Option 11C Installer's Checklist

P0911124

NOTE: This document is pertinent for Option 11C on Release 24.24

CAUTION

Upgrades from Release 22 or 23

When upgrading from **Release 22 or 23 to Release 24 or higher**, you **MUST** use the SYSLOAD method of upgrading described in the Option 11C Release 22 or 23 NTPs (either the Upgrade Procedures or the Software Installation Program Guide). Upgrading from Release 22 or 23 to a higher Release cannot be achieved properly using the UPGRADE command.

When using the SYSLOAD method, service on the entire system is typically disrupted for 20 to 30 minutes.

NEW - Software daughterboard change - NTTK13AA

In preparation for the upcoming release 25, the release 24.24 software load is now being provided on an NTTK13AA blank daughterboard instead of an NTDK81 card. The NTTK13AA is a 48 Meg card that is split into 32 Meg of program store and 16 Meg of C:Drive. This card is only backward compatible to 24.24. The installation of the card is the same as with the NTDK81. If you are upgrading from an NTDK21 card, please ensure that you have the latest bootcode from your release 24.24 PCMCIA card. (see Upgrade NTP).

Before starting make sure you have the following:

BASIC SYSTEM

- NTDK20 SSC Card
- Software Daughterboard (NTDK81 or NTTK13)
- Security Device
- Keycode Datasheet

The following three guides from the Option 11C NTP suite may be needed to complete installation:

- Option 11C Planning and Installation Guide
- Option 11C Upgrade Procedures Guide

INSTALLING THE FOURTH OR FIFTH CABINET (24.24 and later)

There are new hardware components required in order to expand the Line Size of the Option 11C to a 4th or 5th cabinet Please review the NTPs for new installation/upgrade steps.

INSTALLING FIBRE EXPANSION CABINET(S)

The following may be required:

- NTDK23 or NTDK25 Fibre Receiver Pack(s)
- NTDK22 or NTDK24 Fibre Daughterboard(s)
- NTDK84 or NTDK85 New Fibre Receiver Pack if equipping a 4th or 5th cabinet(s) (24.24 and later)
- Fibre Cable(s)
- Fibre Mounting Guides

SYSTEM UPGRADE FROM OPTION 11 or 11E

The following two methods can be used to extract customer data from Option 11/11E software cartridge:

- PC with the Option 11/11E data stored in a CCBR file, or
- NTDK30 Database Upgrade Tool

SOFTWARE UPGRADE ON OPTION 11C

The following is required:

- Software on PCMCIA card and new keycodes

NEW - WEBSITE FOR SOFTWARE DOWNLOAD

Please be aware of the new website for the Option 11C software download. The new site is located at: www.nortelnetworks.com/ You will need to register when accessing this site.

REMINDER NOTES

• ***IMPORTANT: Ensure that the NTDK20 SSC card is on a FLAT SURFACE before installing Software Daughterboard and Security Device! DAMAGE MAY RESULT if this is done with the SSC card still in the box!***

• If you are installing NTDK26 Backwards Compatible Daughterboard on the SSC card, jumper J7 must be removed prior to installing the card.

• Set the baud rate for Port 0 of the SSC card, using the dipswitch on the SSC card faceplate. **Port 0 is the only SDI port that can be used for software installations and upgrades**.

• After successful install of 11C make sure that Port 0 of SSC card is configured as a Maintenance Terminal/TTY. This is required for future software upgrades.

• If upgrading from an Option 11E multi-cabinet system that has fibre connection to the expansion cabinets, it is recommended that the keycodes be validated on the main cabinet first before swapping out the expansion cabinets.

INSTALL MENU

• If installing using a Software Daughterboard for a brand new system or for an upgrade from an Option 11/11E to 11C, select Option 1.
"Basic Configuration" database option includes the following items: Directory, Configuration Record, XPECs blocks, Superloops blocks, Patch, Physical Dump Record, IMS TN Table, IMS Links No, Table, Asynch Blocks, CSL Blocks, VAS Blocks, Background TTY Blocks, Background Port ID Blocks, Aries Data Block, SYS PARAMS Block, LAPW Blocks. For a more extensive default data block, please choose “Pre-Configured Data”.

• If installing using a PCMCIA card, select Option 4 for a new system or Option 2 to upgrade an Option 11/11E to Option 11C, or to upgrade Option 11C software to a new release or issue.

The data you need to enter in the INSTALL MENU is provided on the Keycode Datasheet.

• When performing new system installation, please ensure that the default AUX ID matches the AUX ID from keycode data sheet.

• If the keycodes don't work, check the following:

-software issue, feature set name and any additional packages, ISM parameters, security ID, auxiliary ID (the old site ID, if this is an upgrade), and ensure the correct keycodes were entered. All items must match the keycode sheet exactly.

If they still do not work, then call your service representative.

• The Fibre Routing Guide is mounted beneath slot 0 in the main and expansion cabinets. Use the existing screws just under card slot 0. Coil the excess fibre as per the NTP's.

Addendum to
General Release Bulletin - Release 24.24/24.25
P0890902, Issue 2.05,
October, 1999

Please note the following changes applicable to Issue 2.05 of this General Release Bulletin:

Throughout Document:
The upissue of GRB – P0890902 Issue 2.05 consists of two items for the Option 11C system. The first item is that the NTDK81AA blank daughterboard used as the release 24.24 software media is being replaced with the NTTK13AA blank daughterboard. Details of the difference can be found below.

The second item is the addition of 12 new PEPs bringing the total to 46 manufactured installed PEPs on the Option 11C software daughterboards. A detailed list appears below.

Chapter 2 - Small System Advisements, Revised throughout to include the NTTK13AA blank daughterboard, wherever the NTDK81 is mentioned. The difference between the two boards is a follows:

Currently, the NTDK81AA software daughterboard contains 40 Meg of flash memory storage (32 Meg-program store and 8 Meg – C:Drive). The NTTK13AA blank software daughterboard contains 48 Meg of flash memory storage. This is split into 32 Meg of program store and 16 Meg of C:Drive. The new card is compatible with release 24.24 and release 25 when available in 2000. This card is not compatible with issues of software earlier than 24.24 but can be used as a substitute for the NTDK81 running 24.24.

There are up to 3 versions of this software release each with the latest available PEPs manufacture installed on the Option 11C/11C Mini software. The different versions can be identified by the Product Issue of the pre-programmed daughterboard or PCMCIA card. Product Issue may be determined by locating the label with the product code (i.e. NTSKxxAK, NTSKxxBK) on either the software box, the software daughterboard, or the PCMCIA card. The Product Issue is the two digit number immediately following the product code. Note that the "xx" in the NTSKxxAK and NTSKxxBK indicates the region to which the software is released. Internet software on our new site now names the various software loads according to release and issue of software as well as the number of PEPs included in the load.

We now have a new internet software download site which you must register for before using. The service is free and will be the only location for software after January '00. The existing site will be maintained until January 15, 2000. The URL for our new software site is: http://192.122.98.68:8000/user_entry/

The new software loads for the daughterboards are as follows:

United States	Canada	CALA	Asia/Pacific	Japan
NTSK11AK R17	NTSK12AK R17	NTSK02AK R16	NTSK03AK R15	NTSK15AK R7

For Canada and US:
Product Issue 14 includes four manufacture installed PEPs on Release 24.24,
- MP01719 (MPLR12019) to allow the configuration of the Message Waiting Indicator by DN feature on the new M3900 Series Sets.
- MP01974 (MPLR12053) which improves the robustness of the Option 11C/11C Mini during the midnight routine,

- MP02029 (MPLR12048) which corrects a problem found when configuring a few SPNs associated with the same RLI and also having an ITGE defined,
- MP02232 (MPLR12050) which improves the robustness of the Option 11C Mini.

Product Issue 15 includes two additional manufacture installed PEPs on Release 24.24,
- MP02385 (MPLR12085) which is applicable to all system types with M3904 sets, (NOTE: This PEP is replaced by another in Product Issue 16 for Canada and US)
- MP02380 (MPLR12091) which is required for Option 11C systems equipped with the new TMDI packs where the TMDI D-Channel interface is configured for UIPE interfaces (NI2, QSIG, and most country specific interfaces for Europe and Asia Pacific).

Product Issue 16 includes 14 additional manufacture installed PEPs , one of which replaces MP02385 (MPLR12085) as indicated below.
- BV83662 (MPLR11962) which corrects an issue on Symposium when using local skill base routing with call force timer on which causes phantom calls.
- BV82993 (MPLR11976) which prevents cross talk on Symposium Call Center when Broadcast IVR is also used.
- MP01749 (MPLR11978) which corrects the situation causing BUG4217 messages to appear during initialization of the system.
- MP01786 (MPLR12008) which corrects the issue on Symposium where IVR fails on calls that have been returned to queue.
- MP02476 (MPLR12121) which corrects a Symposium issue dealing with the messages sent when retrieving parked calls or presenting the parked calls to the set after the parked call has timed out.
- BV83591 (MPLR12133) which corrects the initialization of the Meridian 1 when performing a service change if Symposium is also performing an acquire/de-acquire at the same time.
- MP01744 (MPLR12167) which corrects Call Pilot problems with through dial.
- MP03284 (MPLR12223) which corrects a Meridian Link issue where screen transfers from the host can not be accomplished.
- MP03431 (MPLR12250) which fixes the source of SYS error messages when using TMDI as DTI.
- MP03077 (MPLR12253) which corrects an issue where new DTI trunks cannot be created on the TMDI card without ISDN enabled.
- MP03258 (MPLR12287) which allows handsfree enabled to be retained during a service change, and corrects a possible call park corruption issue with the M3900 series sets. This PEP replaces MP02385 (MPLR12085) which appeared on the previous release.
- MP02870 (MPLR12293) which corrects the Release 16/18/20/21 upgrade to Release 24 issue where some NTAK09s (DTI/PRI packs) were incorrectly being defined as TMDI (NTRB21) packs upon conversion.
- MP03604 (MPLR12295) which fixes the situation where no conference warning tone or intrusion tone is heard if TDS is on slot 0, and allows End to End Signaling on a conference.
- MP03575 (MPLR12316) which corrects an issue which resulted in the loss of superloop 8 when programming a set on loop 37

Product Issue 17 includes 5 additional manufacture installed PEPs , one of which replaces MPLR12133 (MPLR12085) as indicated below. These are split across 12 individual PEP pieces, bringing the total number of PEP insertion files to 45.
- MP02277 (MPLR12544) which resolves the problem of the MEM not printing and not being able to out a TN when the OOSMLT prompt is invoked.
- MP03970 (MPLR12370) for Call Pilot ports incorrectly being counted against the digital set and ACD agent ISM limits. (5 parts to the PEP)
- MP04544 (MPLR12538) to correct problems of changing double density OPX line cards to quad density.
- MP04836/ MP03736 (MPLR12537) corrects M3903/M3904 key labels that may be lost after service change. Also, when downloading the keymap from an M3900 set may cause a warm start (4 parts to PEP).

- MPLR12286 is replacing MPRL12133 issued on an earlier issue of 24.24.

