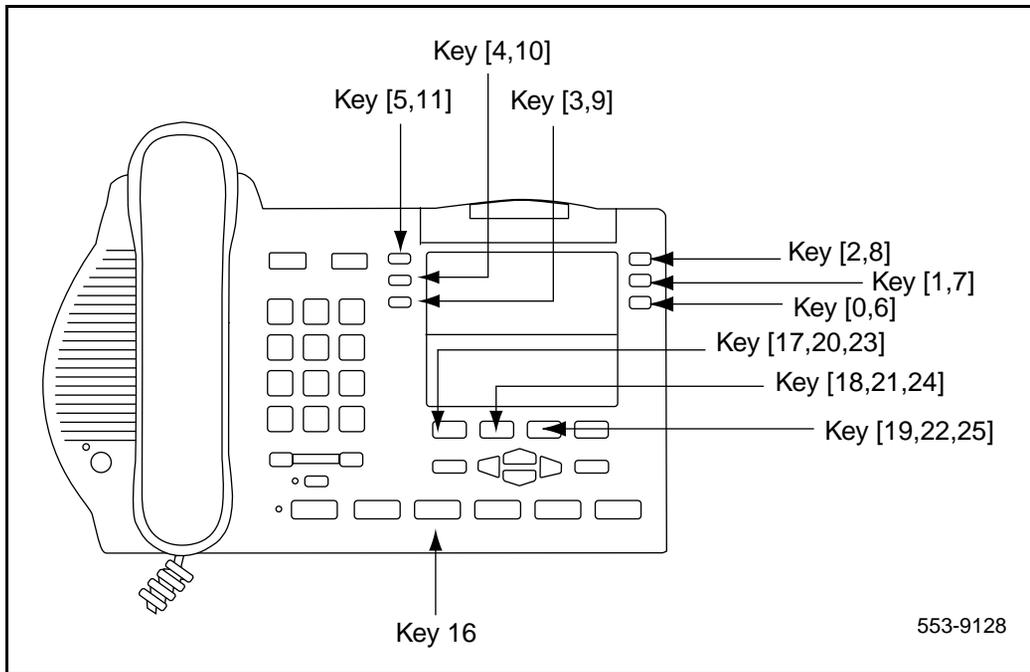
For M3904 and M3905 sets, One-Button Feature Access keys for the Callers
and Redial lists cannot be programmed on a Display Based Accessory (DBA)
or a Key-Based Accessory (KBA).

M3905 key descriptions

Table 12 gives a description of the keys on the M3905. Figure 11 shows the physical placement of the keys on the M3905.

Table 12
M3905 key description (Part 1 of 3)

Key	Description
Key 0	Primary ACD Directory Number parallel to the *In-Calls Key.
	Note 1: The user can edit the label on Key 0 to display desired information.
	Note 2: The In-Calls fixed key and the Primary DN line key are linked together and both represent Key 0.
Key 1-4	Secondary Directory Number or Feature or Auto Dial.
	Note: Keys 1-4 cannot be configured as:
	• Message Waiting
	• Transfer
	• 3 Party Conference
	• 6 Party Conference
	• Call Forward
	• Ring Again
	• Call Park
	• Ringing Number Pickup
	• Privacy Release
	• Charge Account
	• Call Party Number
	Note: Keys 1-4 can be configured as Speed Call (Speed Call, System Speed Call, Speed Call Controller and System Speed Call Controller). Nortel Networks recommends that Key 23 be used for Speed Call features.
Key 5	Feature or future Application.
Key 6	Feature or future Application.
Key 7	Options.

Table 12
M3905 key description (Part 2 of 3)

Key	Description
Key 8-11	Configured as one of the following standard Call Center features: Key 8 = * Make Set Busy Key 9 = * Not Ready (must have CLS = AGN). Key 10 = * Emergency (must have CLS = AGN). Key 11 = * Call Supervisor (must have CLS = AGN). The following features can be configured on any Key 8-11 with the change of the prelabeled key cap: Activity Code entry.Agent Answer. Answer Emergency Call. Display Queue = DWC (used with supervisor or agent telephones). Observe agent. Ring Agent (must have CLS = SPV). *Note:* Keys 8-11 are prelabeled in the factory; they are marked in this table with an Asterisk.
Key 16	Message Waiting key or another feature.
Key 17	Call Transfer key.
Key 18	A03 (3 Party Conference) or the A06 (6 Party Conference).
Key 19	Call Forward.
Key 20	Ring Again.
Key 21	Call Park.
Key 22	Ringing Number Pickup.
Key 23	Configured as one of the following speed call services: • Speed Call • System Speed Call • Speed Call Controller • System Speed Call Controller
Key 24	Privacy Release.

Table 12
M3905 key description (Part 3 of 3)

Key	Description
Key 25	Charge Account.
Key 26	Calling Party Number.
Key 27	Callers List
Key 28	Redial List
Keys 29-31	NUL.

Figure 11
M3905 key positions
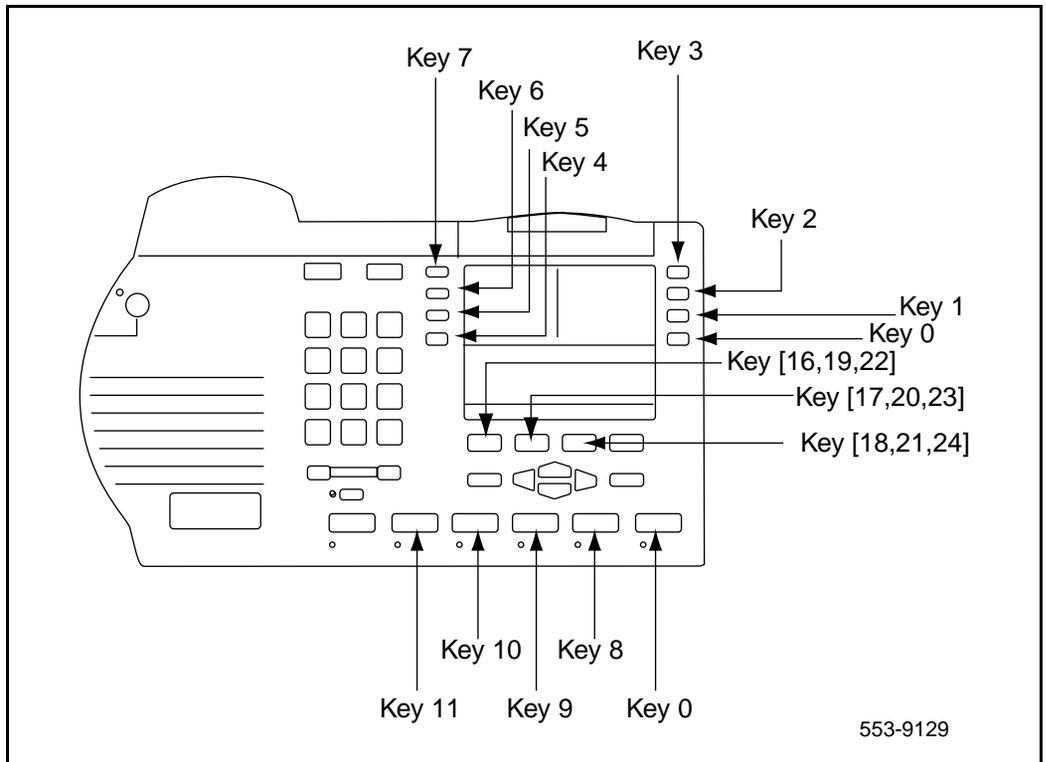
Installation

Contents

The following are the topics in this section:

This section provides installation instructions for the M3900 Series telephone and accessories.

To install the M3900 Series Meridian Digital Telephones

1   Complete the wiring and cross-connections (loop power).

2   Connect the telephone to the connecting block.

3   Place the telephone upright on the desk in the normal operating position.

4   Supply the user with a quick reference guide.

> **CAUTION**
> Before handling internal telephone components, you must discharge static electricity from your hands and tools by touching any grounded metal surface or conductor.

Telephone positions

Your M3903, M3904 and M3905 Meridian Digital Telephones have several different height selections for the desktop positions.

To change the telephone position:

1   Press the tilt handle located at the top back side of the telephone.

2   With the tilt handle pressed in, raise or lower the telephone to the desired angle or height.

3   Release the tilt handle to lock the telephone in the desired position.

Note: The M3903 and M3904 can be wall mounted using the optional wall mount bracket.

The M3901 and M3902 Meridian Digital Telephones have three different angled height desktop positions.

To change the telephone angle:

1   Move the top of the footstand away from the telephone base (it has a snap connection).

2   Place the footstand in the desired position and snap the top of the footstand back into place.

To wall mount the telephone

The telephone wall mount bracket kit contains a one piece wall mount plate to attach the telephone to the wall.

To wall mount the telephone:

1   Place the wall mount bracket against the wall and mark the spot to insert the screws.

   Note: M3901 and M3902 have built-in wall mount brackets.

2   Screw the five screws in and leave about 3 1/2 mm (1/8 inch) between the head of the screw and the wall.

3   Remove the footstand from the telephone by sliding the footstand down (using the plastic hinges) about 7 mm (1/4 inch).

4   Swing the footstand away from the telephone base and remove from the telephone.

5   Attach the wall mount bracket onto the back of the telephone by placing the telephone at the top edge of the wall mount bracket and sliding the telephone into place.

6   Mount the wall mount bracket, attached to the telephone onto the screws located on the wall.

Accessory Connection Module (ACM)

To install the ACM:

1   Disconnect the line cord from the telephone base before installing the ACM.

2   Slide the footstand down (using the plastic hinges) about 7 mm (1/4 in.) and swing the footstand away from the telephone base.

3   Snap the ACM into the rectangular opening on the back of the telephone.

4   Connect the ACM cable to the back of the telephone.

5   Put the ACM attached ribbon cable into the track running down the back of the telephone base.

6   Put the hard plastic cable cover over the ACM ribbon cable.

7   Snap the ACM plastic cable cover into place.

8   Place the footstand on the hinges.

9   Swing the footstand back into place.

10   Snap the footstand into a non-movable position.

11   Reconnect the line cord to the telephone base.

12   Return the telephone to an upright position.

There is a cutout on the base of the footstand which displays the ACM connector ports. When ready to attach an accessory, insert the appropriate cartridge into the port slot. There is one accessory port available on the M3902. There are two accessory ports available on the M3903, M3904 and M3905.

Note: A wall transformer is required to power any accessory cartridges. The transformer does not come with the ACM unit. Contact your Nortel Networks local distributor to order this ACM compatible wall transformer.

Note: The accessories you attach to the telephone must be compatible. The table "Accessory compatibility" on page 47 shows the compatibility of the available options.

Figure 12 shows the installation of the ACM into the telephone footstand.

Accessory keying

On the M3903, M3904, and M3905, there are two accessory ports on the back of the telephone footstand. On the M3902, there is a single accessory port on the back of the footstand. Each port can support one cartridge accessory.

You cannot use two accessories that require the same port type at the same time. For example, you cannot use two accessories that require a serial port connection at the same time.

Figure 12
ACM module

553-8967
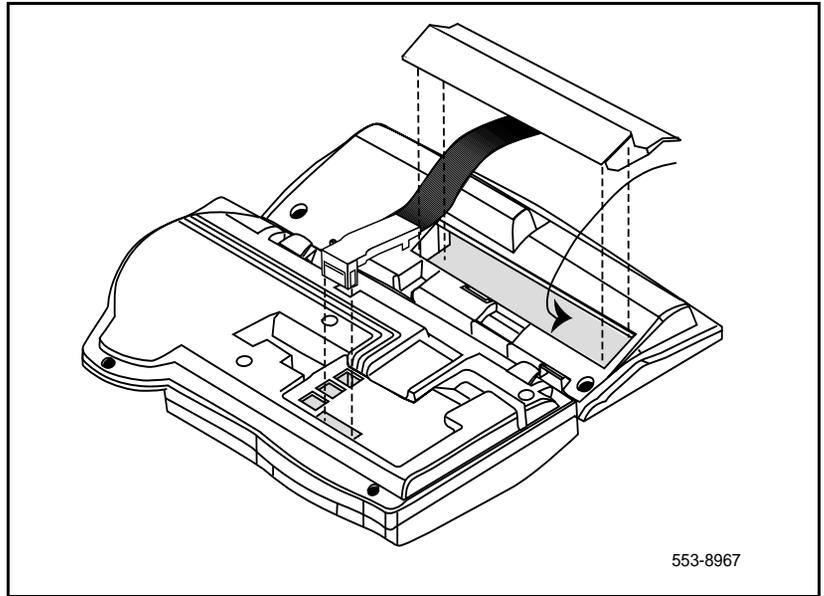
The shape and size of the plug in the accessory cartridge prevents the user from accidentally connecting incompatible accessories. To check the compatibility of accessories, refer to Table 7 which shows the optional accessories and their compatibility.

Make sure you refer to the compatibility chart Table 7 "Accessory compatibility" on page 47 before you purchase your optional hardware accessories.

To install the Analog Terminal Adapter

The Analog Terminal Adapter (ATA) allows an off-the-shelf analog device (FAX, modem, or analog telephone (500/2500)) to work simultaneously with your M3902, M3903, M3904, or M3905 Meridian Digital Telephone. The ATA is not supported on the M3901 telephone.