For Asia Pacific regions,
Product Issue 12 includes the four PEPs, Product Issue 13 includes an additional 2 PEPs, Product Issue 14 includes the 13 additional and one replacement PEP, and Product Issue 15 includes the 4 additional and one replacement PEP.

For CALA regions,
Product Issue 14 includes the initial 6 PEPs mentioned above, and Product Issue 15 includes the 13 additional and one replacement PEP, and Product Issue 16 includes the 4 additional and one replacement PEP.

For the Japan region,
Product Issue 7 includes all of the above mentioned PEPs.

For Distributor Web Delivery of Software,
There will be only one active version that will be accessible from the Web. The version with all PEPs will be available during the week of Dec 20, 1999

Meridian 1

Option 11C, 11C Mini, 51C, 61C, 81, and 81C

General Release Bulletin - X11 24.24/24.25

P0890902 Issue 2.05 October 1999

General Release Bulletin
Release 24.24/24.25

Meridian 1

Option 11C, 11C Mini, 51C, 61C, 81, and 81C

General Release Bulletin - X11 24.24/24.25

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July 1999

Issue 1.0 Standard

July 1999

Issue 2.0 Standard

Captures the large system up-issue to 24.25 and the additional manufacture installed PEPs on 24.24 for small systems, minor additions to the information in the documentation section and a correction to Meridian Mail support in the chapter on auxiliaries.

July 1999

Issue 2.01 Standard

Change to contents of Option 11C Distributor Technical Library, Chapter 4.

July 1999

Issue 2.02 Standard

Documentation of two additional manufacture installed PEPs on small systems, and large system advisement for the large system applicable PEP.

Clarification of Option 11C Mini availability.

Other minor corrections.

August 1999

Issue 2.03 Standard

Change 24.24/25 to 24.24/24.25 throughout to ensure no confusion on releases covered in this document.

September 1999

Issue 2.04 Standard

Add information about new manufacture installed patches in Chapter 2, and update Chapter 1 information about M3900 sets.

October 1999

Issue 2.05 Standard

To remove reference to Y2K information from Chapter 7.

Introduction

Generic X11 Release 24 is delivered on:

- Release 24.24 plus Performance Enhancement Products (PEPs) for Option 11C (globally) and Option 11C Mini (**specific markets only**), and
- Release 24.25 for Options 51C through 81C (globally).

Note on Option 11C Mini Availability:

TO DETERMINE MARKET AVAILABILITY OF THIS PRODUCT, PLEASE REFER TO REGIONAL PRODUCT BULLETINS AND SALES AND MARKETING BULLETINS.

This document provides an overview of the features developed for the Meridian 1 Generic X11 Release 24 software product (both release 24.09 marketed in the Asia Pacific region and the 24.24/24.25 marketed globally). It describes the new features and enhancements offered in this release. This document contains information that is applicable to North America and International Regions, excluding Europe, for all supported Meridian 1 system types as defined below.

X11 Global release 24.24/24.25 is a multi-purpose release designed to deliver a single global software stream to all markets. X11 Global Release 24.24/24.25 is supported on the following Meridian 1 systems: Option 11C, Option 11C Mini, and Options 51C, 61C, 81, and 81C equipped with the Motorola 68040 (NT9D19), 68060 (NT5D10), or 68060E (NT5D03) commercial processors. For other system details, please refer to the Nortel Networks Publications (NTPs).

For the Option 11C and Option 11C Mini, details on the Meridian Mail Option, the Central Answering Position feature, the Autoconfiguration feature, Model Sets and Administration Sets, as well as installation and operation, can be found in the Nortel Networks Publications (NTPs) pertinent to these machine types.

For Options 51C, 61C, 81 and 81C details on feature installation and operation, and hardware upgrade procedures, refer to the X11 Release 24 Nortel Networks Publications (NTPs). Also, please refer to the Software Conversion Procedures (553-2001-320) that are included in your NTP shipment prior to loading this software.

Note: Not all features described in this document are offered in all countries, and as noted within the Bulletin, not all features are supported on all machine types. Please contact your local Nortel Networks sales representative for more information.

Note: For information on Real Time requirements, please contact your local Nortel Networks sales representative. For information on Memory calculations, please refer to publication 553-3011-100, and the Technical Reference Guide.

IMPORTANT

Please read all included advisements, requirements, and enhancements both common, and pertinent to your machine type prior to loading this software.

Chapter 1 - System Advisements

X11 Release 24.24/24.25 is a global software release. This document provides the advisements applicable to North America and International regions, excluding Europe, for the system types indicated in the following section “Systems Supported”.

In this document, Small Systems refer to the Option 11C and Option 11C Mini. Large Systems refer to the Option 51C, 61C, 81 and 81C machine types.

Please note that the Option 11C Mini is not released in all regions with Generic X11 Release 24.24. For further information on availability, please contact your Nortel Networks sales representative.

Systems Supported

Generic X11 Release 24.24/24.25 supports the following machine types:

- Meridian 1 Option 11C equipped with an NTDK81AA software daughterboard (providing 32 Mb Program Store) which is necessary to provide sufficient program store for Release 24.
- Meridian 1 Option 11C Mini equipped with a NTDK97AA Mini System Controller which provides 32Mb of memory for program store.
- Meridian 1 Options 51C, 61C, 81, and 81C equipped with the Motorola 68040 (NT9D19), 68060 (NT5D10), or 68060E (NT5D03) commercial processors. Options 51C, 61C, 81, 81C are only supported via CD ROM and require an IODU/C drive. The 68030 is no longer supported with Generic X11 Release 24.

> ***Note:*** There is an additional section in this document which details new upgrade procedures which may be required to support Release 24 software on the Option 11C. See Chapter 2, “Small System Upgrade Procedure” for details.

Memory

Release 24 has new memory requirements, which may result in necessary upgrades.

For small system memory requirements, refer to Small System Memory Requirements for Release 24 in Chapter 2.

For large system memory requirements, refer to Call Processor Recommended Memory Requirements in Chapter 3.

System Security

Nortel Networks strongly recommends changing the default system passwords for both Meridian 1 and Meridian Mail systems during initial installation. These passwords should be changed again when the system is placed in active service. These actions will help deter unauthorized system access which can result in toll fraud or system abuse.

For more information, please refer to Sales and Marketing Bulletin #807G, or the System Security Management NTP (553-3001-302) included with new system or system upgrade shipments.

Audit routine

As in the case of previous software releases, it is recommended that the Audit routine (Overlay 44) be specified as the background diagnostic to optimize the system capability to deal with call processing anomalies, especially in large line size and high traffic configurations.

Hardware

The X11 Global Release 24 does not require any new hardware for large systems. Depending on its configuration, the Option 11C may require a memory upgrade board. Please see the Small Systems Advisements Chapter 2 for details.

The following features introduce new hardware. Please see the descriptions of the features in Chapter 5 for details.

- Option 11C Line Size Expansion (Option 11C only)
- Option 11C T-1 Multipurpose Digital Interface (Option 11C and Option 11C Mini only)
- Information Notification Service for Japan (Japan only)
- North American 1.5/2.0 MBPS Gateway (new packs for North America)
- Taiwan R1 Modified Signalling (updated pack vintage)

MAT and CallPilot Installation Order

MAT 6.5 and CallPilot 1.0 concurrency and PC co-residency is supported with one installation/uninstallation related advisement. It is recommended that the following order of installation is followed when PC co-residency is desired for MAT 6.5 and CallPilot 1.0:

- Install MAT on the designated PC before installing CallPilot and MAS.

This order of installation will allow the uninstallation of either application to run successfully should a user decide to remove MAT or CallPilot from the PC. If CallPilot and MAS are installed before MAT, the uninstallation will not be successful due to the interaction between CallPilot, MAT Common Services, and the MAT directory.

New Call Pilot Sites Installing Release 24

When defining the ACD DN in LD 23, the response to the MWC prompt must be set to NO. This is required such that the ALOG prompt will appear as a sub-prompt under the IVR prompt on X11 Release 24.

Call Pilot Sites Upgrading From X11 23.55 to X11 24

For sites that are running CallPilot with X11 Release 23.55, the ALOG option will already be set. When upgrading the switch software from Release 23.55 to Release 24, the ALOG option will be propagated. However, if the MWC option was set to YES, the PRT function in LD23 (on X11 Release 24) will not list the ALOG prompt. To correct this situation, use the CHG function and change the MWC option to NO. The ALOG option will now be listed properly by the PRT function.

Call Pilot Distributor Web Site for PEPs Identification

Please check on the CallPilot distributor web site for current information on any required PEPs for any given X11 software release. The web site is at:

http://www.nortelnetworks.com/callpilotinfo

Please note that this site requires account and password. If you do not currently have this account and password, and are a CallPilot distributor, please contact your regional sales rep for access to this site.

MAT interactions with the CP4 Processor and/or X11 Release 24

When performing an Update System Data, MAT attempts to identify the machine type and X11 software release from the information transmitted by the Meridian 1 system.

Support for Features in Release 24.24/24.25

Release 24.24/24.25 requires MAT Release 6.5 or later.

CP4 Processor Interactions

MAT Release 6.0 and earlier do not support the CP4 processor and this will therefore result in the machine type being initialized to an unknown value.

X11 Release 24 Interactions

MAT Release 6.1 and earlier do not support X11 Release 24 and this will therefore result in the X11 software release being initialized to an unknown value.

Impacts

MAT uses the machine type in conjunction with the software release to determine the available features and values within Station Administration and Traffic Analysis. If the machine type or software release is not set to a known value, the following problems will occur:

Station Administration:

Key Assignment, Feature and Terminal Number lists will be blank.

Traffic Analysis:

'What if' for Processor Load will not show the current CPU type. Data Buffering and Access (DBA) feature will not be available, data collection will be through a buffer box or directly from the switch.

Call Accounting:

Data Buffering and Access (DBA) feature will not be available, data collection will be through a buffer box or directly from the switch.

Workarounds

To resolve these issues, after performing an Update System Data on a Meridian 1 equipped with a CP4 processor and/or X11 Release 24 software, the following actions must be performed in the System Data Property page for each affected Meridian 1 system:

The Machine Type must be manually set to a CP3 processor and

The software Release must be manually set to 23.

DBA Support will only be available with MAT 6.5 and X11 Release 24 software. The resolution for earlier releases of MAT is to collect data either through a buffer box or directly from the switch.

M3900 Series Digital Sets

There may be Performance Enhancement Products (PEPs) required for these sets. Please contact your local Customer Technical Service representatives for pertinent PEPs prior to enabling this feature. For small systems, please check Chapter 2, section “Software PEPs” for details on any patches that are already manufacture installed on the software.

Flexible DID

There may be Performance Enhancement Products (PEPs) required for this feature. Please contact your local Customer Technical Service representatives prior to enabling this feature.

End To End Signaling Display Default Setting

Please note that the display of End to End Signaling digits defaults to OFF in all scenarios when upgrading or newly installing a switch.

New ISM Parameters

Please note that with the introduction of X11 Release 24.24/24.25, there are three new ISM parameters. One is specific to the Option 11C TMDI pack and allows for the configuration of D-Channels. This parameter is called "TMDI D-CHANNELS". The other two are the new parameters "ANALOGUE TELEPHONES" and "DIGITAL TELEPHONES". If these values are set to zero, no analog or digital phones, respectively, can be configured on the switch.