Install the Accessory Connection Module (ACM) into your M3900 Series Meridian Digital Telephone (refer to the ACM Installation) before you install your ATA. The ACM provides connection capabilities between the M3902, M3903, M3904, and M3905 telephones and the ATA.

To install the ATA:

1   Disconnect the line cord from the telephone before installing the ATA.

2   Insert the ATA accessory cartridge into the ACM. The latch should be at the top.

3   Connect the commercial device you have selected to use, either your FAX machine, modem, or analog (500/2500) telephone, to the connection on your ATA cartridge interface.

4   Plug the transformer into the electrical outlet (use only the transformer designed for your ACM accessories).

5   Connect the Adapter plug, attached to your transformer, into the telephone wall jack.

The wall transformer Adapter plug attaches between the telephone line cord and the telephone wall jack.

6   Connect the line cord to the Adapter jack attached to the wall transformer.

7   Reconnect the line cord back to your telephone base.

Figure 13 shows the connections for the wall transformer.

Note: Refer to the manufacturer's documentation for complete installation and configuration instructions for your external analog device (FAX machine, modem, or 500/2500 telephone).

Note: The ATA supports connections to POTS services only. ATA does not support Features such as Message Waiting, Switchhook Flash/Link, Transfer, Conference, and CLASS type services.

Figure 13
Wall transformer connection
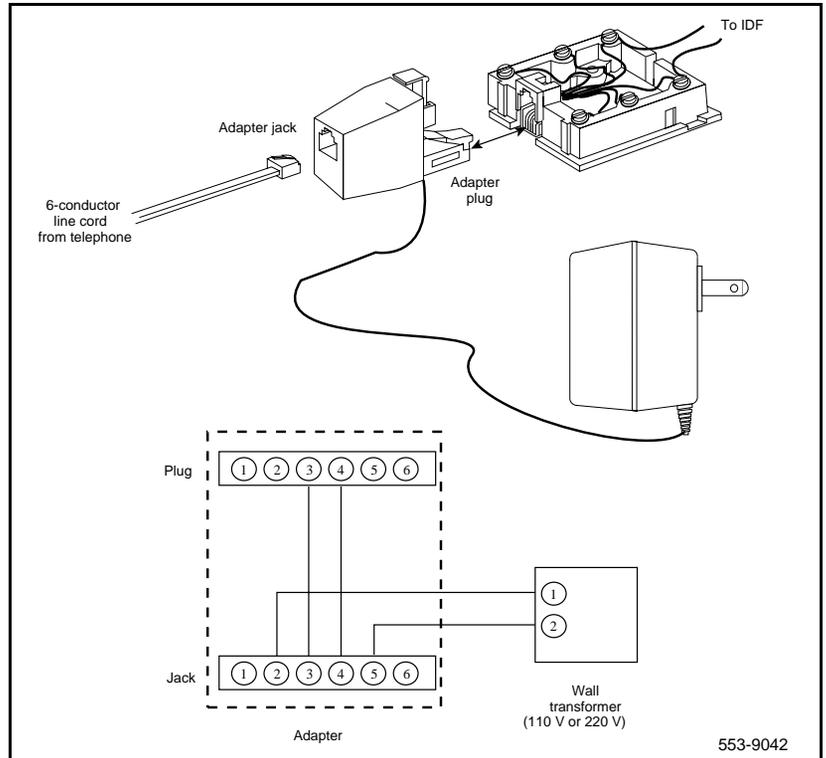
A red LED status light located on the ATA indicates the status of the ATA.

- **Flashing red** indicates that the ATA is operating normally. For more troubleshooting guidelines, refer to the user documentation that came with your analog device.
- **Solid red** indicates that the ATA is not operating normally. Contact your system administrator.
- **Red light off** indicates that there is no power going to the ATA or the unit is not operating correctly. Check the power connections to the ATA. If problems continue, contact your system administrator.

Flexible voice and data capabilities allow you to have continuous use of both the Meridian Digital Telephone and the attached analog device. Your system administrator configures the flexible voice and data capabilities for your telephone on the system equipment. Contact your system administrator for more information about flexible voice and data capability.

When there is a power failure to the ATA, the Analog Device does not store or keep information (for example, outgoing FAX from your FAX machine). You must send the information again when power returns.

Table 13 shows prompts and responses when configuring the ATA.

Table 13
ATA configuration

Prompt	Response	Description
REQ	NEW CHG	Input new data Change current data.
CLS	aaaa	Class of Service options where aaaa: = (FLXD) - Flexible voice/data denied = FLXA - Flexible voice/data allowed, required if ATA equipped. = (VCE) - Voice terminal, required if ATA equipped. = DTA - Data terminal. ***Note:*** If ATA is installed, CLS must be FLXA, VCE.
KEY	0 SCR xxxx	Single Call Ringing, where xxxx = the DN for ATA

To install Personal Directory PC Utility software

The Personal Directory PC Utility provides a faster, easier way to create or modify a personal directory. You can enter names and numbers into a Personal Directory file on your Personal Computer (PC). You can download the PC file directly to the M3904 telephone. You can upload a directory from the M3904 to a PC to modify the M3904 directory.

To install the Personal Directory PC Utility Software:

1   Close all open applications before installing the Personal Directory PC Utility.

2   Insert the Personal Directory PC Utility disk into your floppy disk drive.

3   Click on Start.

4   Select Run.

5   Enter a:\setup (assuming that drive "a" is your floppy disk drive).

6   Click on OK. The Nortel Networks logo screen appears while the installation utility loads.

7   The Welcome screen appears. Click on Next to continue installation.

8   If you agree to the terms of the Software License Agreement, click on Yes.

9   Continue to Click on Next until the installation is complete.

10   When asked to, remove the disk from your floppy disk drive.

11   Click on Finish.

Note: You must restart your PC to access the Personal Directory PC Utility.

12   To select a port for the Personal Directory PC Utility; click on Phone. Click on Set port. The pull-down menu shows available PC ports:

- Com1
- Com2

Note: The program selects the same port each time until you change it.

To install the Key-based Expansion Module Accessory

The Key-based Expansion Module Accessory (KBA) provides 22 additional line/feature keys for the M3904 and M3905 Meridian Digital Telephones. You can add up to two Key-based Expansion Modules providing a total of 75 line/feature keys.

To install the Key-based Expansion Module:

1   While depressing the telephone tilt handle, pull the telephone away from the footstand until it clears the final stop. Gently pull the footstand off the clips.

Note: If an ACM is installed, unplug the ACM and remove it from the the footstand. Install the ACM in the Single KBA Footstand Assembly.

> **2**   Place the telephone and the Module face down on a padded, level surface, and align them.

> **3**   Plug the cable from the Module into the 10-pin connection port on the telephone. See Figure 14.

Figure 14
KBA Installation
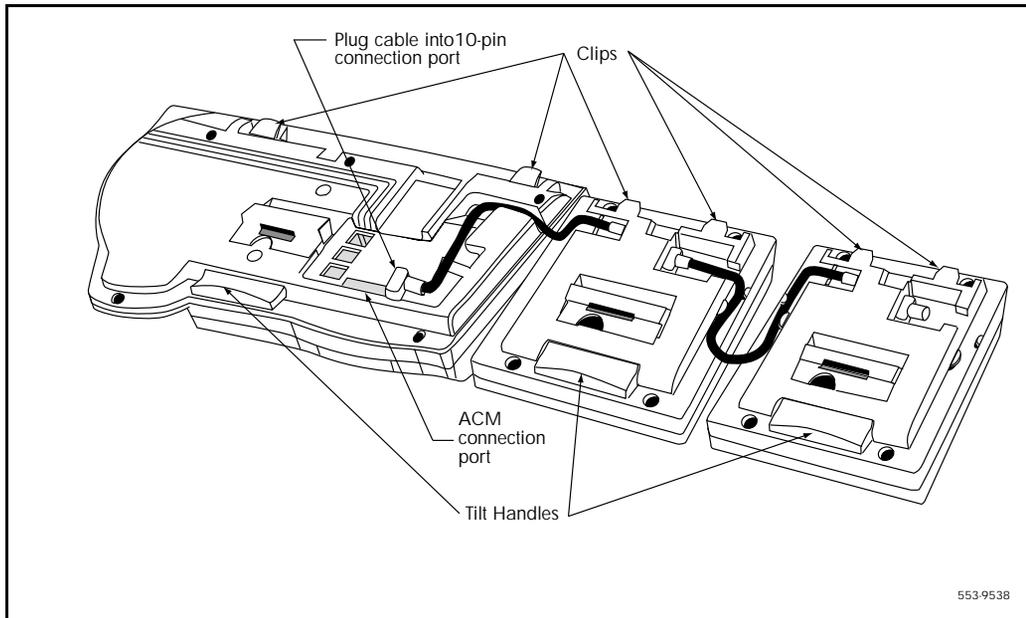
> **4**   Thread the cable through the opening in the side of the telephone.

> **5**   Insert the clips on the telephone into the hinges on the footstand; then press on the front of the footstand until it snaps into place.

> **6**   Install the Single KBA Footstand Assembly. See Figure 15.

Figure 15
KBA Footstand Assembly
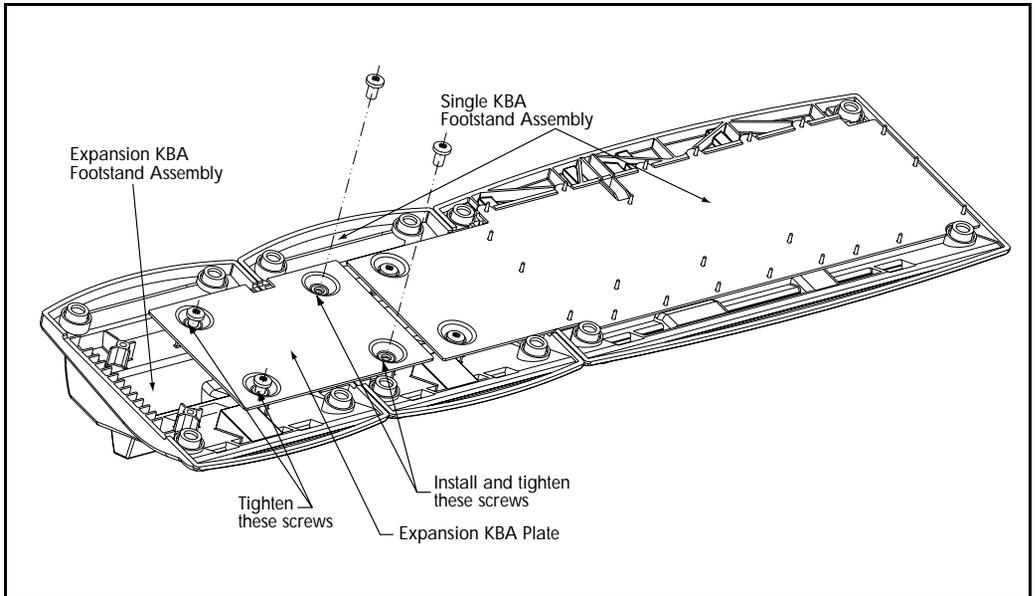
7   To add a second Key-based Expansion Module:

   a)   Place the telephone and the two modules face down on a
         non-abrasive surface.

   b)   Plug the cable from the second module into the 10-pin
         connection port on the first module.

   c)   Thread the cable through the routing clips on both modules.

   d)   Install the Expansion KBA Footstand.

To install the Single KBA Footstand

1   Insert the clips on both the telephone and the Key-based Expansion
     Module into the hinges on the footstand assembly, and press on the
     front of the footstand until they snap into place.

2   While squeezing both the telephone and the Key-based Expansion
     Module tilt handles, swing the footstand into the desired position.

3   Turn the completed assembly upright.

To install the Expansion KBA Footstand

1   Place the Single KBA Footstand and the Expansion KBA Footstand face down on a flat surface.

2   Align the Expansion KBA Footstand with the Single KBA Footstand and slide them together.

3   Insert two screws through the Expansion KBA Plate into the Single KBA Footstand.

4   Tighten all four screws, ensuring that the two footstand assemblies are properly aligned.

5   Insert the clips on the telephone and the Key-based Expansion Modules into the hinges on the combined Single Expansion KBA Footstand Assembly, and while squeezing the Module Tilt Handles, swing the footstand into the desired position.

6   Turn the completed assembly upright.

To install the Display-based Expansion Module

The Display-based Expansion Module gives you three layers of eight Programmable Line/Feature (Self-labeled) Keys. The Display-based Expansion Module gives you a total of 24 Programmable Line/Feature Keys (Key 32 through 55).

The Page button allows you to scroll to each key layer. The Self-labeled field is 10 characters in length. You can customize the Display-based Expansion labels using the program mode and the dial pad keys.

To install the Display-based Expansion Module:

1   While depressing the telephone tilt handle, pull the telephone away from the footstand until it clears the final stop. Gently pull the footstand off the clips.

2   Place the telephone and the Display-based Expansion Module face down on a padded level surface, and align them.

3   Lower the Module into place, and insert the 10-pin plug on the Module into the 10-pin slot on the telephone. Push in gently until the retaining tabs snap into place.

4   Insert the clips on the telephone into the hinges on the footstand, then press on the front of the footstand until it snaps into place.