Two other parameters have been renamed with Release 24.24/24.25. These are "ACD AGENTS" which used to be called "AGNTS", and "MOBTNS", a parameter from the Asia Pacific Release 24.09, which has been renamed to "WIRELESS TELEPHONES". The "WIRELESS TELEPHONES" ISM parameter limit must also be set to a value other than zero in order to be able to configure wireless telephone sets.

On the Option11C and Option 11C Mini, please ensure that the values listed on the keycode sheets are followed during upgrades.

NOTE: Some of the above new parameters will not appear on large systems in some markets.

Configuring More Than 30 MCR Keys

Prior to Release 24, when configuring the database (in LD 11) for a digital set that is equipped with two add-on-modules (AOM 2), the limit for entering MCR keys during a single session was set to 30 keys, after which the system would output BUG error messages (BUG5873). With Release 24 the limit is now set to 60, and no BUG error messages will be output.

Chapter 2 - Small System Advisements

The following advisements are for small systems (Option 11C and 11C Mini) only. (Option 11C Mini is being introduced in Europe and Asia Pacific regions on Release 24.24.)

Small System Memory Requirements for Release 24

The Option 11C Mini comes with 32 Mb for Program Store on the Mini System Controller in order to run Release 24 software.

The Option 11C requires a 32 Mb configuration for Program Store in order to run Release 24 software. The NTDK81AA software daughterboard provides 32 Mb program store as well as 8 Mb of flash memory. The Original Option 11C Software Daughterboard, the NTDK21, has 24Mb of program store, 8 Mb of flash memory and does not support Release 24 software. In order to run Release 24 software, the NTDK21 must be replaced with an NTDK81 based daughterboard. This may be an NTDK81AA blank board, if you are using a PCMCIA card to upgrade software, or a pre-programmed software daughterboard with codes NTSKxxAG, or later which are programmed on the NTDK81 blank daughterboard. A release 24 version of your regional software daughterboard (NTSKxxAK) can also be used to upgrade from an NTDK21 card.

Following is the procedure used to check which daughterboard is installed on the switch, and does not need to be run on the Option 11C Mini system.

1. Login to the switch and access overlay 135 (LD 135)

2. At the prompt, type: stat mem

3. The output will indicate the amount of Program Store on the switch.

If the output indicates that the Program Store size is 24 Mb, then the switch must be upgraded. Please see the new “Small System Upgrade Procedure” in this Chapter.

CAUTION

Please read this important message (Option 11C)

Upgrades to Release 24

When upgrading from Release 22 or 23 to Release 24 or higher, the SYSLOAD method of upgrading must be used. It is described in the Option 11C Release 22 or 23 NTPs (either the Upgrade Procedures or the Software Installation Program Guide), and also covered in the following section. When using the SYSLOAD method, service on the entire system is typically disrupted for 20 to 30 minutes.

SYSLOAD Method vs. UPGRADE Method

SYSLOAD Method:

Invokes the software installation menu during a SYSLOAD.

1. Invoke a system reload (SYSLOAD) by setting the circuit breaker on the front of the power supply to OFF then to ON.

2. During the SYSLOAD, the following prompt will appear: "To invoke install setup program from PCMCIA enter CONTROL-I". At this point, hold down the "control" key and press the "I" key.

3. Upgrade the systems through menu item 2 "System Upgrade".

UPGRADE Method:

Invokes the software installation menu resident on the daughterboard.

1. Login to the system and enter overlay 143 by typing "LD 143" <cr>.

2. Enter the software installation menu by typing "upgrade". <cr>

3. Upgrade the system through menu item 2 "System Upgrade".

Upgrades

Please note the upgrade method restriction from Release 22 systems as noted in the Caution box above.

The Option 11/11E systems running on pre-release 22 software require a hardware upgrade in order to upgrade to Release 24. The Option 11C system offers a menu driven installation and upgrade method. Please refer to Option 11C Installation and or Upgrade Procedures Guide for additional information.

Please read the Option 11C NTPs thoroughly before performing any hardware/software changes. All upgrade procedures should be strictly followed step by step.

Note: In order to support the new Flash daughterboard NTDK81AA, the Boot Code on the active SSC must be updated. This is a very simple procedure which does not need to interrupt service. See the section "Updating the SSC Boot Code" for details.

Minimum Boot Code Release for the Option 11C Mini

The NTDK97AA Option 11C Mini CPU should have bootcode NTDK34FA Release 04 or later. Please see the following for instructions on checking the bootcode release.

Updating the SSC Boot Code

If the SSC is an NTDK20DA Release 03 or later, there is no requirement to change the boot code.

The Boot Code on the NTDK20AB should be updated to version NTDK34FA, Release 03 or later, before upgrading software to release 24.24. This has to be done manually. Use the Flash Boot ROM Utility to do this: see NTP 553-3021-250 Upgrade procedures, chapter 13 (release 23 or 24), or 553-3021-310 Software Installation Program Guide, chapter 11 (Release 22). The major steps are outlined below; however, see the NTPs for full procedures and notes.

A. Updating the Boot Code without upgrading the software to release 24.24

This process can be carried out without service interruption.

1. Insert the release 24.24 PCMCIA card into the socket on the faceplate of the SSC card.

2. Invoke the Software Installation program using Overlay 143.

- Login to the system
- Load overlay 143
- Enter 'UPGRADE'

3. Select 'Utilities' from the main menu.

4. Select item 7 - Flash Boot ROM Utilities - from the Utilities menu.

5. Select option 1 from the Flash Boot ROM Utilities menu to list the Boot ROM summary.

6. Review the Flash Boot ROM Summary. This will identify whether the version of Boot Code currently active on the SSC is NTDK34FA Rel 03 or later, or an earlier version.

A response of the following form will be received:

•Active -- NTDK34AA REL 05 (specific release no. may vary)

•Backup -- NTDK34AA REL 02 (specific release no. may vary)

•Software Delivery Card -- NTDK34FA REL 03

If the Active Boot Code version is NTDK34FA Rel 03 or later, no further activity is necessary. Proceed to step 8 to exit. Note that there may or may not be anything in the backup Boot ROM. The Software Delivery (PCMCIA) Card should indicate version NTDK34FA Rel 03 or later. If not, an upgrade cannot be done, and the PCMCIA card version should be checked.

7. Upgrade the Boot Flash ROM (selection 2).

Respond 'yes' to the prompt asking you to confirm that you wish to update the Boot ROM.

8. Leave overlay 143 and log off.

B. Updating the Boot Code as part of upgrading the software to release 24.24

1. Perform normal pre-upgrade steps, i.e.

- Perform a data dump.
- Disable all DCH using Overlay 60.
- Disable AML Links using Overlay 48.

2. Insert the release 24.24 PCMCIA card into the socket on the faceplate of the SSC card.

3. Invoke the software installation menu during a SYSLOAD, by setting the power supply breaker to 'OFF' and then to 'ON'. Then enter 'CONTROL-I'at the prompt.

4. Select 'Utilities' from the main menu.

5. Select item 7 - Flash Boot ROM Utilities - from the Utilities menu.

6. Select option 1 from the Flash Boot ROM Utilities menu to list the Boot ROM summary.

7. Review the Flash Boot ROM Summary. This will identify whether the version of Boot Code currently active on the SSC is NTDK34FA Release 03 or later, or an earlier version.

A response of the following form will be received:

- Active -- NTDK34AA REL 05 (specific release no. may vary)
- Backup -- NTDK34AA REL 02 (specific release no. may vary)
- Software Delivery Card -- NTDK34FA REL 03

If the Active Boot Code version is NTDK34FA Release 03 or later, no further action is necessary. Proceed to step 9 to continue. Note that there may or may not be anything in the backup Boot ROM. The Software Delivery (PCMCIA) Card should indicate version NTDK34FA Release 03 or later. If not, an upgrade cannot be done, and the PCMCIA card version should be checked.

8. Upgrade the Boot Flash ROM (selection 2).

Respond 'yes' to prompt asking you to confirm that you wish to update the Boot ROM.

9. Return to the main menu, and select "System Upgrade".

10. Proceed with normal upgrade procedures, as in NTP 553-3021-250 Upgrade Procedures, chapter 7.

C. Updating the Boot Code and installing an NTDK81AA as part of upgrading the software to Release 24.24.

1. Perform normal pre-upgrade steps, i.e.

- Perform a data dump.
- Disable all DCH using Overlay 60.
- Disable AML Links using Overlay 48.

2. Insert the release 24.24 PCMCIA card into the socket on the faceplate of the SSC card.

3. Invoke the Software Installation program using Overlay 143.

4. Select 'Utilities' from the main menu.

5. Select item 7 - Flash Boot ROM Utilities - from the Utilities menu.

6. Select option 1 from the Flash Boot ROM Utilities menu to list the Boot ROM summary.

7. Review the Flash Boot ROM Summary. This will identify whether the version of Boot Code currently active on the SSC is version NTDK34FA Release 03 or later, or an earlier version.

A response of the following form will be received:

•Active -- NTDK34AA REL 05 (specific release no. may vary)

•Backup -- NTDK34AA REL 02 (specific release no. may vary)

•Software Delivery Card -- NTDK34FA REL 03

If the Active Boot Code version is NTDK34FA Release 03 or later, no further activity is necessary. Proceed to step 9 to exit. Note that there may or may not be anything in the backup Boot ROM. The Software Delivery (PCMCIA) Card should indicate version NTDK34FA Release 03 or later. If not, an upgrade cannot be done, and the PCMCIA card version should be checked.

8. Upgrade the Boot Flash ROM (selection 2).

Respond 'yes' to prompt asking you to confirm that you wish to update the Boot ROM.

9. Power down the system, and change the Flash Daughterboard.

10. If the target software is pre-programmed on the new Flash Daughterboard, the system can then be powered up and put into service.

If the daughterboard is blank, the Release 24 software can then be loaded onto it using regular procedures, as described under "Starting up and testing the System" in NTP 553-3021-210 "Planning and Installation Guide", chapter 18.

If the daughterboard has an earlier release of software, proceed to load Release 24.24 as described in "Upgrading Option 11C software to a new release", in NTP 553-3021-250 "Upgrade procedures", chapter 7.

Basic Configuration Data

On Release 22.08, the "Basic Configuration" default data option provided only a configuration record and no other customer data.

With X11 Release 22.16 and later, the "Basic Configuration" data option is expanded to include default data such as XPECs, Superloops, and other default data blocks. It doesn't include Model sets, routes, TN's etc. For complete default data including model sets etc., choose the Pre-Configured data option.

Use of BKO command in LD 43

The BKO command is used to backup the customer data to an external data card (blank PCMCIA card) located in slot "B" on the CPU faceplate.

Warning: If the pre-programmed software PCMCIA card is used during BKO operation, the card cannot be used to install software without first removing the backup data, reformatting the disk, and reprogramming with the appropriate software.

Backwards Compatible Daughterboard - NTDK26

The backward compatible daughterboard allows Option 11/11E two cabinet (copper) systems to be upgraded to Option 11C maintaining copper connectivity.

The NTDK26 has a hardware key that prevents installation when the ethernet jumper (J7) is installed.