5   While depressing the telephone tilt handle, swing the footstand into the desired position, then release the handle.

6   Carefully turn the new assembly upright.

To install the handset option for the M3905 Call Center Telephone

The Handset Kit is a hardware option for the M3905 Call Center Telephone. The handset does not accompany the M3905 Call Center Telephone. The handset can be added to the M3905 by removing the front plate of the telephone.

Note: Nortel Networks recommends that a systems administrator complete this installation.

Figure 16
Removal of the Hook Switch Cover

Front view   553-9047

Rear view   553-9068
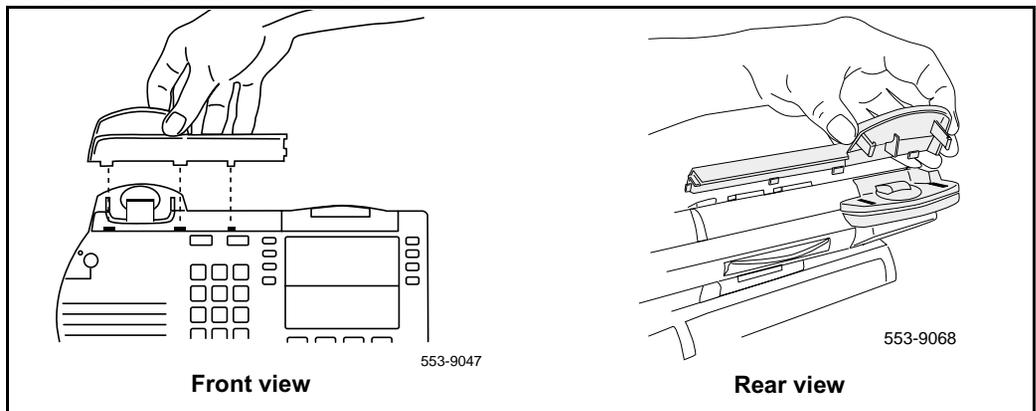
There are five tabs and two hidden snaps on the HookSwitch cover. There are two tabs along the right and three along the bottom edge (Front view). To remove the cover, the hidden snaps must be released (Rear view).

To remove the HookSwitch cover:

1   Ease the cover to the left and pull on the left side to release the left snap.

2   While holding the left snap out, ease the cover to the right and pull on the right side to release the right snap.

3   Carefully maneuver the cover out from the three bottom slots and rotate the cover to release the two side tabs.

Figure 17
Installation of the cradle

553-9048
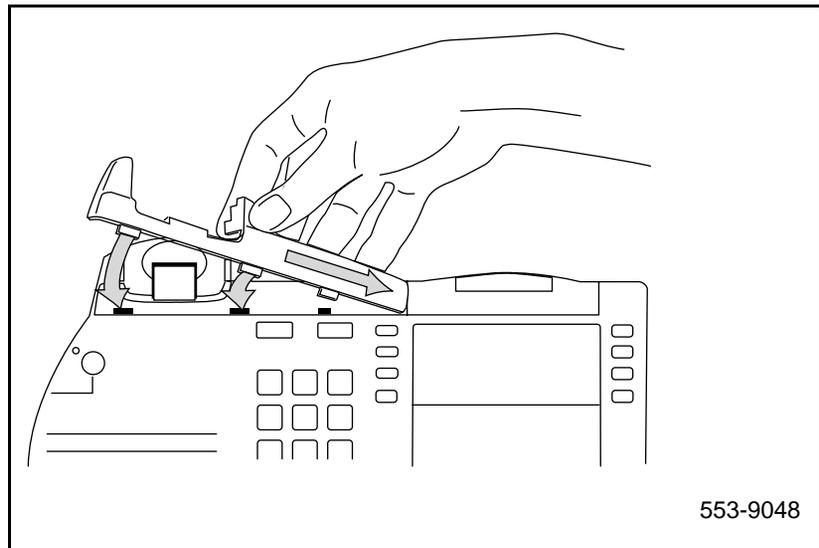
To install the cradle:

1   Hold the cradle in the same position as when you removed the Hook Switch Cover; move the cradle to the right to place the tab into the slot.

2   Ease the other tabs on the bottom edge of the cradle into the slots.

3   When all tabs are in the proper position, secure the cradle into place by pushing straight downward.

Headset options

The M3901, M3902, M3904, and M3905 supports an amplified headset when the headset connects to the handset jack.

The M3903, M3904 and M3905 have a dedicated headset jack which supports a non-amplified headset. The M3903, M3904 and M3905 have a Headset Fixed Feature Key to turn the Headset on and off.

To install alternate key caps for the M3905

Use the Key Extractor Tool with the M3905 Call Center Telephone to remove the programmable keys and replace them with alternate keys customizing your telephone to fit your need.

Figure 18
Install the alternate key caps

553-9049
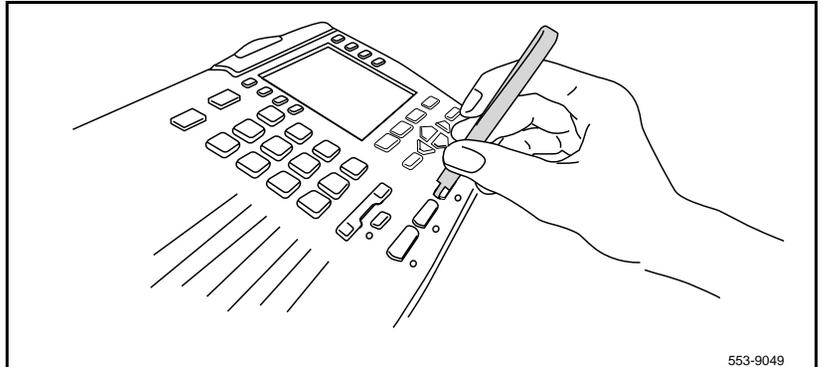
As shown in Figure 18, place the tips of the tool into the slots at the right and left of the key, grip tightly and pull straight upward.

To install the key caps:

1   Fit the two small elastomer posts into two slots on the undersides of the keys and firmly press downward.

2   The key releases immediately after pressure is applied.

Note: If the key does not release, remove it. Attempt the installation again making sure that the posts and the slots are properly aligned.

To install the FDHF cartridge

To install the FDHF cartridge in an M3904 Phase III set, perform the following steps:

1   Check the label on the back of your set to make sure that it is an M3904 Phase III set (NTMN34GA). If your set is an NTMN34GA, go to Step 2.

    If your set is not an NTMN34GA, it is not FDHF-compatible. Please contact your system administrator to obtain the correct set.

2   Install the Accessory Connection Module (ACM). For information on how to install the ACM, refer to "Accessory Connection Module (ACM)" on page 89.

3   Insert the FDHF cartridge into one of the ACM ports.

4   Plug the wall transformer into the electrical outlet.

5   Disconnect the telephone line cord from the telephone wall jack. See Figure 19 on page 103.

6   Connect the wall transformer adapter plug into the telephone wall jack. See Figure 19 on page 103.

7   Connect the telephone line cord to the wall transformer adapter jack. See Figure 19 on page 103.

8   Verify that the FDHF cartridge is working properly.
    The FDHF cartridge is working properly when the red LED on the FDHF cartridge is flashing and when there are 18 segments on the volume bar.

Figure 19
Wall transformer connection

Telephone wall jack

6-conductor
line cord
from telephone

①

②

③

Wall transformer
adapter jack

Wall transformer
adapter plug

Wall transformer
(110 V or 220 V)

553-A0101

Notes:
1. Remove the line cord from the telephone wall jack.
2. Insert the transformer adapter plug into the telephone wall jack.
3. Insert the line cord into the wall transformer adapter jack.
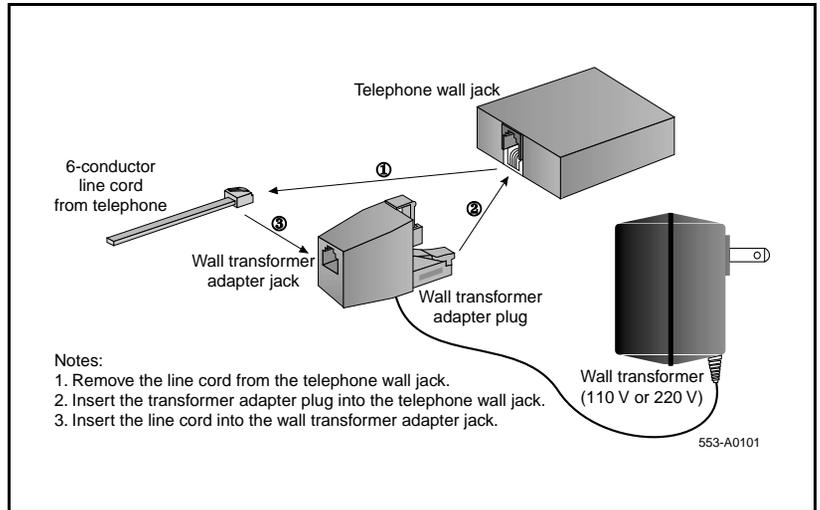
Environmental and safety considerations

Contents

The following are the topics in this section:

Reference list

The following are the references in this section:

- *Digital Telephone Line Engineering* (553-2201-180)

This section addresses special considerations for the M3900 Series Meridian Digital Telephone:

- temperature and humidity

- safety and electromagnetic compatibility

- headset considerations

- line engineering

Temperature and humidity

Operating state:	
Temperature range	0° to 50°C (32° to 104°F)
Relative humidity	5% to 95% (noncondensing). At temperatures above 34°C (93°F) relative humidity limited to 53 mbar of water vapor pressure.

Storage:	
Temperature range	–50° to 70°C (–58° to 158°F)
Relative humidity	5% to 95% (noncondensing). At temperatures above 34°C (93°F) relative humidity limited to 53 mbar of water vapor pressure.

Safety and Electromagnetic Compatibility

The M3900 Series Meridian Digital Telephones have been tested and found to comply with the following Safety and Electromagnetic Compatibility (EMC) Standards.

Safety	Description
EN 60950 / IEC 950	Safety of Information Technology Equipment including Electrical Business Equipment (Europe).
EN 41003	Particular Safety Requirements for Equipment to be connected to Telecommunications Network (Europe).
UL 1459	Safety Telecom (USA)
UL 1950	Safety Information Technology Equipment (USA)
CSA 22.2 225	Safety Telecom (Canada)
CSA 22.2 950	Safety Information Technology Equipment (Canada)
AS3260, TS001, TA-1302	Safety (Australia)
EMKO-TSE (74-SEC) 203/92	Nordic Deviations to EN 60950
BABT	Safety (UK)
JATE	Safety (Japan)

EMC - Radiated and Conducted	Description
EN55022 / CISPR 22 Class B	Radiated Emissions Basic Standard (Europe)
FCC Part 15 Class A	Radiated Emissions (USA)
CSA C108.8	Radiated Emissions (Canada)
VCCI	EMC (Japan)
AS/NZS 3548	EMC (Australia / New Zealand)

EMC - Immunity	Description
EN50082-1	Electromagnetic Compatibility - Generic immunity standard Part 1: Residential, commercial and light industry (Europe)
IEC 801-2 (level 4)	Electro Static Discharge (Europe)
IEC 801-3 (level 2)	Radiated Immunity (Europe)
IEC 801-4 (level 3)	Fast Transient/Burst Immunity (Europe)

Headset considerations

Test the headset with the telephone before using. In a noisy environment, an amplified headset is an option. When the amplified headset is used, there are two choices of volume control: the rocker control on the telephone and the switch on the headset. The user should adjust the telephone volume before adjusting the headset volume. To provide the best communication with the least amount of distortion, the amplifier should have a higher setting than the telephone volume control.

Refer to your distributor for the latest product bulletin from Nortel Networks recommending headset types for use with the M3900 Series Digital Telephone.

Line engineering

The M3900 Series Meridian Digital Telephones use twisted pair wiring on transmission lines determined by the rules in *Digital Telephone Line Engineering* (553-2201-180). The maximum acceptable loop length is 1067 m. (3500 ft), assuming 24 AWG (0.5 mm) standard twisted wire with no bridge taps. A 15.5 dB loss at 256 kHz defines the loop length limit. Longer lengths are possible, depending on the wire's gauge and insulation.

CAUTION

Use only the line cord provided with the telephone. A line cord designed for another telephone can cause damage to the equipment.

M3900 set power consumption

Table 14
M3900 set power consumption

	M3901	M3902	M3903	M3904	M3905
Idle	29.3	37.3	42.5	31.5	15.02
H/F Nominal	N/A	45.7	48.7	37.5	N/A
H/F Maximum	N/A	64.3	59.7	46.4	N/A
DBA Idle	N/A	N/A	N/A	39.29	15.31
DBA H/F Nominal	N/A	N/A	N/A	45.9	N/A
DBA H/F	N/A	N/A	N/A	52	N/A
Maximum 2 KBA Idle	N/A	N/A	N/A	33.42	14.98
Note: All measurements are in milli-amps.					

Appendix A: Flash Download procedure

Contents

Feature overview

M3900 Flash Download provides the capability to download a new firmware version from the Meridian 1 to an M3900 telephone. Flash Download provides a way for installed M3900 telephones to be updated to the appropriate firmware release level for supporting features on the Meridian 1. Flash Download can be invoked for one M3900 telephone, for a group of M3900 telephones, or all telephones on the Meridian 1. It can be invoked locally or remotely for maintenance purposes. Features of the flash download procedure include the following:

- Set type can be specified (M3902, M3903, M3904, M3905, All)

- Day(s) of week can be specified

- Up to four intervals per day can be specified (start time, length)

- TN Range can be specified (start TN, end TN)

- DN Range can be specified (start DN, end DN)

- Force Download can be specified (yes, no)

Flash download is incorporated in the existing Peripheral SoftWare Version (PSWV) background tasks of the Meridian 1 Work Schedule. Therefore, regular call processing is impacted as little as possible. In the context of this document, PSWV represents the firmware file that is downloaded to an M3900 set. It is sometimes referred to as a Peripheral Software DownLoad (PSDL). Both PSWV and PSDL refers to an actual file that is downloaded to the M3900 set.

Flash Download requires the use of two software overlays in the Meridian system. Use LD 97 to configure the parameters for the Flash Download capability. Use LD 32 to run the feature. Before the Flash Download feature is used, configure the feature in LD 97.

Flash Download Procedure overview

See Tables 15 and 16 for the overall steps needed to perform a flash download. Table 15 is for small systems and Table 16 is for large systems. These tables list the versions of X11 software that an M3900 customer could be running and the high-level steps needed to upgrade to the latest Reissue software (25.08 Reissue or 25.15 Reissue). The tables reference "PSDL Installation Procedure" on page 142 for the steps to install the M3900 language set, PSWV. The tables also reference the "Detailed Flash Download procedure:" on page 123 for the step-by-step procedure for flash downloading firmware to the M3900 sets.

If you have difficulties in determining versions of X11 software, M3900 PSWV language files or firmware, refer to"Determining software, M3900 PSWV, or firmware versions" on page 121.

Table 15
Flash Download procedure matrix for small systems (Part 1 of 5)

Present software	Upgrade to software	Keycode required	M3900 telephones	Upgrade steps
24.24	25.08 (Re-issue)	Yes	Release 1	**1.** Call Nortel Networks technical support to find out how to receive an upgrade. • A SIM upgrade from 8 to 16 Meg is required. • An upgrade from MAT 6.5 is required. **2.** Download software from the web. **3.** Follow the "PSDL Installation Procedure" on page 142. **4.** Install manufactured patches. **5.** Download firmware to sets, following the Flash Download procedure.

Table 15
Flash Download procedure matrix for small systems (Part 2 of 5)

Present software	Upgrade to software	Keycode required	M3900 telephones	Upgrade steps
			Release 2	***Note:*** This is not a standard process. M3900 Release 2 phones should not be configured on a Release 24.2x system. **1.** Follow the small system Release 24.2x to Release 25.08 Reissue procedure for Release 1 telephones (above). The Release 25.08 Reissue contains M3900 Release 1 firmware. Follow the Flash Download process to downgrade the M3900 Release 2 phones to Release 1 firmware
	25.15 Re-issue	Yes	Release 1; Release 2	Follow the standard software order process.
25.08	25.08 Re-issue	No	Release 1	**1.** Download software from the web. **2.** Follow "PSDL Installation Procedure" on page 142. **3.** Install manufactured patches **4.** Download firmware to sets, following the Flash Download procedure.

Table 15
Flash Download procedure matrix for small systems (Part 3 of 5)

Present software	Upgrade to software	Keycode required	M3900 telephones	Upgrade steps
			Release 2	*Note:* This is not a standard process. M3900 Release 2 telephones should not be configured on a Release 25.08 system). **1.** Follow small system 25.08 to 25.08 Reissue procedure for Release 1 telephones (above). The 25.08 Reissue contains M3900 Release 1 firmware. Following the flash download process downgrades the M3900 Release 2 telephones to Release 1 firmware.
	25.15 Re-issue	Yes	Release1; Release 2	Follow the standard software order process.

Table 15
Flash Download procedure matrix for small systems (Part 4 of 5)

Present software	Upgrade to software	Keycode required	M3900 telephones	Upgrade steps
	25.10 Re-issue	Yes	Release 1; Release 2	**1.** Call Nortel Networks technical support to find out how to receive an upgrade. • On Option 51C CP2 systems, a DRAM upgrade from 16 to 32 Meg is required. • An upgrade from MAT 6.5 is required. **2.** Determine M3900 PSWV to install (see Table 18 on page 136). *Note:* Select PSWV #5 (Release 1 firmware for X11 Release 24; second PCMCIA card is needed) only if the customer is just running the Release 24 M3900 features. **3.** Download software from the web with the appropriate PSWV language file. **4.** Follow the PSDL Installation Procedure (see "PSDL Installation Procedure" on page 142) to install software with the selected M3900 PSWV file. **5.** Install the manufactured patch. **6.** Download firmware to the telephones, following the Flash Download procedure.

Table 15
Flash Download procedure matrix for small systems (Part 5 of 5)

Present software	Upgrade to software	Keycode required	M3900 telephones	Upgrade steps
25.15	25.15 Reissue	NO	Release 1; Release 2	**1.** Determine M3900 PSWV to install (see Table 18 on page 136). Select PSWV #1 Global or #4 N.A. (25% savings; second PCMCIA card needed). *Note:* Select PSWV #5 (Release 1 firmware for X11 Release 24; second PCMCIA card needed) only if the customer is just running the Release 24 M3900 features. **2.** Download software from the web with appropriate PSWV language file. **3.** Follow the PSDL Installation Procedure, see "PSDL Installation Procedure" on page 142 to install software with the selected M3900 PSWV file. **4.** Install manufactured patches. **5.** Download firmware to sets, following the Flash Download procedure.

Table 16
Flash Download procedure matrix for large systems (Part 1 of 3)

Present software	Upgrade to software	Keycode required	M3900 telephones	Upgrade steps
24.25	25.08 Re-issue	Yes	Release 1	**1.** Call Nortel Networks technical support to find out how to receive an upgrade. • On Option 51C CP2 systems, a DRAM upgrade from 16 to 32 Meg is required. • An upgrade from MAT 6.5 is required. **2.** Follow the PSDL Installation Procedure (see "PSDL Installation Procedure" on page 142). **4.** Install the manufactured patches. **5.** Download the firmware to the telephones, following the Flash Download procedure.
			Release 2	*Note:* This is not a standard process**.** There should not be M3900 Release 2 telephones on a Release 24.2x system. **1.** Follow large system 24.2x to 25.08 Re-issue procedure for Release 1 telephones (above). The 25.08 Re-issue contains M3900 Release 1 firmware. Following the flash download process downgrades the M3900 Release 2 telephones to Release 1 firmware.
	25.15 Re-issue	Yes	Release 1; Release 2	Follow the standard Software order process.

Table 16
Flash Download procedure matrix for large systems (Part 2 of 3)

25.08	25.08 Re-issue	No	Release 1	**1.** Call Nortel Networks technical support to find out how to receive an upgrade. **2.** Follow the PSDL Installation Procedure (see "PSDL Installation Procedure" on page 142). **4.** Install the manufactured patches. **5.** Download the firmware to telephones, following the Flash Download procedure.
			Rel. 2	**Note:** This is not a standard process. There should not be M3900 Release 2 phones configured on a 25.08 system). **1.** Follow the large system 25.08 to 25.08 Re-issue procedure for Release 1 telephones (above). The 25.08 Re-issue contains M3900 Release 1 firmware;. Following the Flash Download process downgrades the M3900 Release 2 phones to Release 1 firmware.
	25.15 Re-issue	Yes	Release 1; Release 2	**1.** Follow the standard Software order process.
25.10	25.15 Re-issue	Yes	Release 1; Release 2	**1.** Call Nortel Networks technical support to find out how to receive an upgrade. **2.** Determine the M3900 PSWV to install (see Table 18 on page 136). Select PSWV #1 Global or #4 N.A. (25% savings). **Note:** Select PSWV #5 (Release 1 firmware for X11 Release 24) only if customer is just running the Release 24 M3900 features **3.** Follow PSDL Installation Procedure (see Appendix A) to install software with selected M3900 PSWV file **4.** Install manufactured patches **5.** Download firmware to sets following flash download procedure

Table 16
Flash Download procedure matrix for large systems (Part 3 of 3)

25.15	25.15 Reissue	NO	Rel. 1, Rel. 2	**1.** Determine M3900 PSWV to install (see Table 18 on page 136). Select PSWV #1 Global or #4 N.A. (25% savings). **Note:** Select PSWV #5 (Release 1 firmware for X11 Release 24) only if the customer is just running the Release 24 M3900 features. **2.** Follow the PSDL Installation Procedure (see Appendix A) to install software with selected M3900 PSWV file. **3.** Install the manufactured patches **4.** Download the firmware to sets following the Flash Download procedure.

Determining software, M3900 PSWV, or firmware versions

X11 software versions

Use the ISS command in LD 22 to identify X11 software versions. When trying to determine whether a system's software has been upgraded to the Reissue of 25.08 or 25.15, patches MPLR13167 and MPLR13247 must be loaded and the LD 22 ISS command must be issued. If "PSWV Version 32" appears for X11 Release 25.08 software, the 25.08 Reissue software has been loaded. If "PSWV Version 33" appears for X11 Release 25.15 software, the 25.15 Reissue software has been loaded.

M3900 language PSWV versions

To find the M3900 Language PSWV version on small systems, follow steps 2-6 in the "Installation procedure for Option 11C and Option 11 Mini" on page 156". At step 6, select item 1 "List 3900 series language sets". The system then prints the M3900 Language PSWV file version and name, which is referenced in Table 18 on page 136.

To find the M3900 Language PSWV version on large systems, follow the appropriate large system procedure in this appendix. When you get to the PSDL Installation menu under the Install M3900 set Language menu, select item 2 "List 3900 set languages". The system then displays the PSDL file that is currently installed on the machine, as well as other PSWV files available to install.

An alternative procedure for both large and small systems is to download an M3900 set on the system and query the language version for that set through the set's display diagnostics. See "M3900 firmware versions" on page 122 for information on obtaining the firmware version through display diagnostics. Once the firmware version has been obtained, it can be cross referenced to the M3900 PSWV language version in Table 18 on page 136.

M3900 firmware versions

Use the FWVU command in LD 32 to obtain the firmware version of an M3900 set. The firmware version or language version can be found through the display diagnostics on the M3900 set. You can obtain the display diagnostics through the following procedure:

1   Press the "Options" key on the M3900 set

2   Scroll to the Display Diagnostics entry, using the up or down navigation keys

3   Press the "Select" softkey

4   Scroll to the screen that shows the language file and firmware version using the up or down navigation keys.

For the latest firmware versions contained in the X11 software Reissue, refer to Table 18 on page 136. For information on firmware versions which fix particular M3900 problems, refer to Matrix G in the latest version of the M3900 Digital Telephone Advisory Bulletin.

The general rules for identifying which versions of firmware are Release 1 and which are Release 2 for the M3903, M3904 and M3905 sets are as follows:

• Release 1 firmware vintages are less than version 4.0 (<40 from LD 32 FWVU response).

• Release 2 firmware vintages are greater or equal to version 4.0 (>= 40 from LD 32 FWVU response).

Detailed Flash Download procedure:

1   Identify sets to be downloaded. If possible, organize by Set type, TN Range, or DN Range.

   a.   To determine set quantity and type, use LDs 97 and 32 to print the ranges of sets using the commands given below.

2   Establish set quantity.

3   Estimate the time required for download. Downloading sets with the North America reduced language set file takes nine minutes per set (on the M3905 it takes 12 minutes). Language sets other that the North America reduced language set file take 12 minutes to download. On small systems (Option 11C), you can download four sets in parallel. On large systems, you can download one set per XPEC in parallel, up to a maximum of 8 on CP4 and 31 on CPP.

   The following formulas provide estimates of download times:

•   Small systems—North American 6 Language file:

   ((Quantity of M3902, 3, 4 x 9 minutes)+(quantity of M3905 x 12 minutes))/4, where 4 details the number of sets that can be downloaded in parallel.

•   Small system—Global 10 Language file:

   (Quantity of M3902, 3, 4, 5 x 12 minutes)/4, where 4 details the number of sets that can be downloaded in parallel

•   Large System—North America 6 Language file:

   ((Quantity of M3902,3,4 x 9 minutes)+(quantity of M3905 x 12 minutes))/ number of XPEC's (assuming even distribution of sets)

•   Large System—Global 10 Language file:

   ((Quantity of M3902,3,4,5 x 12 minutes))/ number of XPEC's (assuming even distribution of sets)

4   Based on the quantity of sets and the site situation, determine how the download will occur:

    a.   Individual downloads (Use individual commands in LD 32)

    b.   System download (Use system download command in LD 32)

    c.   Scheduled download/range download (Use scheduled download commands in LD 32 and LD 97

5   Issue the appropriate download command.

6   As the download occurs, the set displays the following information:

During a flash download, the M3902, M3903, and M3905 telephones display messages on the displays at the right. (See Figure 20 on page 125) Display 1 shows the "Erasing Flash Memory" message along with blocks written to the second line (each with decreasing contrast). This is followed by Display 2 that reads "Awaiting Download." Display 3 flashes the text "Downloading Firmware" on the first line with progress bars on the second line. When all 24 segments of the progress bars are displayed as shown, the download is complete. The telephone then resets and returns to service. All user-controlled parameters, such as screen contrast, volume settings, and key labels are not affected by the firmware download. In the event that the firmware download was not successful, the text "Terminal Out of Service is displayed on the first line. In some cases, the set erases the flash memory, showing Display 1 followed by Display 2.