The ethernet jumper plug (J7) on the NTDK20 (Small System Controller) pack MUST be removed before the NTDK26 daughterboard is installed.

Note: Ethernet is not supported in this configuration

Upgrading Option 11/11E to 11C using Pre-Installed Flash Daughterboard

If the installer pre-installs the customer feature set and data on the pre-programmed software daughterboard prior to delivery of the Option 11C hardware to the end customer, the following steps must be performed after they sysload their 11C with the pre-installed feature set and default data.

1. Ld 143 and type "upgrade".

2. Select option 3 "Utilities" from the main menu.

3. Select option 1 "Restore Backed up Database" from the Utilities menu.

4. Select option 4 "Option 11/11E CCBR File " OR option 5 " Option 11/11E Software cartridge" (After selecting this option the user is prompted to insert the Database Upgrade Tool.)

5. Sysload.

Instant ISM Feature

Please note that with Release 24.09, the Release 24 Instant ISM feature on Option 11C requires a SYSLOAD unless BV82765 (MPLR11643) is loaded on the switch. This problem has been corrected with Release 24.24.

AML EC11 disabled after upgrade - BV57771

If an Option 11C with AML connection to EC11 Mail is upgraded without first disabling AML, there is a possibility that the AML link will not automatically come back into service upon completion of the upgrade.

WORKAROUND:

1) Disable the AML before the software upgrade, or

2) Re-seat the NTAK02 (SDI/DCH) pack after upgrade

Trunk Anti-Tromboning, Network Call ID & Network Call Page

These features are supported for Option 11C in ISL/VNS configuration. The minimum vintage required for the SDI/DCH pack which supports TAT/TRO is NTAK02BB.

Software PEPs

There are up to 3 versions of this software release each with the latest available PEPs manufacture installed on the Option 11C/11C Mini software. The different versions can be identified by the Product Issue of the pre-programmed daughterboard or PCMCIA card. Product Issue may be determined by locating the label with the product code (i.e. NTSKxxAK, NTSKxxBK) on either the software box, the software daughterboard, or the PCMCIA card. The Product Issue is the two digit number immediately following the product code. Note that the "xx" in the NTSKxxAK and NTSKxxBK indicates the region to which the software is released. Internet software has a different naming convention due to DOS limitations. An NTSKxxAK 07 would be named SKxxAKR7.exe and an NTSKxxAK 11 would be named SKxxAKRB.exe (where A = release 10, B = release 11, C = release 12 and so on). Note that the Product Issue for the Option 11C software daughterboard matches that of the PCMCIA card and the Option 11C Mini CPU.

For Canada and US:

Product Issue 14 includes four manufacture installed PEPs on Release 24.24,

- MP01719 (MPLR12019) to allow the configuration of the Message Waiting Indicator by DN feature on the new M3900 Series Sets.

- MP01974 (MPLR12053) which improves the robustness of the Option 11C/11C Mini during the midnight routine,

- MP02029 (MPLR12048) which corrects a problem found when configuring a few SPNs associated with the same RLI and also having an ITGE defined,

- MP02232 (MPLR12050) which improves the robustness of the Option 11C Mini.

Product Issue 15 includes two additional manufacture installed PEPs on Release 24.24,

- MP02385 (MPLR12085) which is applicable to all system types with M3904 sets, (NOTE: This PEP is replaced by another in Product Issue 16 for Canada and US)

- MP02380 (MPLR12091) which is required for Option 11C systems equipped with the new TMDI packs where the TMDI D-Channel interface is configured for UIPE interfaces (NI2, QSIG, and most country specific interfaces for Europe and Asia Pacific).

Product Issue 16 includes 14 additional manufacture installed PEPs , one of which replaces MP02385 (MPLR12085) as indicated below.

- BV83662 (MPLR11962) which corrects an issue on Symposium when using local skill base routing with call force timer on which causes phantom calls.

- BV82993 (MPLR11976) which prevents crosstalk on Symposium Call Center when Broadcast IVR is also used.

- MP01749 (MPLR11978) which corrects the situation causing BUG4217 messages to appear during initialization of the system.

- MP01786 (MPLR12008) which corrects the issue on Symposium where IVR fails on calls that have been returned to queue.

- MP02476 (MPLR12121) which corrects a Symposium issue dealing with the messages sent when retrieving parked calls or presenting the parked calls to the set after the parked call has timed out.

- BV83591 (MPLR12133) which corrects the initialization of the Meridian 1 when performing a service change if Symposium is also performing an acquire/deacquire at the same time.

- MP01744 (MPLR12167) which corrects Call Pilot problems with through dial.

- MP03284 (MPLR12223) which corrects a Meridian Link issue where acreen transfers from the host can not be accomplished.

- MP03431 (MPLR12250) which fixes the source of SYS error messages when using TMDI as DTI.

- MP03077 (MPLR12253) which corrects an issue where new DTI trunks cannot be created on the TMDI card without ISDN enabled.

- MP03258 (MPLR12287) which allows handsfree enabled to be retained during a service change, and corrects a possible call park corruption issue with the M3900 series sets. This PEP replaces MP02385 (MPLR12085) which appeared on the previous release.

- MP02870 (MPLR12293) which corrects the Release 16/18/20/21 upgrade to Release 24 issue where some NTAK09s (DTI/PRI packs) were incorrectly being defined as TMDI (NTRB21) packs upon conversion.

- MP03604 (MPLR12295) which fixes the situation where no conference warning tone or intrusion tone is heard if TDS is on slot 0, and allows End to End Signalling on a conference.

- MP03575 (MPLR12316) which corrects an issue which resulted in the loss of superloop 8 when programming a set on loop 37

For Asia Pacific regions,

Product Issue 12 includes the four PEPs, Product Issue 13 includes an additional 2 PEPs, and Product Issue 14 includes the 13 additional and one replacement PEP.

For CALA regions,

Product Issue 14 includes the intial 6 PEPs mentioned above, and Product Issue 15 includes the 13 additional and one replacement PEP.

For the Japan region,

Product Issue 6 includes all of the above mentioned PEPs, with previous issues being used for trial purposes.

For Distributor Web Delivery of Software,

There will be only one active version that will be accessible from the Web. The version with 6 PEPs will be available during the week of July 12, 1999.

REGION	Latest Software Version with 19 PEPs	Replaced software with 6 PEPs	Initial Software Version with 4 PEPs
CALA	sk02akrf.exe	sk02akre.exe	N/A
Asia Pacific	sk03akre.exe	sk03akrd.exe	sk03akrc.exe
USA	sk11akrg.exe	sk11akrf.exe	sk11akre.exe
Canada	sk12akrg.exe	sk12akrf.exe	sk12akre.exe
Japan	sk15akr6.exe	N/A	N/A

All Option 11C PEP files exist in the Global Patch Database. Other PEPs which may need to be installed must be placed in the following directory: c:/u/patch

There are 5 ways to get a PEP file into this directory.

1) PEPs can be downloaded to the switch by FTP over an ethernet connection.

2) PEPs can be downloaded to the switch by FTP over a serial line using SLIP.

3) PEPs can be downloaded to the switch by FTP over a serial line using PPP.

4) Program the PEP file onto a PCMCIA card. Install the PCMCIA card in drive a. In pdt copy the PEP file from the PCMCIA card to the c drive.

eg: cp a:newpep.p c:/u/patch/newpep.p

5) PEPs can be downloaded to the switch using XMODEM file transfer over a serial line.

The following is the description of the pdt commands to perform a file transfer using the **XMODEM** protocol.

rx - command for receiving a file

sx - command for sending a file

To use rx, PDT Level 1 or Level 2 password login is required.

To use sx, PDT Level 2 password login is required. This is done for security purposes so that you can't get any data out of the system unless you know the PDT Level 2 password.

To transfer a file from a PC/workstation to the switch

pdt> rx [path/]filename.ext

You then enter the appropriate commands to invoke xmodem file transfer on the PC/workstation

To transfer a file from the switch

pdt> sx [path/]filename.ext

You then enter the appropriate commands to invoke xmodem file transfer on the PC/workstation.

For binary files (eg, PEP files and database files), please ensure that the files are transferred in binary mode.

When the transfer is completed, a transmission summary is displayed and the pdt prompt is shown.

total packets	20
number of retries	0
receive timeouts	1
system errors	0
unknown characters	0
transfer canceled	0
packets received out of sequence	0
packets with corrupted sequence	0
packets failed checksum/crc check	0
incomplete packets	0
duplicate packets	0

pdt>

The following is an example in a unix environment:

Use tip to connect to the switch (if you telnet to the switch you can't use umodem)

To transfer a PEP to the switch in pdt

cd c:/u/patch

rx newpep.p

When the system prompts "Ready to receive...", invoke local command mode by typing ~C (tilde C) and issue the umodem (s)end (b)inary command.

~C (tilde C to enter local command)

umodem -sb ~mydir/peps/newpep.p

To transfer a file to the workstation in pdt

cd to directory eg c:/p/sl1

sx direct.rec

When the system prompts "Ready to send...", invoke local command mode by typing ~C (tilde C) and issue the umodem (r)eceive (b)inary command.

~C (tilde C to enter local command)

umodem -rb ~mydir/backup/direct.rec

The following is an example in a PC/Window 95 environment:

Use the HyperTerminal application to dial up to the switch

To transfer a PEP to the switch in pdt

cd c:/u/patch

rx newpep.p

When the system prompts "Ready to receive...", invoke file transfer on the PC side using the (T)ransfer pull-down menu and selecting the (S)end File option.

Select the file to be sent and select XMODEM as the Protocol. Then start the transfer on the PC side.

To transfer a file to the PC in pdt

cd to directory eg c:/p/sl1

sx direct.rec

When the system prompts "Ready to send...", invoke file transfer on the PC side using the (T)ransfer pull-down menu and selecting the (R)eceive File option.

Select or create a file to be received as and select XMODEM as the Protocol. Then start the transfer on the PC side.

PEP Installation Steps:

1) In pdt use the pload command to load the PEPs. To make sure that these PEPs remain in service you must enter the pload command without the PEP name. It will then prompt you for the PEP name and ask the following questions:

Days patch vulnerable to sysload [3]- set this to 0

In-service initialize threshold [5]- enter a carriage return

In-service days to monitor inits[7]- set this to 0

2) After using the pload command, use the pins command to put the PEPs in.

Small System Upgrade Procedure

Upgrading an Option 11C Software Daughterboard from NTDK21 to NTDK81

This procedure is equivalent to a new system installation. It requires a PC or external PCMCIA drive to backup the configuration files, the current keycode sheet containing keycodes, feature set, and ISM parameters, and an NTDK81AA blank daughterboard with a Software Delivery Card programmed to the current version of software. A second option is that a Release 24 pre-programmed daughterboard can be substituted in the above list for the NTDK81 and software delivery card.

CAUTION

An anti-static wrist strap, provided in the bottom of the cabinet, must be worn when handling circuit cards. Static electricity can damage the components of circuit cards.

CAUTION

The NTDK20 SSC card is equipped with components on both sides of the circuit board. Be careful not to damage any of the components when handling the card.