Figure 20
Information displayed during a flash download

Erasing Flash Memory

Display 1

Awaiting Download...

Display 2

Downloading Firmware
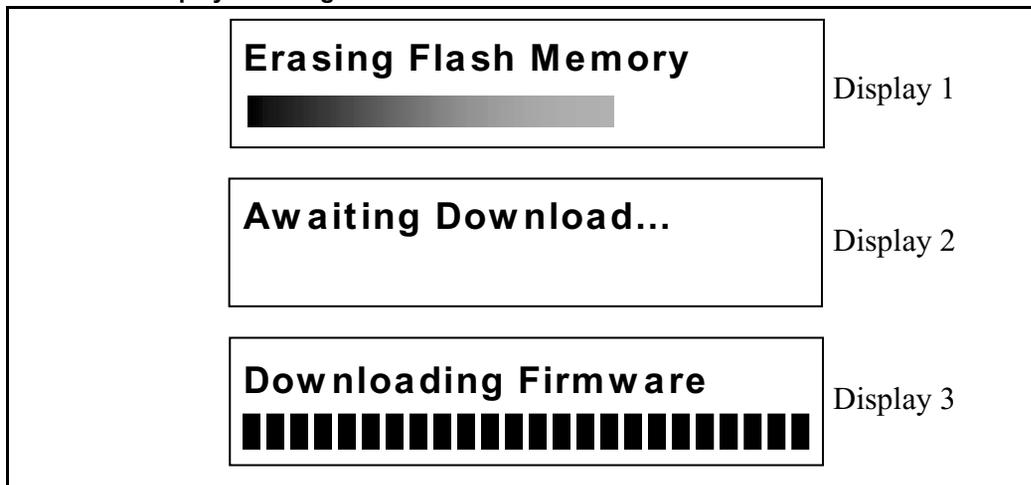
Display 3

For the M3904, an hourglass icon is displayed during the flash memory erase process (see Figure 21). The erase process can take up to 15 seconds.

Figure 21
Hourglass icon
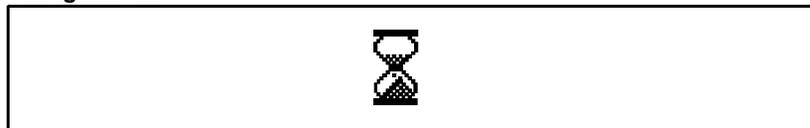
After a successful memory erase, an icon showing a stack of disks (left side of the display) and a phone icon (right side of the display) are displayed (see Figure 22). These icons remain on the display during the entire download.

Figure 22
Stack of disks and telephone icons

Upon receiving the first flash data packet, a page status bar is displayed (see Figure 23). Depending on the language files being downloaded, there are three or four memory pages that are downloaded (three for North American, four for Global, Eastern/Western European versions). As additional flash data packets are received, the status bar advances to the right until the current page is completely programmed. Once the next page starts to download, a new page block is displayed and the status bar starts from the left again. This process is repeated for the remaining pages. If the download was unsuccessful, the set displays a telephone icon with an X through it. This indicates that the flash memory is not programmed (or is corrupt) and a new download must be done again.

Figure 23
Status bar
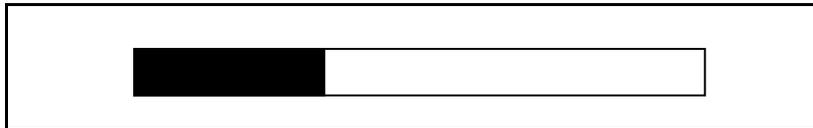
Upon completion of the flash download (all 3/4 pages have been received), the set verifies the flash memory contents before displaying the IDLE screen. The IDLE screen consists of the Date (Jan. 1 12:00am) and the brandline (Nortel Networks or customer programmed logo). Up to 25 seconds later, the switch downloads all the parameters to the set and the IDLE screen is updated according to the switch settings (for example, softkeys are shown, date is updated, and soft label keys are shown).

7   As the download occurs, various messages can appear on the system terminal. A complete list of these messages is in *System Messages* (553-3001-411). The most important message is the following:

SDL2110 e hw a v m: Failed to download software to device, where:

e (cause of the error) can be:

   1 = Acknowledgment timeout error
   2 = Peripheral Software (PSW) version or checksum error
   3 = PSW record checksum error
   4 = PSW record format error
   5 = Card firmware state error

hw (card name) can be:

   XNET (Network Card) XPEC (Peripheral Controller)

a (card address) can be:

   Loop for Network Card Network/DTR Card
   XPEC # (loop shelf) for Peripheral Controller

   v is the PSW version

m can be:

   FAST MODE (from initialization)
   MAINT MODE (by ENLL command in LD 30)
   BKGD MODE (second attempt after initialization from background
   program)

Hw (3902 3903 3904 3905) for M3900 flash download

e (cause of the error for M3900) can be:

1 = Timeout error
2 = PSW checksum error
3 = Record checksum error
4 = Record format error
5 = Firmware state error
6 = Invalid page number received
7 = Unrequired page delivered during download
18 = Flash memory cannot be erased (M3900)
19 = Error detected while programming flash (M3900)
20 = An application is currently active, download cannot proceed (M3900)
21 = verification byte incorrect (M3900)

Action: Try to download to the card using the appropriate enable command.

Procedure notes:

- For Symposium Call Center Server (SCCS) sites, you do not have to de-acquire sets from the SCCS (pulled out of all queues); however, the statistics might not be valid.

- To downgrade an M3900 telephone from Release 2 firmware to Release 1 firmware, or to change the language file from North American to another language file (or vice versa) use PSWV File #5 from Table 18 on page 136.

- For the downgrade procedure and language changes, refer to "Install software on Core/Net 1" on page 145 and "Install software on Core/Net 0" on page 148 for Options 61C/81/81C.

- For the downgrade procedure and language changes, refer to "Install PSDL File" on page 154 for Option 51C.

- For the downgrade procedure and language changes, refer to "Installation procedure for Option 11C and Option 11 Mini" on page 156 for the Option 11C and Option 11 Mini.

Overlay 97

The following tables show the configuration parameters that must be configured before using the Flash Download feature.

LD 97 – Configure the system-wide Flash Download parameters.

Prompt	Response	Description
REQ	CHG PRT	Change Flash Download parameters. Print Flash Download parameters.
TYPE	FDL	Flash Download for M3900 sets.
FDTP	t <CR>	Enter M3900 set type selected for Flash Download 3902 = M3902 3903 = M3903 3904 = M3904 3905 = M3905 ALL = All of the above NONE = None of the above (default)
FDTM	 (NO) YES	Time interval restriction for Flash Download Do not change time intervals (default). Proceed to change time intervals. ***Note 1:*** Flash Download is automatically paused one hour before virtual midnight (see TODR in LD 17) to allow midnight routines to run. ***Note 2:*** This option is not applicable to reporting.
FDAY	dn	Enter the day and number of time intervals for the Flash Download. The FDAY prompt appears only if FDTM = YES. Day is reprompted until you enter a <CR> d = Day of the week (0-6 for Sunday to Saturday) n = Number of time intervals (0-4) To disallow download for the day, enter 0. ***Note:*** If two or more intervals are specified, they must be non-overlapping, non-consecutive, and increasing in order.
FINT	sl	Enter starting hour and length for a time interval. Prompted n times if n>0. s = starting hour (0-23) l = length of interval in hours (1-24)
FTNR	 (NO) YES	TN range restriction option for Flash Download. NO TN restriction (default) Specify TN range.

FSTN	l s c u c u	Starting terminal number for Flash Download. Prompt appears only if FTNR = YES.
FETN	l s c u c u	Ending terminal number for Flash Download. Prompt appears only if FTNR = YES.
FDNR	 (NO) YES	DN range restriction option for Flash Download. No DN restriction (default). Specify DN range.
FDDN	c d1 d2 <CR>	Flash Download Prime Directory Number range. Prompt appears only if FDNR = YES. c = Customer number (0-99) d1 = starting Prime DN d2 = ending Prime DN
FRCE	 (NO) YES	System-wide Flash Download control option Conditional (default). System-wide Flash Download (through FDLS in LD 32) applies only to an M3900 series set whose flash firmware version is different from the version currently found on the system disk. Forced System-wide Flash Download to all specified M3900 series sets regardless of their current flash firmware versions. **Note 1:** Use this option with caution! Once the download tree is built (i.e., after executing FDLS in LD 32), this option automatically reverts to NO. **Note 2:** This option is not applicable to reporting.
FVER	 v	Flash firmware version specified for full report. v = Flash firmware version (0-99) If 0, report all versions (default). **Note:** This option is applicable to reporting only (through FSUM ALL in LD 32).

Overlay 32

To use the Flash Download capability, load Overlay 32 and issue the following commands:

Single-Set Flash Download

Flash DownLoad Unit (FDLU) - initiate flash download for this unit. For this command to work, the set must be in an idle state. That is, there can be no active call, no active application, and the set must be configured and in working condition (responding to a query command). Also, the firmware version on the set must not be current. That is, it must be different from the one on the system disk.

. FDLU l s c u

l = loop address
s = shelf address
c = card address
u = unit address

Flash DownLoad Idle (FDLI) - initiate flash download as soon as the set is idle. For this command to work, the set must be in working condition. If the set is idle, the downloading occurs immediately. If the set is on an active call, downloading occurs immediately after the call is terminated. However, if after the active call is terminated, there is an active application on the set, downloading is aborted. Again, the downloading operation occurs only if the version on the set is not current.

. FDLI l s c u

Flash DownLoad Forced (FDLF) - initiate flash download immediately. For this command to work, the set must be in working condition. If the set is idle, the downloading occurs immediately. If the set is on an active call, the call is force disconnected and then downloading occurs immediately after the disconnect. It also force downloads the system disk version even if the set firmware version is more current. However, if there is an application active on the set, the downloading operation is aborted.

. FDLF l s c u

System-wide Flash Download

To prepare and trigger the flash download for the whole system manually, load Overlay 32 and issue the following commands:

Flash Download System (FDLS) - initiate system-wide flash download based on the parameters specified in LD 97. This initiates the system-wide flash download to all, or the specified type of M3900 sets, from the system disk if the flash firmware version on the set is different from the version found on the disk.

During system-wide flash download, when flash download detects that an M3900 set is in an active call connection, the set is skipped. Download logic keeps track of skipped sets, and comes back to attempt the download later.

M3900 flash download attempts download to each set up to three times. If download does not succeed by the third attempt (whether due to an active call connection or some problem such as a transmission error), flash download to the set is considered to have failed. An appropriate message is displayed for each set that fails the firmware upgrade process. Upon completion of system-wide flash download, a completion message is displayed on the maintenance set. This operation can take up to several days to complete depending on the traffic load, the total number and distribution of the equipped M3900 sets, and the scheduling of the download. See Table 17 on page 133 for estimations on download times.

When M3900 sets fail system-wide flash download, you can then determine the cause of the failure, perform corrective action, and repeat the flash download command – system-wide or for a specific set.

.FDLS

Flash Download Cancel (FDLC) - cancel the system-wide flash download. From Overlay 32 or outside of the overlays, you can cancel or stop the system-wide flash download operation gracefully by issuing the FDLC command. A download in progress to the current set(s) completes before the download process terminates.

.FDLC

Table 17 shows the estimated Flash Download times.

Table 17
Estimated Flash Download times

System	Average Lines	M3900 Lines	Download Time 10 languages	Faster Download 6 languages
11C	100	80 (100%)	4 hours	3 hours
51C/61C	400	200 (~60%)	20hrs. (2 XPECs) 10hrs. (4 XPECs)	15 hours 7.5 hours
81/81C	1350	650 (~60%)	22 hrs. (6 XPECs)	16.5
MSL-100	8000	4800 (~60%)	30 hrs. (32 XPECs) 20 hrs. (48 XPECs)	22.5 hours 15 hours

The following assumptions apply to Table 17:

• 20% trunking on all systems

• 100% M3900 sets on Option 11C systems

• 60% M3900 sets on large systems

• The Faster Download is based on using the North American language files for the M3902, M3903, and M3904 (PSWV File #4 is shown in Table 18 on page 136), which are 25% smaller than the Global language files. Therefore, they take 25% less time to download. The languages that are missing from the North American reduced language file are: Swedish, Italian, Norwegian, and Finnish. The languages contained in the North America reduced language file are: English, French, German, Spanish, Brazilian Portuguese, and Japanese Katakana.

Print Firmware Versions on M3900 Sets

To determine the firmware version information on M3900 sets, use the following commands in Overlay 32:

Firmware Version on Unit (FWVU) - Print current firmware versions on the unit. You can query and print the firmware versions (downloadable flash firmware, as well as core firmware) currently on the specified set using this command. See Table 18 on page 136 for a list of current firmware versions.

. FWVU l s c u

Firmware version SUMmary (FSUM) - Print the firmware version summary report for all the M3900 sets. This command prints the M3900 firmware versions found on the system disk and lists every version together with a count of M3900 sets that are found to have this version.

.FSUM

The format of the report is as follows:

> **M390x SUMMARY REPORT**
> dd – ON DISK
> ff (cc) – nnnn SETS FOUND
> ff (cc) – nnnn SETS FOUND

Where:

> x = 2 to 5 for M3902 to M3905
> dd = the flash firmware version found on the system disk
> ff = the downloadable flash firmware version found on the sets
> cc = the core firmware found on the sets
> nnnn = the number of sets found with firmware version ff (cc)

Firmware version SUMmary ALL (FSUM ALL) – Displays a complete report on all M3900 Series telephones based on the parameters in LD 97.