Check for Existing Program Store Size

Release 24 requires a 32 Mb configuration for Program Store. Option 11Cs equipped with the original NTDK21AA software daughterboard must be upgraded to the NTDK81AA software daughterboard.

Before loading Release 24 onto the Option 11C, check to see which daughterboard is equipped on the system.

1. Login to the switch and access overlay 135 (LD 135)

2. At the prompt, type: stat mem

3. The output will indicate the amount of Program Store on the switch.

If the output indicates that the Program Store size is 24 Mb, the switch is equipped with an NTDK21, and the switch must be upgraded. If the output indicates that the Program Store size is 32 Mb then the switch is equipped with an NTDK81 which supports Release 24.

Note: All new system shipments and Option 11/11E upgrades using software 23.35 (NTSKxxAG) or later (NTSKxxAH, NTSKxxAJ, and the current NTSKxxAK) are equipped with NTDK81 software daughterboards.

Backup Current Customer Database and Upgrade Boot ROM

1. Run normal pre-upgrade steps as indicated in the Upgrade Procedures NTP, "Upgrading Option 11C software to a new release

- Perform a data dump (EDD in LD 43).
- Disable all DCH using LD 60.
- Disable AML Links using LD 48.

  Note: STEPS 2-4 ARE NOT REQUIRED IF THE SSC IS AN NTDK20DA RELEASE 03 OR LATER. If so, please proceed to the bolded text reading "**Change Out The Software Daughterboard**"

2. Insert the software Release 24.24 Software Delivery Card into slot a: on the faceplate of the SSC card.

3. Invoke the Software Installation program using Overlay 143.

4. Check and if necessary upgrade the Boot Code

Select 'Utilities' from the main menu.

Select item 7 - Flash Boot ROM Utilities - from the Utilities menu.

Select option 1 from the Flash Boot ROM Utilities menu to list the Boot ROM summary.

Review the Flash Boot ROM Summary. This will identify whether the version of Boot Code currently active on the SSC is version NTDK34FA, release 03 or later, or an earlier version.

A response of the following form will be received:

Active -- NTDK34AA REL 05 (specific release no. may vary)

Backup -- NTDK34AA REL 02 (specific release no. may vary)

Software Delivery Card -- NTDK34FA REL 03

If the Active Boot Code version is NTDK34FA release 03 or later, no further activity is necessary. Proceed to step 9 to exit. Note that there may or may not be anything in the backup Boot ROM. The Software Delivery (PCMCIA) Card should indicate version NTDK34FA Release 03 or later. If not, an upgrade cannot be done, and the PCMCIA card version should be checked.

Upgrade the Boot Flash ROM (selection 2).

Respond 'yes' to prompt asking you to confirm that you wish to update the Boot ROM.

Change Out The Software Daughterboard

The following procedure describes how to replace the NTDK21 Software Daughter Board:

1. Power down the system.

2. Remove the NTDK20 SSC (Small System Controller) card from the cabinet.

3. Lift the NTDK21 daughter board up and off of the NTDK20 SSC circuit card until it is clear of the connector assembly.

4. Position the replacement Software Daughter Board.

5. Seat the new Software Daughter Board on the NTDK20 SSC circuit card.

6. Reinstall the NTDK20 SSC circuit card in slot 0 of the main cabinet.

7. Power up the system.

Complete the steps required to perform a "New System Installation".

If the target software is pre-programmed on the new Flash Daughterboard (NTSKxxAK), the system can then be powered up and put into service, as described under "Starting up and testing the System" in NTP 553-3021-210 "Planning and Installation Guide", chapter 18 or you can choose item 1 "New system installation - from software daughterboard" from the install menu and follow the steps listed below, starting at step 3.

If the daughterboard is pre-programmed and has an earlier release of software, use the above procedure to install the software then upgrade to the target release as described in "Upgrading Option 11C software to a new release", in NTP 553-3021-250 "Upgrade procedures", chapter 7.

If the daughterboard has already been installed in a system, then upgrade as necessary to the correct release of software using "Upgrading Option 11C software to a new release", NTP 553-3021-250 "Upgrade procedures", chapter 7.

If the daughterboard is blank (a spare NTDK81), the software can then be loaded into it using the following procedure.

1. Ensure that the Software Delivery card with target software is inserted into slot a:

2. When the Software Installation menu comes up, choose item 4 to install from the PCMCIA.

3. Proceed with the Installation Menus as per a regular new system installation,

- select the feature set, additional packages, as per the keycode sheet
- when prompted for the database, select item 2. Basic Configuration

  Note: It is important that you choose Basic Configuration at this point, otherwise the system may invoke an EDD after loading the new software and may overwrite the customer data stored on the CPU.

- select the ISM, and Aux ID, as per the keycode sheet
- Verify the summary is consistent with the keycode sheet information
- enter the keycodes as per the keycode sheet

- proceed with the installation

Restore the backup configuration files.

Restore the original switch configuration files using the following process:

1. Login to the switch

2. Go to LD 143 and access the Software Installation Menu

3. Select Option 3. Utilities

4. Select Option 1. Restore

5. Select Option 1. Backup to Flash Drive

6. Log out of the switch

7. Reboot the switch by powering down then up

Full descriptions of database restoration is defined in the "Upgrade Procedures" NTP, Chapter 9 - "Restoring a Backed Up Database".

Electronic Software Delivery for Small Systems

Internet software delivery is currently available for the Option 11C in North America. The downloading of the software is only necessary when re-programming a PCMCIA card to update a current Option 11C or 11C Mini system. When ordering a PCMCIA card for the first time, it can be sent pre-programmed with the current market release of software. Alternatively, a blank PCMCIA card can be ordered. This same card can be used for future upgrades of software by using the Option 11C Internet Software Download process, details of which are found in document P0866881. A programmed PCMCIA card can be used to upgrade an Option 11C or an Option 11C Mini system.

The software download process is required to take compressed software from the internet and download it to your PC for duplication. In addition to the duplication configuration listed above, the following is required:

- Internet software and an Internet Service Provider.
- Registration with Nortel to access the software Home Page (Registration process is detailed in Product Bulletin 97046).

New Method for Programming PCMCIA Cards for Option 11C for Software Release 24 or Later

The Old Procedure

The old procedure of copying the self-extracting archive to the PCMCIA card, exploding the archive, deleting the archive, and then using the card for upgrading will no longer work for Release 24.

There is a new Windows 95/98/NT tool available for preparing Option 11C, Option 11C Mini and Option 11C Compact PCMCIA cards. This tool is very easy to use, and avoids errors that can occur when these cards are prepared manually.

The Windows 95/98/NT PCMCIA Card Programmer

The PCMCIA Card Programmer is compatible with Window 95, 98, and Windows NT 4.0 and above. The Programmer will prepare and if necessary erase the PCMCIA card, and load Option 11C software onto that card.

Installing the Software

1. If applicable, uninstall any previous version of the PCMCIA card programmer.

2. Download CARDPRO3.EXE into a temporary directory on your local hard drive.

3. Using Windows Explorer, find that temporary directory, and double-click on CARDPRO3.EXE. This program is a self-extracting archive, and it will create a set of files in your temporary directory, including one called SETUP.EXE.

4. Double-click on SETUP.EXE. This begins the installation of the PCMCIA Card Programmer.

5. Simply follow the directions produced by the setup program.

> ***Note:*** You may have to reboot your computer after the installation of the program. If that is the case, you may have to go to your temporary directory and double-click on setup.exe again.

Let the program install itself in the suggested default directory.

6. Once the program is installed, you may delete the contents of the temporary directory.

Using the Software

Insert the PCMCIA Card as you normally would into your PC.

To start the program, click on "Start Programs PCMCIA Card Programmer and PCMCIA Card Programmer".

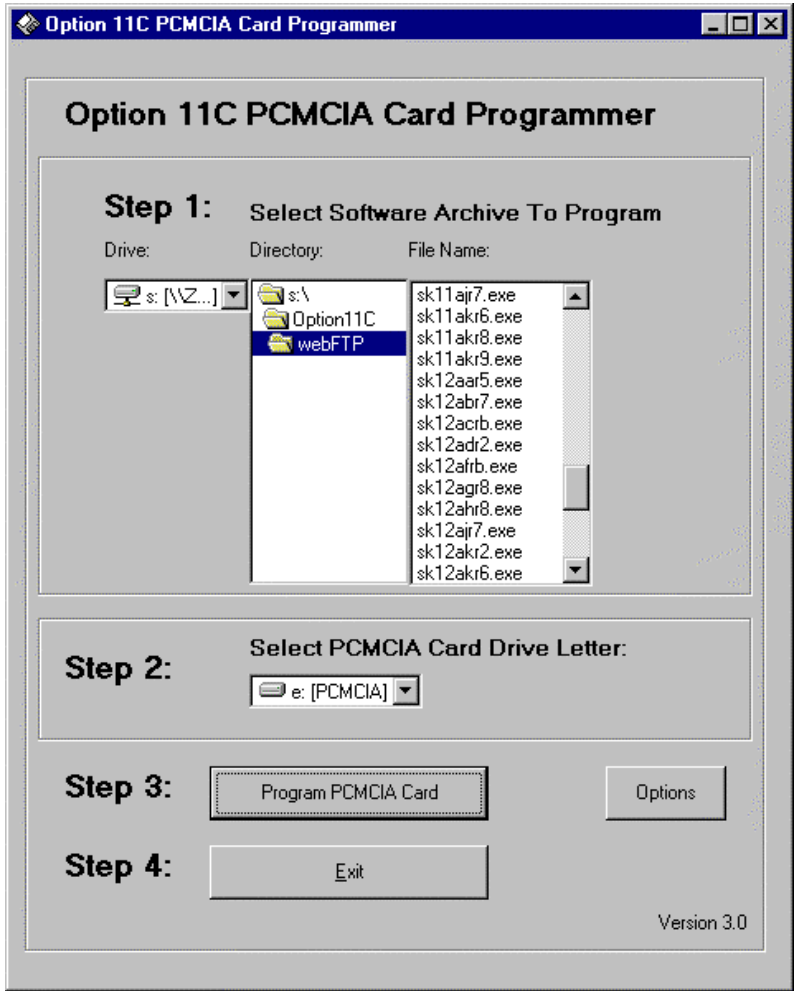
As the software itself suggests, programming a PCMCIA card is accomplished in four easy steps (see the screen cap on the next page):

Step1: Select Software Archive to Program. This is a simple matter of navigating your way to where you keep your self-extracting Option 11C software archives. Make sure to click on the particular archive you want to program under the "File Name" window.

Step 2: Select the drive letter for your PCMCIA drive.

Step 3: Click on the "Program PCMCIA Card" button. Any files or software found on that card will be erased. Note that Step 3 spawns DOS-like windows that show the progress of PCMCIA card programming.

Step 4: Click on the Exit program. This is optional: you can program other PCMCIA Cards.



A note on the "Options" button: At this point, the only way to check whether or not a particular drive letter is a PCMCIA card is by checking on the capacity of that device. At this point in time, there is no need the change the settings under "Options".

Possible Issue: you must insert the PCMCIA card into your computer before you start the program. Otherwise, the drive letter for your card will not show up in the pull-down selector for choosing your PCMCIA card.

Procedure for Windows 3.1 and DOS

1) download the self-extracting archive onto your hard drive as per normal. In this example, the software was downloaded into a folder (directory) called "c:\Soft11C".

2) if you are using Windows 3.1, you will have to open a DOS session. This is accomplished by opening the Main Group and double-clicking of the "MS-DOS Prompt" Icon.

3) ensure that your PCMCIA card is empty. You can do this by getting a directory listing of your PCMCIA Card. In this example, the PCMCIA Card is the D: drive. At a DOS prompt, type

Dir d:takes a directory reading of the contents of the PCMCIA card.

If DOS comes back with "file not found", the PCMCIA card is empty. Otherwise, you will have to empty the PCMCIA card:

Deltree d:\deletes the complete contents of the PCMCIA card. (Where the PCMCIA card is drive letter D:)

CAUTION

WARNING: USE EXTREME CAUTION WITH THE DELTREE COMMAND. If you specify a hard drive instead of a PCMCIA card as a deltree parameter, he complete contents of that hard drive will be erased!!

4) using DOS, navigate your way to the directory where you keep the Option 11C's self-extracting archives. In the example where the self-extracting archives are kept in a directory called "c:\Soft11C", these are the DOS session commands to be entered:

cd \Soft11Cchange directory to software.

dir *.exelist all executable files.

The result of these two commands should look something like this:

```
Microsoft(R) Windows 95
   (C)Copyright Microsoft Corp 1981-1996.

C:\WINDOWS>cd\soft11c

C:\SOFT11C>dir *.exe/w

 Volume in drive C is LOUISR
 Volume Serial Number is D845-2F2F
 Directory of C:\SOFT11C

SK02AHR8.EXE    SK03AKR7.EXE    SK11AHR8.EXE    SK12AJR7.EXE
SK12AKR9.EXE
SK15AKR2.EXE
         6 file(s)     97,846,594 bytes
         0 dir(s)      70,189,056 bytes free

C:\SOFT11C>sk11ahr8 e:
```

Note that you can see the file sizes using the dir command. Once you see the list of executables (the ones with the ".exe" extensions), type the name of the self-extracting archive you want to install, followed by a space, and followed by the drive letter of the PCMCIA card:

> Sk03ajr3.exe d:puts the content of the self-extracting archive "sk03ajr3.exe" onto the d: drive (PCMCIA drive).

The self-extracting and file transferring process takes about 45 seconds on a Pentium 166. During the extraction process, you will see file names followed by dots representing their extraction status. There should be no error messages, and the system ought to return you to a DOS prompt. Your PCMCIA card is ready for use. If you're using Windows 3.1 type "exit" to close the DOS Window.

```
e:P/MOB/MXCF.TXT .
e:P/MOB/CTS
.....................................................
.............
.................................................
e:P/MOB/CTS.TXT .
e:P/MOB/RADIO2
.....................................................
..........
...............
e:P/MOB/RADIO3
.....................................................
..........
.....................................................
....
e:P/MOB/RADIO6
.....................................................
..........
..
e:P/MOB/RADIO.TXT .
e:P/MOB/ALARMS .
e:P/MOB/MOB.SYM
.....................................................
.........
.....................................................
.......................
.......................
e:P/MOB/PNS ..............................
e:P/MOB/PNS.TXT .
e:P/INSTMENU/SYMINIT.O ..
e:P/INSTMENU/MENU.O ..........
e:README.TXT .
e:U/DB/SMPCONF.DB .
e:U/PATCH/RETEN/DUMMY.TXT .
e:U/RPT/DUMMY.TXT .

C:\SOFT11C>
```

Downloading Software Onto Your PCMCIA Card

The method of downloading software onto your PCMCIA card is described above. When properly programmed, the Option 11C software on the PCMCIA card will have the following directory and file structure:

bootrom/

dflt_db/

p/

u/

dramos

dramos.sym

dramoscc.sym

readme.txt

Chapter 3 - Large System Advisements

The following advisements are for large systems only: 51C, 61C, 81, and 81C equipped with the Motorola 68040 (NT9D19), 68060 (NT5D10), or 68060E (NT5D03) commercial processors.

Please refer to section Installation/Upgrading Advisements (Please Read) on this page, if you are upgrading or installing your system.

Options 51C/61C/81/81C

All of the above systems require hard drives. These systems will not support sysload from diskettes, only from hard drives.

Additionally, Options 51C, 61C, 81 and 81C are only supported via CD ROM and require an IODU/C unit (NT5D61).

Memory and Mass Storage Requirements

Hard Disks with a minimum capacity of 121 Mbytes are required for all systems.

Refer to Call Processor Recommended Memory Requirements in this chapter for minimum memory requirements on Release 24.

Installation/Upgrading Advisements (Please Read)

Only the changes to installation or upgrading are documented in the following sections. For all other steps, follow the NTP guidelines for installation and upgrading.

Upgrading using IODU/C

Before Installation:

In Overlay 137, disable the CMDU on the active CPU before splitting the CPUs for the software upgrade.

Do Not disable the IODU/C from the face plate.

==========

The TEST CPU command in OVLERLAY 135 may sometimes print the following error:

RPT: fwrite to log failed, errno= <0Xnnnnnn>

This is a minor severity error and will cause no system degradation.

==========

Call Processor Recommended Memory Requirements

Call Processor Memory Requirements

With regard to call processor memory requirements, the following table defines the actions necessary to be supported in Release 24 for existing system type / call processor combinations:

Existing System Type	Existing Processor	Existing Memory Configuration	Action to be supported on Release 24
Option 51C	68040, 68060, 68060E	48 MB or greater	None - Configuration is Supported
Option 61C	68040, 68060, 68060E	48 MB	Upgrade memory to 64 MB or greater
Option 61C	68040, 68060, 68060E	64 MB or greater	None - Configuration is Supported
Option 81/81C	68040, 68060, 68060E	64 MB or less	Upgrade memory to 80 MB card
Option 81/81C	68040	96 MB	Upgrade memory to 112 or 128 MB card
Option 81/81C	68040, 68060, 68060E	80, 112, 128 MB	None - Configuration is Supported

The above listing is based on the minimum memory requirements for Release 24 as presented in the following section.

Release 24 Minimum Memory Requirements for 68040, 68060 or 68060E:

System Type	Flash Memory Requirement	DRAM Memory Requirement	Call Processor Memory Configurations meeting the memory requirement
Option 51C	32 MB	16 MB	48, 64, 80, 96, 112, 128 MB
Option 61C	32 MB	32 MB	64, 80, 96, 112, 128 MB
Option 81/81C	32 MB	48 MB	80, 112, 128 MB

Please note that the 96 MB configuration (available only on 68040 in North America) is not listed as being supported for Option 81/81C. This is because the 96 MB card consists of 64 MB of flash memory and 32 MB of DRAM memory. The DRAM memory available, 32 MB is less than the required 48 MB required to be supported on Option 81/81C in Release 24. Option 81/81C systems using 96 MB 68040 must perform a memory upgrade (or optionally, a card replacement).

Call Processor 68060E

A new 128 MB card is available on Release 24, for the 68060E.

Order Code	System Type Applicability	Total Memory	Flash Memory	DRAM Memory
NT5D03AA	51C	48 MB	32 MB	16 MB
NT5D03BA	51C, 61C	64 MB	32 MB	32 MB
NT5D03CA	51C, 61C, 81, 81C	80 MB	32 MB	48 MB
NT5D03EA	51C, 61C, 81, 81C	112 MB	64 MB	48 MB
NT5D03FA*	51C, 61C, 81, 81C	128 MB	64 MB	64 MB

* - NT5D03FA is available and supported in Release 24.

Conversion

Release 24 introduces direct conversion to Release 24 from Release 19 or 20 for Large System types RT, NT, XT, Option 51, 61, 71, 81, 51C, 61C, 81C. Direct software conversion from Rls 19 or 20 is not supported on Option 21E or STE system types. The Option 21E and STE continue to use previously defined upgrade processes. For all other supported system types in North America, direct software software conversion to Release 24 is supported from Release 19 and subsequent. For Pre-Release 19 systems, the system must first be upgraded to Release 19 or Release 20 (depending upon the system and previously defined upgrade path). Once on Release 19 or Release 20, direct software conversion is supported to Release 24. Refer to the Software Conversion NTP (553-2001-320) and Upgrade System Installation NTPs (553-3001-250 and 553-3001-258) for more information.

CAUTION

Please read the Software Conversion NTP thoroughly before performing any software conversions. All conversion procedures should be strictly followed step-by-step.

To avoid static discharge, wear a properly connected anti-static wrist strap when working on the Meridian 1 equipment.

Chapter 4 - Documentation

Documentation is available in both hard copy format as well as CD-ROM. Following are the ordering codes for Meridian 1 Documentation, both Option 11C/Option 11C Mini and Options 51C-81C.

All documentation listed in this Chapter may not be available in all markets. Please contact your regional sales representative for further information.

Documentation Structure

Documentation is packaged as:

- Base package
- Optional documents

Option 11C Release 24 Documentation

Release 24.24 Base Package Codes

NT Code	CPC Code	Region	Binding	Language
NT6R78AD	A0772159	North America	Coil	English
NT6R77AD	A0772158	North America	Binder	English
NT6R78BD	A0772160	North America	Coil	French

The NT6R78AD and NT6R78BD contain the following: Planning and Installation Guide, Fault Clearing Guide, Central Answering Position Guide, CCBR Guide, Upgrade Procedures Guide, and Admin & Main I/O Guides. The NT6R77AD contains the following: Installation and Planning Section, Post Installation Activities, Admin & Maint I/O Guides.

Release 24.24 Optional Documentation Codes - Coil Only

Title	English	French
Technical Reference Guide	P0891468	P0891488
1.5 Mb DTI/PRI Guide	P0891469	P0891489
2.0 Mb DTI/PRI Guide	P0891470	P0891490
BRI Guide	P0891472	P0891491
X11 Software Feature Guide (Release 24)	P0889191	
Distributor Technical Library (contains Tech Reference, System Mgmt, Apps and Security Guide, and Software Features Guide)	NTDK63BD A0771980	

French documentation will be market available as per standard 90 days following market release.

Option 11C English Coil Bound Documentation Set Contents

Planning & Installation Guide

Contains the following contents:

From the former General Information and Planning/Read me first booklet:

- Overview of the Option 11C
- Equipment Identification
- System and site requirements
- Regulatory and other information
- Important safety instructions
- Bracing cabinets against earthquakes

From the former Installation Guide, the process of installing a new Option 11C main cabinet system and expansion cabinets, if required. If you are upgrading an existing Option 11 or Option 11E system to an Option 11C, refer to the Upgrade Guide.

From the former Software Installation Program Guide, the information required to use a menu-driven method of selecting from the various options for installing, modifying, or upgrading the software, customer data, and ISM parameters.

Fault clearing guide

This guide contains information required to maintain, clear faults, and replace defective components in the Option 11 system.

Central Answering Position guide

This guide contains information on how to configure and use a regular business telephone as a Central Answering Position in lieu of an attendant console. It includes:

- A description of what the CAP is and a list of the required equipment.
- Procedures for configuring the CAP.
- Procedures for installing and removing key expansion modules.
- Procedures for logging onto the ACD queue.
- A description of the common CAP features, including step-by-step procedures on how to use these features.