.FSUM ALL

The format of the report is as follows:

> TYPE: ttt   CUST: cc   PDN: dddddddd TN: l s c u FW: vv

Where:

tttt = 3902, 3903, 3904, 3905
cc = 0-99
ddddddd = the Primary DN of the telephone
vv = the flash firmware version

Query Disk Firmware Versions

To determine the firmware version residing on the system disk(s) available for download to the M3900 sets, use the PSWV command in Overlay 22 to print the firmware versions for M3900 sets. See Table 18 on page 136 for a list of current firmware versions.

. PSWV

Table 18
Firmware and PSWV versions

PEC codes	PSWV codes				F/W codes	
1	2	3	4	5	6	7
M3900 SET (## = 66, 70) XX = See Note 1	PSWV File	PSWV Region	M1 F/W file (PSWV) See Note 2	LD 22 Response for PSWV See Note 3	Set F/W Diagnostic See Note 4	LD 32 FWVU Response for set F/W See Note 5
M3902						
NTMN32 XX-##	PSWV File #1	Global (10 lang.)	3902.loadaa 40	M3902: S/W VERSION NUMBERS: 40	Lang: L1.9 F/W Ver: 4.0	FLASH FIRMWARE VERSION = 040
	PSWV File #4	N. America (6 lang.)	3902.loadda 40	M3902: S/W VERSION NUMBERS: 40	Lang: L4.9 F/W Ver: 4.0	FLASH FIRMWARE VERSION = 040
M3903						
NTMN33 XX-##	PSWV File #1	Global R2: (10 lang.)	3903.loadaa 51	M3903: S/W VERSION NUMBERS: 51	Lang: L1.9 F/W Ver 5.1	FLASH FIRMWARE VERSION = 051
	PSWV File #4	N. America R2 (6 lang.)	3903.loadda 51	M3903: S/W VERSION NUMBERS: 51	Lang: L4.9 F/W Ver 5.1	FLASH FIRMWARE VERSION = 051

NTMN33 XX-##	PSWV File #5	Rel. 1 for X11 Rel 24	3903.loadaa 36	M3903: S/W VERSION NUMBERS: 36	Lang: P1.9 F/W Ver 3.6	FLASH FIRMWARE VERSION = 036
M3904						
NTMN34 XX-##	PSWV File #1	Global R2: (10 lang.)	3904.loadaa 46	M3904: S/W VERSION NUMBERS: 46	Flash: 4.6 P0 L1.8	FLASH FIRMWARE VERSION = 046
	PSWV File #4	N. America R2 (6 lang.)	3904.loadda 46	M3904: S/W VERSION NUMBERS: 46	Flash: 4.6 P0 L4.8	FLASH FIRMWARE VERSION = 046
NTMN34 XX-##	PSWV File #5	Rel. 1 for X11 Rel 24	3904.loadaa 34	M3904: S/W VERSION NUMBERS: 34	Flash: 3.4 P0 L1.8	FLASH FIRMWARE VERSION = 034
M3905						
NTMN35 XX-##	PSWV File #1	Global (10 lang.)	3905.loadaa 32	M3905: S/W VERSION NUMBERS: 32	Lang: L1.9 F/W Ver 3.2	FLASH FIRMWARE VERSION = 032
	PSWV File #4	N. America (10 lang.)	3905.loadaa 32	M3905: S/W VERSION NUMBERS: 32	Lang: L1.9 F/W Ver 3.2	FLASH FIRMWARE VERSION = 032

The following notes apply to Table 18:

Note 1: For Column 1 labeled *M3900 Set*, XX is a two-letter alpha character that is part of the product code. For instance, a product code of NTMN32AB is a later issue than a code of NTMN32AA. Release 1 M3900 sets all started with a "BA" designation for U.S. and Canada sets, and "AA" for Canada only icon sets. Release 2 M3900 sets all started

with a "FA" designation for U.S. and Canada sets and "EA" for Canada only icon sets.

Note 2:   For Column 4 labeled *M1 F/W File*, the two-letter alpha character followed by two numbers (format: 390x.loadxx##) shows the release level of the PSWV file. For instance, M3902.loadaa40 is a later issue than M3902.loadaa36. The most up-to-date file names are shown.

Note 3:   For Column 5 labeled LD 22 *Response for PSWV*, the two number code is the firmware version release level. The larger the number, the newer the version. The last two digits correspond to the same version number as the M3900 firmware version. For instance, M3903: S/W VERSION NUMBERS: 51 is equivalent to M3900 F/W Version 5.1. The most current versions are shown.

Note 4:   Column 6, labeled *Set F/W Diagnostic*, shows the language file in use and the firmware level of the set, as seen on an M3900 display. The larger the number, the newer the version. The latest versions are shown. To view the firmware level of an M3900 set, press the Options key, scroll to the Display Diagnostics entry, and press Select. Use the Down Navigation key to get to the screen that shows the language file and firmware version.

Note 5:   For Column 7 labeled *LD 32 FWVU Response for set F/W*, the three-digit number shows the firmware version of the set. The larger the number, the newer the version. For example, a number of 040, refers to a firmware version of 4.0. The latest versions are shown.

Flash Download advisements

- Since the Flash Downloading feature of the M3900 takes some bandwidth from the system signaling path while it is operating, it is recommended that downloading be scheduled in off-peak hours for best results. There is some real time impact to the system since the system processor is busy doing the downloads. However, there is no impact to call processing, since call processing has a higher priority. Therefore, downloads take longer during peak traffic times because the system processor is busy doing call processing and cannot devote as much time to the M3900 downloads. There is no difference between large and small systems for this.

- When a system is first brought into service with M3900 sets, there is a significant amount of messaging that occurs to activate the sets through the Lamp Audit background routine. The time required to bring all sets into service on a system is dependent on the system configuration, and could take several hours. Performing a Flash Download directly after the system is brought into service adds to the message load on the system. Therefore, it is recommended that M3900 set download activities not occur in conjunction with systems being brought into service. Instead downloads should occur 24 hours after a system is brought into service.

- If a user attempts to use a set during a flash download, all set activity is ignored.

- When performing a flash download to an M3900 port that does not have a set installed, or downloading to an M3900 port that has the wrong M3900 set type installed, an SDL2110 error message is printed out at the system.

- During the middle of flash download operation, if the set is disconnected or if the set fails download for any reason, the set is rendered inoperable. Flash downloading must run to completion before the set can be made operable.

- For the manual individual download operation, if the set is not responding (is not operational) or if the set is not a M3900 set, flash download fails.

- If the firmware file(s) used as the source for flash download to M3900 sets are not present (in the proper location) on the Meridian 1 system disks, the flash download operation fails.

- While a system-wide flash download operation is in progress, attempts to disable sets that are currently being downloaded result in an SCH 1958 message that is printed with the list of sets involved. If a loop, shelf, or card that contains the sets being downloaded is disabled, then the download to the sets on that loop, shelf, or card fails.

- According to the existing PSWV logic, when PSWV is in progress, an attempt to load an overlay is denied and result in an OVL0306 message.

- Nortel Networks strongly recommends that you not force load an overlay (load with a Suspend option) unless there is an emergency while PSWV is in progress. In this instance, existing PSWV logic aborts downloading for the current PSWV block (of cards or sets of a given type being downloaded) and restarts the download for that block and remaining ones after the overlay is exited. If this happens to M3900 flash download, the block of sets are out-of-service for a lengthy period of time and this prolongs the completion of the system-wide flash download.

- If system warm-start (Initialization) or cold-start (Sysload) occurs while flash download is in progress, the download process is aborted abruptly. Any sets which are in the middle of download fail to complete firmware download and are left inoperable. You must re-enter the single-set or system-wide flash download command later to restart and complete the download. For system-wide downloads, any previously scheduled sets are no longer queued for download.

- While a manual individual download operation is still in progress, do not abort Overlay 32 (except in an emergency) by using the **** command. If the overlay is aborted before completing the download, the set is left inoperable until a flash download command for the set is re-entered and completed at a later time.

- During system wide download, you can use all overlays by issuing the ld x susp command. However, this ungracefully stops the download to the current group of sets that are being downloaded and leaves them without firmware until the overlay is exited. The download to these sets is then started again.

- While a system-wide flash download operation is in progress:

  — Service change (CHG, MOV, or OUT) to a unit that is currently being downloaded is blocked in Overlay 11. An SCH1958 message is printed.

  — Move (MOV) or remove (OUT through LD 11 or Automatic Set Relocation) to an M3900 set before its flash download starts prevents download to the set in this cycle of system-wide flash download.

  — A new M3900 set added (through LD 11 or Automatic Set Relocation) after the FDLS command is issued is not included in this round of system-side download.

- When scheduling the Flash Download of sets, note that one hour before the Midnight routines execute, the flash download process is gracefully stopped. The Flash downloading resumes once midnight routines are executed.

- When a schedule is defined in LD 97 and the Flash Download is started (by entering the FDLS command in LD 32), all scheduled sets are queued for download. The download process remains active in the background until the download is complete or is canceled (using the FDLC command in LD 32). If the download is active in the background (sets not actively downloading per the scheduled download time) and the download schedule is removed in LD 97, the download begins immediately for the sets that remain in the download queue. Use the LD x SUSP command to load an overlay when the download is active in the background (scheduled but not actively downloading sets). It is also not possible to perform a single set download (FDLU, FDLI, or FDLF command from LD 32) while the download is active in the background. If an individual download is attempted in this case, the system indicates that the PSDL is not idle. If an individual set download is necessary while the download is active in the background, you must cancel the download in LD 32 using the FDLC command. Once the individual downloads are complete, you can restart the schedule download with the FLDS command in LD 32.

  Note: If the force option is used with the FDLS command, all sets in the original schedule are downloaded.

- For M3900 sets actively being flash downloaded when the Flash Download Cancel FDLC command is issued, the flash download to these sets is completed before the flash download process cancels.

- M3905 sets acquired by the Symposium Call Center Server (SCCS) do not have to be de-acquired (pulled out of all queues) before the flash download is started. However, during the download, the agent using the M3905 set is placed in a maintenance-busy state for approximately 12 minutes. As a result, the SCCS is not able to record any agent statistics for agents using the M3905 sets during the download. The SCCS agent reports for the interval in which the download occurred will, therefore, be inaccurate.

PSDL Installation Procedure

During a flash download, the system downloads the contents of a
PSDL/PSWV file to an M3900 set. This PSDL Installation Procedure can be
used to load a new PSDL/PSWV file on the system in place of totally
reinstalling system software. If there are concerns about system downtime in
regards to performing software upgrades in cases where only a new
PSDL/PSWV file is needed, this process allows the replacement of the
PSDL/PSWV file only.

Installation procedures for Options 61C, 81, and 81C

Note: This procedure does not include instructions on general software
installation nor does it cover installing new IODU/C cards. To use this
procedure, you must already be equipped with IODU/C cards that have
the X11 software installed.

Use the parallel reload procedures to convert from one X11 release of PSDL
files to a later release, or to change the PSDL file within the same X11 release.
Parallel reloads can be done from either CPU. For the purposes of this
document, we begin with CPU 0.

Table 19 summarizes the required steps to perform this procedure.

Table 19
Options 61C,81,81C parallel reload summary

Step	Action
1	Perform a data dump.
2	STAT the hardware.
3	Split the Cores.
4	Install PSDL file on Core/Net 1.
5	Switch call processing from Core/Net 0 to Core/Net 1.
6	Test Core/Net 1.
7	Install software on Core/Net 0.
8	Exit Split mode.
9	Test Core/Net 0 and 1.
10	Synchronize the hard disks.
11	Perform a data dump.

Perform a data dump

1   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:
LD 43 to load the program

2   When EDD000 appears on the terminal, enter: **EDD** to begin the data
dump.

3   When "DATABASE BACKUP COMPLETE" or "DATADUMP
COMPLETE" appears on the terminal, enter: ******** to exit the program.

CAUTION
If the data dump is not successful, do not continue;
contact your technical support organization. A data
dump problem must be corrected before proceeding.

STAT the hardware

1   Load LD 137 and get the status of the hard disks.

Note: Be sure the hard disks are synchronized. If not, synchronize before proceeding.

LD 137
STAT Get the status of the hard disks
SYNC Synchronize hard disks if necessary. Synchronization may take up to 50 minutes
TEST CMDU Performs hard and floppy disk test.
****   exit program

2   Load LD 135 and get status of the CPs, CNIs and memories.

LD 135

STAT CPU Get the status of both CPs and memory
STAT CNI Get the status of all configured CNIs

3   Test the standby (inactive) CP. Then switch CPs, and test again.

TEST CPU Test standby (inactive) CP

Wait until the terminal returns a complete test message. The message HWI533 or HWI534 does not mean the test has completed!

SCPU Switch CPs

TEST CPU Test the standby (inactive) CP

Note: Testing the CPs can take up to 20 minutes for each test. When the test is complete, the memories are automatically synchronized.