Customer Configuration Backup and Restore guide

This document describes the Customer Configuration Backup and Restore feature. It contains information about Option 11 and computer equipment requirements and includes instructions on how to operate and use the feature from a remote location and on-site.

Upgrade Guide

This guide containsthe following:

From the former Upgrade Procedures Guide, the information required to upgrade an existing Option 11 or Option 11E system to Option 11C system. It also includes procedures for upgrading an existing Option 11C software to a new release.

X11 software guides

These books show the prompts and responses in each of the overlay programs and list maintenance and administration messages. The documents included are:

- X11 Administration Input/Output Guide
- X11 Maintenance Input/Output Guide
- X11 System Messages Input/Output Guide

Option 11C Mini Release 24 Documentation (Global)

Release 24.24 Base Package Codes

NT Code	CPC Code	Region	Binding	Language
NTKG80CC	A0781147	North America	Coil	English
NTKG81CC	A0781149	North America	Coil	French

The NTKG80CC contains the Option 11C Mini Planning and Installation guide, X11 Admin & Maint I/O Guide, Option 11C Mini Upgrade Procedures, CCBR guide, Central Answering Position Guide, and the Option 11C Mini Fault Clearing Guide. The NTKG81CC contains the Option 11C Mini Planning and Installation guide, X11 Admin I/O Guide, X11 Maintenance I/O Guide, X11 System Messages Guide, Option 11C Mini Upgrade Procedures, CCBR guide, Central Answering Position Guide, and the Option 11C Mini Fault Clearing Guide.

Release 24.24 Optional Documentation Codes - Coil Only

Title	English	French
Technical Reference Guide	P0906327	P0906328
1.5 Mb DTI/PRI Guide	P0891469	P0891489
2.0 Mb DTI/PRI Guide	P0891470	P0891490
BRI Guide	P0891472	P0891491
X11 Software Feature Guide (Release 24)	P0889191	

French documentation will be market available as per standard 90 days following market release.

Release 24.24/24.25 CD-ROMs

Region	System Type	NT Code	CPC Code
Global	Option 11C Mini	NTTK32AA	A0783244
Global	Option 11C	NTDK76AD	A0771979
North American	Large Systems	NT5F3401	A0761330
International	Large Systems	NT5F3402	A0785254

Please note that on the Small Systems CD-ROM, both North American and International documentation are included. Most documents are global in nature. Any regionally unique document will have a colour bar on each page identifying the region that the document is intended for.

Option 51C to 81C Release 24.25 Documentation

Meridian 1 Reference Library (North America)

The order code for the North American Meridian Reference Library for Options51Cto81CisNT5F34AA(A0761329).Thislibraryincludesthefollowing:

P0889187	Library Navigator
P0889188	System planning and engineering guide
P0889189	System installation and maintenance guide
P0889190	System and software upgrade guide
P0890732	Remote service products guide
P0889191	X11 software features guide
P0889192	X11 system management overview, applications, security and Emergency Services Access
P0889193	X11 input/output guide
P0889194	X11 data features
P0889195	X11 hospitality features
P0889196	Networking features
P0889197	ISDN Basic Rate Interface
P0889198	Automatic Call Distribution reference guide
P0889199	NT5D61 IODU/C Reference Guide

X11 Release 24.25 Condensed (Spiral) NTPs (North America)

The order code for the North American Spiral Bound NTPs for Options 51C to 81C is NT6R38CB (A0790275). This library includes the following:

P0889200	System installation and maintenance
P0889201	Switch settings, card and product compatibility
P0889202	Software conversion procedures
P0889203	X11 Feature Document
P0889204	X11 maintenance programs
P0889235	X11 administration programs
P0889236	X11 system messages
P0889431	X11 system management overview, applications, security and Emergency Services Access

X11 Release 24.25 Standalone NTPs (North American)

P0800553	Power monitor / CE auxiliary shelves
P0800554	NT6D82 Power System
P0813970	XN, XT Network Module expansion
P0888788	CP Card field memory upgrade procedure
P0815404	Line side T1 Interface Description, installation, and maintenance
P0819765	Network Hybrid Installation procedure

X11 Release 24.25 Binder NTPs (International)

NTRA95AA	A0763431	Upgrade System Install
NTRA75AA	A0762322	ACD Reference Guide
NTRA76AA	A0762323	DPNSS1 NTP
NTRA77AA	A0762324	Hospitality Services
NTRA78AA	A0762326	Install and Maintenance
NTRA79AA	A0762327	ISDN BRI
NTRA80AA	A0762328	Data Services
NTRA94AA	A0762368	Networking
NTRA81AA	A0762329	Planning and Engineering
NTRA82AA	A0762330	Remote Services
NTRA83AA	A0762331	Software Features
NTRA84AA	A0762332	Software I/O Guide
NTRA85AA	A0762333	Software System Management Guide
NTRA86AA	A0762334	Upgrade and Conversion
	P0889758	System Maintenance Guide
	P0889759	Feature Doc
	P0889760	DASS2 and DPNSS1
	P0889761	Data Service
	P0889762	Planning and Engineering

X11 Release 24.25 Speciality NTP Packages (International)

NTRA92AA	A0762340	Release 24 Basic NTP Package
NTRA93AA	A0762341	Release 24 Upgrade NTP Package

X11 Release 24.25 Coil NTPs (International)

P0889434	I/O Admin Guide
P0889435	I/O Maintenance Guide
P0889436	System Messages
P0889437	System Install
P0889438	Network Feature Doc
P0889439	System Security
P0889440	Software Conversion
P0889441	Call Detail Recording

X11 Release 24.25 Content Sheets (International)

P0889443	Automatic Call Distribution
P0889444	DPNSS1
P0889445	Hospitality
P0889446	Installation and Maintenance
P0889447	ISDN Basic Rate Interface
P0889448	Meridian Data Services
P0889449	Networking
P0889450	Planning and Engineering
P0889451	Remote Services Products Guide
P0889452	Software Feature Guide
P0889453	Software I/O Guide
P0889454	Software System Management
P0889455	Upgrade and Conversion Procedure
P0889456	Upgrade System Installation

Release 24 Data Input Forms

Data Input Forms are available by ordering P0907026.

Feature Documentation/NTPs

NTPs pertinent to the new Release 24 features are identified in the 553-3001-011 (International) and 553-3001-012 (North American) NTPs.

Chapter 5 - Features Overview

The following features are introduced in Release 24. Features introduced after the Asia Pacific Release 24.09 are indicated by the "(new on Release 24.24/24.25)" statement following the feature title . All features are available on Release 24.24/24.25, but some features may not be available in all markets. Regional Sales representatives will be able to identify any features that are not available in a specific region.

System Features

System Features are those features that do not require user station operation.

Basic Inventory Reporting Phase I (new on X11 24.24/24.25)

The Inventory Reporting feature takes advantage of the intelligence built into the Meridian 1 PBX to provide an automated tool for customers and support personnel to produce an inventory report. This report will list the cards and telsets installed in the switch for business and support purposes. The Inventory Reporting feature will run on the Meridian 1 PBX using the evolved Graphical User Interface (GUI) for System Management or using a TTY device providing a Command Line Interface (CLI) to the switch.

Phase 1 supports only the cards and telsets equipped with a Hardware ID stored in EEPROM. Currently this includes some IPE and all common equipment cards, and the following telsets

M2006

M2008

M2016

M2616

M2216

M3901

M3902

M3903

M3904

M3905

MCU

Package Requirements

This feature is part of the X11 base package and will be a product offering bundled with MAT6.5.

Bearer Capability in CDR

The Bearer Capability (BCAP) is an information element provided by ISDN calls which indicates what bearer is used for the call. The code gives information about the characteristics of the trunk involved in the call (rate, voice or data dedicated, packet or circuit mode transfer, etc.). The following table shows the bearer capability code printed in the CDR and its meaning.

Code	Meaning
01	Circuit mode speech
02	Circuit mode 3.1 kHz audio
03	Circuit mode unrestricted 64 kbit/s digital information transfer
04	Circuit mode unrestricted 64 kbit/s digital information transfer rate adapted from 56 kbit/s
05	Packet mode unrestricted digital information transfer
06	Circuit mode 7 kHz audio
07	Circuit mode restricted 64 kbit/s digital information transfer
08	Circuit mode video
99	Unknown

The Bearer information is required in CDR records, in order to allow the operator to apply different rates according to the type of call. For DTI trunks, there is information set during the call processing about the type of call indicating if it is voice or data. When the bearer capability information is not present, two blanks are output.

Package Requirements

The Bearer Capability in CDR depends on packages CDR (4), CDRTTY (5) and CDR_NEW (234). This feature is also dependent on DTI (packages 75, 145 and 146) or PRI (packages 75, 145, 147).

Call Capacity Report Enhancement

The Call Capacity Report Enhancement (CCRE) feature is designed to improve the accuracy and stability of the existing TFS004 report. This feature expands the data analysis period from 1 day (24 hours) to 1 week (7 days x 24 hours).

Package Requirements

This feature is part of the X11 base package.

End to End Signaling Display Enhancements (new on X11 24.24/24.25)

The EES Display Enhancement (EESDSP) feature is an enhancement of the existing EES features. It introduces a customer based option to show or block the display of EES digits dialed after a call is established. These EES digits can convey sensitive information (e.g., account numbers, authorization codes, passwords, etc.). Showing this information can be a security issue for some customers. The new EES Display option will give the customer the choice to show or block all of the EES digits from appearing on a sets display screen when entered.

This new EES Display Enhancement option is similar to the existing customer based EES digit inclusion option for CDR records (prompt ECDR) which was introduced in Release 19 as a portion of the Improved EES development. When enabled, all the EES digits are captured in the CDR record for external calls.

With the End-to-End Signaling Display Enhancement option enabled, the user's display shows all the EES digits as dialed as per existing operation of EES. When entered after a call is answered, EES digits are displayed following the Call Party Name Display (CPND) name of the connected party. Leading digits and name characters may be shifted out of the display window.

With the End-to-End Signaling Display Enhancement option disabled, the users display remains unchanged, keeping the established call information.

For Attendant End-to-End Signaling (AEES), the EES digits are the digits dialed after the attendant console is placed in EES mode after pressing the AEES key. The attendant console can only send the EES DTMF tones to either the source or destination party. When the End-to-End Signaling Display Enhancement option is enabled, the attendant console display shows the EES digits entered while in the EES mode as per existing operation. If disabled, the attendant console display remains unchanged.

The EES Display Enhancement feature does not affect the giving of tones for EES digits nor the processing or the sending of the EES digits. The EES Display option only gives the customer the option to show or block all the EES digits on the display of a digital set.

Package Requirements

The End-to-End Signalling Display Enhancement feature requires the existing EES features and package (EES option #10).