Split the Cores

1   Be sure CP 0 is active and CP1 is standby. You may need to switch CPs again:

STAT CPU

****   exit program

2   Verify that IODU/C 0 is active. You may need to switch IODU/Cs.

LD 137

STAT   Get the status of IODU/C
SWAP   Switch IODU/Cs if necessary
****   exit program

3   Connect a terminal to the CPSI port in Core/Net 1 to J25 of the I/O panel at the back of the Core/Net. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

7 data bits, 1 stop bit, Space parity, Full duplex, XON protocol

4   Place CP 0 in Maintenance by setting the MAINT/NORM switch to MAINT.

5   In Core/Net 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS

Install software on Core/Net 1

1   Place the CP Install disk that corresponds with the installed CP card type into the IODU/C in Core/Net 1.

2   Install the CD-ROM into the CD drive:

a.   Press the button on the CD-ROM drive to open the CD-ROM disk holder.

b.   Place the CD-ROM disk into the holder with the disk label showing.

c.   Use the four tabs to secure the CD-ROM drive.

d.   Press the button again to close the CD-ROM disk holder (do not push the holder in by hand).

3   In Core/Net 1, perform the following three steps in uninterrupted sequence:

a.   Press and hold the MAN RST button on the CP card.

b.   Set the MAINT/NORM switch on the CP card to MAINT.

c.   Release the MAN RST button.

A sysload begins (cold start). Wait for the Main Menu to appear on the terminal before proceeding.

Note 1: If the CD-ROM is not in the CD drive of the IODU/C, the installation procedure will not continue. Insert the CD-ROM into the drive to continue.

Note 2: If a problem is detected during the system verification, Install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue. Contact your technical support organization.

4   Press <CR> to continue.

5   Log in to the system and enter the time and date, when prompted.

6   Initiate the installation by selecting the following command from the menu:

    <u> to Install menu

7   Remove the CP Install Program diskette and insert the Keycode diskette, when prompted.

    <a> to continue with keycode validation

    <y> to confirm that the keycode matches the CD-ROM release

8   When the Install Menu is displayed, select the following option:

    <p> To install 3900 set Languages

9   The PSDL Installation Menu appears. Select:

    2. List 3900 set languages

    This displays the PSDL file that is currently installed on the machine and the PSDL files are available to install.

    Press <cr> until the main menu appears.

10 When the Install Menu is displayed, select the following option:

    <p> To install 3900 set Languages

11 The PSDL Installation Menu appears. Select:

    1. Install 3900 set languages

12 The list of PSDL files that can be downloaded appears. Select the PSDL file you desire.

The install program backs up your current PSDL file and installs the new file. When it is complete, you are returned to the Main Install menu.

13 From the main menu, choose the following:

<q> to quit (remove any diskettes from the floppy drive)

<y> Yes, to confirm quit

<a> to reboot the system

Note: The system automatically performs a sysload, during which several messages appear on the system terminal. Wait for the DONE and then INI messages to be displayed before continuing.

Switch call processing to Core/Net 1

⚠️	**CAUTION** **Call processing will be interrupted!** Perform these next steps carefully. This is the point at which your service is interrupted. Calls in process will be interrupted, especially if Peripheral Software Download takes place. Some calls may be dropped.

Perform the next four steps in succession. Call processing will be switched from Core/Net 0 to Core/Net 1.

1 In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS.

2 In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

3 In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

4 In Core/Net 1, press the MAN INT button.

Note: Call processing is now switched from Core/Net 0 to Core/Net 1.

Test Core/Net 1

1   Test Call Processing. This includes, but is not limited to the following:

    a.   Check for dial tone.

    b.   Make internal, external, and network calls.

    c.   Check attendant console activity.

    d.   Check DID trunks.

    e.   Check any auxiliary processors.

Note: From this point forward you will be upgrading Core/Net 0.

Install software on Core/Net 0

1   Move the CPSI port cable from J25 on Core/Net 1 to J25 on Core/Net 0.

2   Set the IODU/C faceplate switch to ENB.

3   Place the CP Install disk that corresponds with the installed CP card type into the IODU/C in Core/Net 0.

    a.   Press the button on the CD-ROM drive to open the CD-ROM disk holder.

    b.   Place the CD-ROM disk into the holder with the disk label showing.

    c.   Use the four tabs to secure the CD-ROM drive.

    d.   Press the button again to close the CD-ROM disk holder (do not push the holder in by hand).

4   Press the MAN RST button on the CP card in Core/Net 0 to reboot the system and start the Software Installation Tool. (The terminal displays SYSLOAD messages during file loading. When SYSLOAD is completed, the NT logo appears.)

5   When the NT logo appears, press <CR> to continue.

6   When the Main Menu appears, select the following options in sequence:

    <u> to Install menu

7   Remove the CP Install Program diskette and insert the Keycode diskette. Select the following when prompted:

   <a> to continue with keycode validation
   <y> to confirm that the keycode matches the CD-ROM release
   <q> to quit (remove any diskettes from the floppy drive)
   <y> Yes, to confirm quit
   <a> to reboot the system

The system automatically performs a sysload, during which several messages appear on the system terminal. Wait for DONE and then the INI messages to be displayed before continuing.

8   When the Install Menu is displayed, select the following option:

   <p> To install 3900 set Languages.

9   The PSDL Installation Menu appears. Select:

   2. List 3900 set languages

   This displays the PSDL file that is currently installed on the machine and the PSDL files that are available to install.

   Press <cr> until the main menu appears.

10   When the Install Menu is displayed, select the following option:

   <p> To install 3900 set Languages

11   The PSDL Installation Menu appears. Select:

   1. Install 3900 set languages

   The list of PSDL files that can be downloaded appears. Select the PSDL file you desire.

The install program backs up your current PSDL file and installs the new file. When it is complete, you are returned to the Main Install menu

12   From the main menu choose the following:

   <q> to quit (remove any diskettes from the floppy drive)
   <y> Yes, to confirm quit
   <a> to reboot the system

The system automatically performs a sysload, during which several messages appear on the system terminal. Wait for DONE and then the INI messages to be displayed before continuing.

Exiting split mode

1   Connect the CPSI port or maintenance SDI port.

2   Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

3   Perform the following in uninterrupted sequence:

    a.   Press and release the MAN RST button in Core/Net 0.

    b.   When SYS700 messages appears on LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

In 60 seconds, the LCD displays and confirms your processes with:
RUNNING ROM OS
ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

4   In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

Test Core/Net 1 and Core/Net 0

1   Perform a redundancy sanity test using the following sequence:

LD 135

STAT CNI Get status of CNI cards

STAT CPU Get status of CPU and memory

TEST CPU Test the inactive Core/Net

TEST CNI c s Test each inactive CNI card

2   Switch Cores and test the other side (Core/Net 0)

SCPU   Switch cores

TEST CPU Test the inactive Core/Net

TEST CNI c s Test each inactive CNI card

Note: Testing the CP and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the CP test is complete, the CP and the memory is automatically synchronized.

3   Clear the display and minor alarms on both Cores.

CDSP   Clear the displays on the Cores

CMAJ   Clear major alarms

CMIN ALL Clear minor alarms

4   Get the status of the Cores, CNIs, and memory.

STAT CPU Get the status of both Cores

STAT CNI Get the status of all configured CNIs and memory

Note: You may need to execute the STAT CNI command twice before receiving a response from the system.

**** exit program

Synchronize the hard disks

1   Load LD 137 and synchronize the hard disks. Synchronization can take up to 50 minutes. To be sure that the contents of IODU/C 1 are copied to IODU/C 0, verify that IODU/C 0 is disabled.

LD 137
STAT   Get the status of the IODU/C and redundancy
SYNC   Enter "Yes" to synchronize disks. Wait until the memory synchronization successfully completes before continuing. TEST CMDU Performs hard and floppy disk test.

2   Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

STAT   Get the status of IODU/C and redundancy

SWAP   Switch CMDU if necessary

STAT CMDU Get the status of the IODU/Cs. Be sure the same IODU/C and CPU are active.

****   exit program

Perform a data dump

1   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

LD 43 to load the program

2   When EDD000 appears on the terminal, enter:

EDD to begin the data dump

3   When DATABASE BACKUP COMPLETE or DATADUMP COMPLETE appears on the terminal, enter:

**** to exit the program

> **CAUTION**
> If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

The PSDL file has now been installed on your switch.

Install procedure for Option 51C

Use this procedure to convert from one X11 release of PSDL files to a later release, or to change the PSDL file within the same X11 release for Option 51C systems only.

Table 20 summarizes the required steps to perform this procedure.

Table 20[T]
Option 51C installation procedures

Step	Action
1	Perform a data dump.
2	STAT the hardware.
3	Install PSDL file.
4	Test the system.
5	Perform a data dump.

Perform a data dump

1   Load the Equipment Data Dump Program (LD 43). At the prompt, enter: **LD 43** to load the program.

2   When EDD000 appears on the terminal, enter: **EDD** to begin the data dump.

3   When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter: ******** to exit the program.

> **CAUTION**
> If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

STAT the hardware

1 Load LD 137 and get the status of the hard disks.

LD 137

STAT   Get the status of the hard disks

2 Load LD 135 and get the status of the CP, CNI, and memory.

LD 135

STAT CPU Get the status of the CPU and memory

STAT CNI Get the status of the CNI.

Install PSDL File

1 Select the CP Install diskette which matches the Call Processor (CP) type on your system.

2 Insert the CP Install diskette into the floppy drive of the IODU/C.

3 Press MAN RST on the CP card. The system is booted from the floppy and the Install tool is automatically invoked.

4 Press <CR> to continue.

5 Log in to the system and enter the time and date, when prompted.

6 Initiate the database installation by selecting the following command from the menu:

7 Remove the CP Install Program diskette and insert the Keycode diskette, when prompted.

<u> to Install menu
<a> to continue with keycode validation
<y> to confirm that the keycode matches the CD-ROM release

8 When the Install Menu is displayed, select the following options in sequence when you are prompted to do so:

<p> To install 3900 set Languages

9   The PSDL Installation Menu appears. Select:

2. List 3900 set languages

This displays the PSDL file that is currently installed on the machine and the PSDL files that are available to install.

Press <cr> until the main menu appears

10   When the Install Menu is displayed, select the following option:

<p> To install 3900 set Languages

11   The PSDL Installation Menu appears. Select:

1. Install 3900 set languages

12   The list of PSDL files that can be downloaded appears. Select the PSDL file you desire.

The install program backs up your current PSDL file and installs the new file. When it is complete, you are returned to the Main Install menu

13   From the Main Install menu, select the following options:

<q> to quit (remove any diskettes from the floppy drive)
<y> Yes, to confirm quit
<a> to reboot the system

The system automatically performs a sysload, during which several messages appear on the system terminal. Wait for DONE and then INI messages to be displayed before continuing.

Test Call Processing

1   Test Call Processing. This includes, but is not limited to the following:

a.   Check for dial tone.

b.   Make internal, external, and network calls.

c.   Check attendant console activity.

d.   Check DID trunks.

e.   Check any auxiliary processors.

Complete the upgrade

1   Perform a redundancy sanity test using the following sequence:

LD 135

STAT CNI Get status of CNI card

STAT CPU Get status of CPU and memory

2   Clear the display and minor alarms.

CDSP Clear the displays on the Cores
CMAJ Clear major alarms
CMIN ALL Clear minor alarms **** exit program

The PSDL conversion is complete.

Installation procedure for Option 11C and Option 11 Mini

1   Download the software executable file for the software release being installed (M3900 language file – version xx) from the web site to your Software Delivery card.

2   Install the Software Delivery card in slot A of the PCMCIA socket in the faceplate of the SSC or MSC card.

3   Use Overlay 143 to start the Software Installation Program.

4   Select Utilities from the Main Menu.

The main menu displays:

Software Installation Main Menu:

1. New Install or Option 11/11E Upgrade - From Software DaughterBoard
2. System Upgrade
3. Utilities
4. New System Installation - From Software Delivery Card
[q]uit, [h]elp or [?], <cr> - redisplay

Enter Selection: 3

5   Select item 9 - Change 3900 series set languages from the Utilities menu

The Utilities menu displays:

Utilities Menu:

1. Restore Backed Up database
2. Archive Customer defined databases
3. Install Archived database
4. Review Upgrade Information
5. Clear Upgrade Information
6. Undo Installation
7. Flash Boot ROM Utilities
8. Current Installation Summary
9. Change 3900 series set languages.
[q]uit, <cr>current menu, [m]ain, [p]revious menu

6   Select item 2 - Change current 3900 series language set.

The system displays:

The Change 3900 series language set menu displays:

Change 3900 series set language menu:

1. List 3900 series language sets.
2. Change current 3900 series language set.
3. Restore 3900 series language set.
[q]uit, [r]estore, [m]ain menu, [h] help or [?],<cr> - redisplay

7   Specify drive name for 3900 series language set files in PCMCIA

Enter selection: A

WARNING: Following selection will overwrite the existing psdl.rec file
WARNING: Need to perform sysload after psdl file is changed.

1 Global version 10 Languages - English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana

2 Western Europe 10 Languages - English, French, German, Spanish, Swedish, Norwegian, Danish, Finnish, Italian, Brazilian Portuguese

3 Eastern Europe 10 Languages - English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish

4 North America 6 Languages - English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana

5 Spare Group A

6 Spare Group B

 [q]uit, [h] help or [?],<cr> - redisplay

8   Enter selection: __ (of your choice)

Backing up the current psdl.rec file... [wait} 3630080 bytes copied.
Copying current psdl.rec file... [wait] 3630080 bytes copied.
3900 series language set file successfully installed. 67 bytes copied.

9   Perform a sysload to enable new 3900 series set language.

Install Procedures for 81C Pentium II Call Processor

Use the parallel reload procedures to convert from one X11 release of PSDL files to a later release or to change the PSDL file within the same X11 release. Parallel reloads can be done from either CPU. For the purposes of this document, we begin with CPU 0.

Table 21 summarizes the required steps to perform this procedure.

Table 21
Option 81C CP PII parallel reload summary

Step	Action
1	Perform a data dump.
2	STAT the hardware.
3	Split the Cores.
4	Install the PSDL file on Core/Net 1.
5	Switch call processing from Core/Net 0 to Core/Net 1.
6	Test Core/Net 1.
7	Test Core/Net 1.
8	Install PSDL file on Core/Net 1.
9	Exiting split mode
10	Test Core/Net 1 and Core Net 0.
11	Perform a data dump.

Perform a data dump

1   Load the Equipment Data Dump Program (LD 43). At the prompt, enter: **LD 43** to load the program

2   When EDD000 appears on the terminal, enter: **EDD** to begin the data dump.

3   When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter: ******** to exit the program.

> **CAUTION**
> If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

STAT the hardware

1   Load LD 137 and get the status of the hard disks.

   Note: Be sure the hard disks are synchronized. If not, synchronize before proceeding.

   LD 137
   STAT   Get the status of the hard disks
   TEST CMDU Performs hard and floppy disk test.
   ****   exit program

2   Load LD 135 and get the status of the CPs, CNIs, and memories.

   LD 135
   STAT CPU Get the status of both CPs and memory
   STAT CNI Get the status of all configured CNIs

Check that Core 0 is active

1   Be sure Core 0 is active. If Core 1 is active, make Core 0 active:

   LD 135
   STAT CPU Get status of the CPOS
   SCPU   Switch to Core 0 (if necessary)
   ****   exit program

Split the Cores

1   From the active side, split the cores:

   LD 135
   SPLIT   Enter Split on the active core
   Allow the former active side to INIT before continuing
   ****   exit program

   The system is now in split mode.

Install PSDL file on Core/Net 1

1   Place the CP PII Install disk into the MMDU floppy drive of Core 1.

2   Install the CD-ROM into the MMDU CD drive of Core 1:

    a.   Press the button on the CD-ROM drive to open the CD-ROM disk holder.

    b.   Place the CD-ROM disk into the holder with the disk label showing.

    c.   Use the four tabs to secure the CD-ROM drive.

    d.   Press the button again to close the CD-ROM disk holder (do not push the holder in by hand).

3   Press the manual RESET button on the Core 1 CP II card faceplate.

4   Before the install runs, the system validates hard disk partitioning. This takes approximately five minutes. The screen displays:

Testing partition 0

0 percent done… 1 percent done… 99 percent done… 100 percent done

Testing partition 1

0 percent done… 1 percent done… 99 percent done… 100 percent done

0 percent done… 1 percent done… 99 percent done… 100 percent done

Disk physical checking is completed!

There are 3 partitions in disk 0:
The size of partition 0 ix XX MB
The size of partition 1 ix XX MB
The size of partition 2 ix XX MB

Disk partitions and sectors checking is completed!

5   At the terminal, press <cr> to start the software installation.

6   When prompted, remove the CP PII Install Program diskette, and insert
      the Keycode diskette.
      <a> to continue with keycode validation
      <y> to confirm that the keycode matches the CD-ROM release

7   When the Install Menu is displayed, select the following option:
      <p> To install 3900 set Languages

8   The PSDL Installation Menu appears. Select:
      1. Install 3900 set languages

9   The list of PSDL files that can be downloaded appears. Select the PSDL
      file you desire.

      The install program backs up your current PSDL file and installs the new
      file. When it is complete, you are returned to the Main Install menu.

10   The Main Install menu appears. Select the following options:

      <q> to quit (remove any diskettes from the floppy drive)
      <y> Yes, to confirm quit
      <a> to reboot the system

      The system automatically performs a sysload, during which several
      messages appear on the system terminal. Wait for the DONE and then the
      INI messages to be displayed before continuing.

Switch call processing to Core/Net 1

CAUTION
Call Processing will be interrupted as Core 1 takes
over call processing from Core!

From the active side (Core 0), switch call processing to Core 1.

LD 135
CUTOVR Tell Core 1 to warm start and take over call processing.
Allow Core 1 to come up before proceeding.
****   exit program

Test Core/Net 1

1   Test Call Processing. This includes, but is not limited to the following:

   a.   Check for dial tone.

   b.   Make internal, external, and network calls.

   c.   Check attendant console activity.

   d.   Check DID trunks.

   e.   Check any auxiliary processors.

   Note: From this point forward you will be upgrading Core/Net 0.

Install PSDL file on Core/Net 1

1   Place the CP PII Install disk into the MMDU floppy drive of Core 0.

2   Install the CD-ROM into the MMDU CD drive of Core 0:

   a.   Press the button on the CD-ROM drive to open the CD-ROM disk holder.

   b.   Place the CD-ROM disk into the holder with the disk label showing.

   c.   Use the four tabs to secure the CD-ROM drive.

   d.   Press the button again to close the CD-ROM disk holder (do not push the holder in by hand).

   e.   Press the manual RESET button on the Core 0 CP II card faceplate.

   f.   Before the install runs, the system validates hard disk partitioning. This takes about five minutes. The screen displays:

Testing partition 0

   0 percent done… 1 percent done… 99 percent done… 100 percent done

Testing partition 1

   0 percent done… 1 percent done… 99 percent done… 100 percent done

0 percent done… 1 percent done… 99 percent done… 100 percent done

Disk physical checking is completed!

There are 3 partitions in disk 0:
The size of partition 0 ix XX MB
The size of partition 1 ix XX MB
The size of partition 2 ix XX MB

Disk partitions and sectors checking is completed!

3   At the terminal, press <cr> to start the software installation.

4   When prompted, remove the CP PII Install Program diskette and insert the Keycode diskette.
<a> to continue with keycode validation
<y> to confirm that the keycode matches the CD-ROM release

5   When the Install Menu is displayed, select the following option:
<p> To install 3900 set Languages

6   The PSDL Installation Menu appears. Select:
1. Install 3900 set languages

7   The list of PSDL files that can be downloaded appears. Select the PSDL file you desire.

The install program backs up your current PSDL file, and installs the new file. When it is complete, you are returned to the Main Install menu.

8   The Main Install menu appears. Select the following options:

<q> to quit (remove any diskettes from the floppy drive)
<y> Yes, to confirm quit
<a> to reboot the system

The system automatically performs a sysload, during which several messages appear on the system terminal. Wait for the DONE and then the INI messages to be displayed before continuing.

Exiting split mode

From the active side (Core 1), join with Core 0 to establish redundancy:

LD 135
JOIN   Tell Core 0 to warm start and update its disk image.
Allow Core 0 to come up before proceeding.
****   exit program

Test Core/Net 1 and Core/Net 0

1   Perform a redundancy sanity test using the following sequence:

LD 135
STAT CNI Get status of CNI cards
STAT CPU Get status of CPU and memory
TEST CPU Test the inactive Core/Net
TEST CNI c s Test each inactive CNI card

2   Switch Cores and test the other side (Core/Net 0)

SCPU   Switch cores
TEST CPU Test the inactive Core/Net
TEST CNI c s Test each inactive CNI card

Perform a data dump

1   Load the Equipment Data Dump Program (LD 43). At the prompt, enter:
LD 43 to load the program

2   When EDD000 appears on the terminal, enter:
EDD to begin the data dump

3   When DATABASE BACKUP COMPLETE or DATADUMP
COMPLETE appears on the terminal, enter:

**** to exit the program

> **CAUTION**
> If the data dump is not successful, do not continue;
> contact your technical support organization. A data
> dump problem must be corrected before proceeding.

The PSDL file has now been installed on your switch.

Commands for System wide Flash Download of M3900 sets

LD 97 – Configure parameters for System-wide Flash Download.

Prompt	Response	Description
REQ	CHG PRT	Change Flash Download parameters. Print Flash Download parameters.
TYPE	FDL	Flash Download for M3900 sets.
FDTP	 3902 3903 3904 3905 ALL (NONE)	Enter M3900 set type selected for Flash Download. M3902 telephone M3903 telephone M3904 telephone M3905 telephone All of the above None of the above (default)
FDTM	 (NO) YES	Time interval restriction for Flash Download. Do not change time intervals (default). Proceed to change time intervals. **Note 1:** Flash Download is automatically paused one hour before virtual midnight (see TODR in LD 17) to allow midnight routines to run. **Note 2:** This option is not applicable to reporting.
FDAY	 d n	Enter day and number of time intervals for Flash Download, where: d = day of the week (0-6 for Sunday to Saturday) n = number of time intervals (0-4) To disallow download for the day, enter 0. Day is re-prompted until you enter a Carriage Return, <CR>. **Note 1:** This prompt appears only if FDTM = YES. **Note 2:** If two or more intervals are specified, they must be overlapping, non-consecutive, and in order.
FINT	 s l	Enter starting hour and length for a time interval, where: s = starting hour (0-23) l = length of interval in hours (1-24) **Note:** FINT is prompted n time if n is greater than 0.

FTNR		TN range restriction option for Flash Download.
	(NO)	No TN restriction (default)
	YES	Specify TN range.
FSTN		Starting terminal number for Flash Download.
	l s c u	
	c u	For Option 11C.
		Note: The FSTN prompt appears only if FTNR = YES.
FETN		Ending terminal number for Flash Download.
	l s c u	
	c u	For Option 11C
		Note: The FETN prompt appears only if FTNR = YES.
FDNR		DN range restriction option for Flash Download.
	(NO)	No DN restriction (default).
	YES	Specify DN range.
FDDN		Flash Download Prime Directory Number range, where:
	c d1 d2	c = Customer number (0-99)
		d1 = starting Prime DN
		d2 = ending Prime DN
		Note: Prompt appears only id FDNR = YES.

FRCE		System-wide Flash Download control option.
	(NO)	Conditional (default). System-wide Flash Download (using the FDLS command in LD 32) applies only to an M3900 series set whose flash firmware version is different is different from the version currently found on the system disk.
	YES	Forced. Force System-wide Flash Download to all of the specified M3900 series sets regardless of their current flash firmware versions.
		Note 1: Use this option with caution. Once the download tree is built (that is, after executing FDLS in LD 32), this option automatically reverts to NO.
		Note 2: This option is not applicable to reporting.
FVER	v	Flash firmware version specified for full report, where: v = Flash firmware version (0-99) If 0, report all versions (default).
		Note: This option is applicable to reporting only (through the FSUM ALL command in LD 32).

LD 32 – Flash Download commands.

Prompt	Response	Description
.	FDLU l s c u	Initiate conditional download to one telephone. Terminal number, where: l = loop address s = shelf address c = card address u = unit address
.	FDLI l s c u	Initiate conditional download to an M3900 Series telephone when it becomes idle.
.	FDLF l s c u	Initiate a forced download to an M3900 Series telephone regardless of its version and state.
.	FWVU l s c u	Query and print the firmware versions currently on an M3900 Series telephone.

.	FDLS	Initiate system-wide Flash Download to all, or a specified type of M3900 Series telephones, based on parameters specified in LD 97.
.	FDLC	Cancel or gracefully stop the system-wide flash download for M3900 Series telephones.
.	FSUM	Display the summary report of current firmware versions on all M3900 Series telephones. The format of the report is as follows: * * M390x SUMMARY REPORT * * dd - ON DISK ff (cc) - nnnn SETS FOUND ff (cc) - nnnn SETS FOUND Where: x = 2 to 5 for M3902 to M3905 dd = the flash firmware version found on the system disk ff = the downloadable flash firmware version found on the sets cc = the core firmware found on the sets nnnn = the number of sets found with firmware version ff (cc)
.	FSUM ALL	Display a complete report on all M3900 series telephones based on parameters specified in LD 97. The format of the report is as follows: TYPE: tttt CUST: cc PDN: ddddddd TN: l s c u FW: vv Where: tttt = 3902, 3903, 3904 or 3905 cc = 0-99 ddddddd = the Primary DN of the telephone vv = the flash firmware version

List of terms

ACD

      Automatic Call Distribution

ACM

      Accessory Connection Module

ATA

      Analogue Terminal Adapter

COS

      Class of Service

CCOS

      Controlled Class of Service

CPM

      Call Progress Monitor

CPND

      Calling Party Name Display

CTIA

      Computer Telephony Integrated Adapter

DBA

      Display-Based Accessory (Configuration prompt for Display-based Expansion Module)

DLC

      Digital Line Card

DN

Directory Number

EIA

Electronic Industries Association

FCC

Federal Communications Commission

FDHF

Full Duplex Handsfree

FFC

Flexible Feature Code

IDF

Intermediate Distribution Frame

KBA

Key-Based Accessory (Configuration prompt for Key-based Expansion Module)

LCD

Liquid Crystal Display

LED

Light Emitting Diode (lamp)

MDF

Main Distribution Frame

MSB

Make Set Busy

MWI

Message Wait Indicator

SCPL

Station Controlled Password Length

SCPW

Station Controlled Password, part of station configuration

TN

Terminal Number

VOT

Virtual Office Terminal

Meridian 1

M3900 Series
Meridian Digital Telephones

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