Global Incremental Software Management (new on X11 24.24/24.25)

The Incremental Software Management (ISM) feature provides flexibility and control over system configuration and implementation. With ISM, software ordering and pricing is based on the total count of Terminal Numbers (TNs), Automatic Call Distribution (ACD) positions (agents and supervisors), ACD Directory Numbers (ACD-DNs and Control DNs), Associate Telephone (AST) DNs, Digital Subscriber Loops (DSLs), Logical Terminal Identifiers (LTIDs), D-channels (DCHs), Application Module Links (AMLs), Recorded Announcement (RAN) Broadcast routes, and RAN and Music Broadcast connections that are to be purchased for a system. For specific system requirements and limits, refer to your regional Pricing Manual.

With X11 Release 24, two ISM counters are added and changes are made to the counting criteria for three existing ISM counters. The new ISM counters are “DIGITAL TELEPHONES” and “ANALOGUE TELEPHONES”. The changed ISM counters are ACD AGENTS, AST, and MOBTNS (Mobility TNs). The Mobility TNs counter name has been changed to “WIRELESS TELEPHONES”.

New ISM counters for X11 Release 24

- The "DIGITAL TELEPHONE" ISM counter will count every Digital Telephone configured in Overlay 11, except wireless sets. This includes AST sets, ACD agents, and AST sets configured as ACD agents.

- The "ANALOGUE TELEPHONES" ISM counter will count every Analog Telephone configured in Overlay 10, except wireless sets and phantom sets. This includes AST sets, ACD agents, and AST sets configured as ACD agents.

Modified ISM Counters

- The "ACD AGENT" counter is modified to exclude Meridian Mail and Call Pilot. All ACD Agents configured in Overlay 10 and 11 count as ACD Agents and Analog Telephones or Digital Telephones counters. The port configured in Overlay 11 for Meridian Integrated Products such as MICB is an ACD Agent. It will count against ACD Agents and Digital Telephones counter.

- The AST counter is modified to count against Digital Telephones and AST.

- The "WIRELESS TELEPHONES" counter (formerly named Mobility TNs) is modified to include CT2 and (M)DECT sets configured in Overlay 10 as well as the existing Microcellular sets.

Package Requirements

This feature is part of the X11 base package.

Instant Incremental Software Management

The Instant Incremental Software Management (IISM) feature will allow the user to update the ISM limits by simply delivering the new keycode to the switch and executing a simple command - no SYSLOAD will be required. Previous to IISM, in order to increase ISM limits, the user would have to initiate a Sysload, which caused a service interruption.

In order to use this feature, the following conditions must be met:

- Software release and issue remain unchanged.
- All feature packaging remains the same.
- The MOPT ISM value remains the same.

- ISM parameters are not decreased.
- For option 11C, the AUX-ID must remain unchanged.
- For large systems, the system generic must remain unchanged.

This feature is applicable to Option 11C - 81C systems (including dual-CPU systems). However, Options 51C-81C must be equipped with IODU/C to support this feature.

Package Requirements

This feature is part of the X11 base package.

MAT Data Buffering and Access

The MAT Data Buffering and Access (DBA) feature provides an integrated solution for CDR and FRF data access and collection all within a Meridian PBX cabinet. DBA is a MAT 6.5 application that eliminates the need for a buffer box to capture system data. DBA collects CDR and Traffic data directly from a Meridian PBX over IP and utilizes existing storage space on the PBX to backup system data.

DBA provides access to and from a remote device for disaster recovery.

DBA requires the use of:

- MAT PC with Ethernet card,
- M1 with Ethernet Interface, or
- Private, isolated Ethernet connection
- Modem(s) for remote access (for Option 11C data retrieval and Disaster Recovery)

Package Requirements

DBA requires the new DBA (351) and the existing MAT (296) packages.

Meridian Companion Enhanced Capacity

This Meridian Companion Enhanced Capacity (MC32) feature is introduced to increase the capacity of an MCMO or MDECT cordless system by allowing an increased number of sets to be provisioned on the relevant line card.

Due to power consumption limitations, the standard analog linecard (XALC, XFALC, XMLC etc.) is limited to QUAD density; in other words a maximum of 16 sets can be provisioned on any linecard. Because of the different hardware architecture for cordless analog linecards, this power limitation is no longer relevant.

The Meridian Companion Enhanced Capacity will allow up to 32 cordless sets to be provisioned on a single linecard, effectively doubling the capacity to OCTAL density.

Mobile specific changes are transparent to existing analog linecards; in other words, they should still be limited to only 16 units per linecard.

In addition to the user capacity enhancements, Companion DR4 software also delivers increased capacity on the number of Base Stations from 128 to 240 and cells from 96 to 200 supported per Companion Controller.

All of the existing Meridian Companion hardware, Controller/Line cars, Base Stations and Portable telephones, continue to be compatible with the Enhanced Capacity Companion system. The Meridian Companion Enhanced Capacity is available for PCI systems in the United States and CT2 systems in Canada.

Package Requirements

The Meridian Companion Enhanced Capacity feature introduces the new MC32 (350) package and is dependent on the MCMO (240) package.

N Digit DNIS

In telemarketing environments, Dialed Number Identification Services (DNIS) can reduce the time needed to serve a call. The DNIS number represents product lines or services. The DNIS number can be used to route the call to the appropriate Automatic Call Distribution (ACD) Directory Number (DN) and then can be used on the agent's display or screen to show what service or product the caller wants. The ACD agent can then answer incoming calls with the correct responses.

N Digit DNIS (NDDNIS) is used to modify the number of digits currently supported, from 1-7 digits, to up to 31 digits. This change in information is preserved across call modification and the digits are sent across the Applications Module Link (AML).

With Release 24, if the digits exceed the number of digits supported on the set display then only the number of digits supported will be displayed. The user can choose either the first or last of the digits to be displayed with the WDGT prompt (WDGT=F/L). For example an M2216 set supports 12 digits. If the DNIS Digits is 20 digits and WDGT = L, then the last 12 of the 20 digits is displayed on the set.

MAX 9 will support up to 9 DNIS digits. If the DNIS digit exceeds 9 digits then the first or last 9 digits (as configured with the WDGT =F/L prompt) will be sent across the HSL for MAX reporting.

CCR 3C and Meridian Link 5C (both available with Co-Residency 6.4 in Q1 99) will support the entire 31 digit DNIS. Prior releases of CCR and Meridian Link only support 7 digits.

Symposium 3.0, which is planned for availability by the end of 1999, is required to support the entire 31-digit DNIS. Previous releases of Symposium only support a 7-digit DNIS.

Package Requirements

N Digit DNIS is packaged as part of the DNIS package (98).

Option 11C Line Size Expansion (new on X11 24.24)

This feature is applicable to Option 11C systems only.

The fiber Expansion phase of the Line Size Expansion project supports two additional Expansion cabinets through new dual port fiber expansion daughterboards, thereby increasing the line capacity of the Option 11C system to 700 lines (from 400 lines). One dual port daughterboard can replace two existing single port fiber daughterboards. Thus two installed dual port fiber daughterboards can support up to four expansion cabinets. There are two versions of the dual port fiber daughterboard: a short haul (up to 10m), and a long haul (up to 3 km).

In general, call processing feature operation remains unchanged from the existing Option 11C other than changes required to be compatible with the new daughterboards. The new dual port fiber daughterboard supports 2 conference devices, therefore increasing the maximum number of conference devices to 6 for a 5 cabinet Option 11C system (from 4 for a 3 cabinet Option 11C system). OA&M is modified to accept IPE card TNs in slots 31 to 50.

The dual port and single port daughterboards can coexist on the same SSC card.

If additional tone transmission resources are required, the NTAK03DA can be installed in the main cabinet.

For installation or upgrade instructions, please refer to the Option 11C suite of NTPs.

Hardware Requirements

Cabinet:

The Option 11C has a new cabinet NTAK11BD that has the same dimensions and capabilities as the existing one. It can be used as the main or expansion cabinets. The new cabinet has a new card stiffener rail, a new thicker door, multiple cable routing guide and top grill. The changes of the cabinet have been implemented to accommodate the expanded number of fiber cables and future faceplate card cabling. Existing Option 11C installations that require expansion to four or five cabinets require the main cabinet to be upgraded to the new version.

Small System Controller:

The newly updated Small System Controller NTDK20DA is equipped with a new faceplate, LED cable assembly and 16Meg DRAM. The SSC is based on the existing card and is updated to support the dual fiber interface cards. Existing SSC cards which support the single fiber interface cards can easily be field modified by ordering a kit or they can be done at the factory by recycling spare SSC cards.

Software Daughterboard:

The NTDK81AA software daughterboard is required to support Release 24 on the Option 11C. Bootcode NTDK34FA Release 03 or later is also required.

Please see Chapter 2 for further details on the software daughterboard and bootcode requirements.

Dual fiber Daughterboards:

The new dual fiber daughterboards allow expansion of the Option 11Csystem to five cabinets. The dual fiber interface cards provide the same interface types and functionality as today's single port fiber, but will contain two ports per daughterboard instead of one. This board will connect to todays existing single port fiber receiver pack that resides in the expansion cabinet. One daughter board will support two receiver packs. The dual port and single port daughterboards can co-exist on the same SSC card.

There are two versions of the dual port fiber daughterboard: a 30 feet/10 meter short haul NTDK84AA and a 2 mile/3 km , multimode long haul NTDK85AA.

The new dual port fiber daughterboards support 2 conference devices, thereby increasing the maximum number of conference devices to 6 for a 5 cabinet Option 11C installation. The existing three cabinet Option 11C supports 4 conference devices. The SSC contains conference loops 29 and 30. The top dual fiber daughterboard contains conference loops 31 and 94. The bottom dual fiber daughterboard contains conference loops 62 and 95.

Package Requirements

Line Size Expansion via fiber is included in the base package.

Further Information

Further information on upgrading to a fourth or fifth cabinet can be found in the Option 11C Suite of Release 24 NTPs.

Option 11C TMDI (new on X11 24.24)

This feature is applicable to Option 11C and Option 11C Mini systems only.

This feature is associated with the introduction of a new trunk card. This card is the T-1 Multipurpose Digital Interface card, or TMDI (NTRB21) which will replace the NTAK09 1.5M DTI/PRI. The TMDI also has a built in downloadable D-channel. The configuration of this D-channel will be restricted by the use of a new Option 11C specific ISM parameter; the “TMDI D-CHANNELS” parameter. The NTAK93 DCHI daughterboard and NTBK51 downloadable D-Channel daughterboard are not required with the new NTRB21 card. Other changes include the introduction of a new prompt to replace a function that was handled by a dip-switch on the old PRI card.

This feature does not affect the current NTAK09 functionality, configuration or maintenance in any way. The NTAK09 and NTRB21 cards can co-exist on the same PBX running Release 24.24 or later.

Hardware Requirements

This feature introduces the new T-1 Multipurpose Digital Interface card, or TMDI (NTRB21).

Package Requirements

There are no new packages associated with this feature. Existing packages 75 and 222 are required.

Station Features

Station Features are those features that require the user to perform certain steps from their station in order for the feature to function.

Activity Codes for Not Ready State

Before the introduction of the Activity Codes for Not Ready feature, an agent was able to use the Activity Code key (ACNT) during ACD calls only, to indicate which call-associated tasks the agent was carrying out whilst servicing the ACD call. There was no means of tracking the activities being carried out (post-call) when the agent was in the Not Ready state.

With the introduction of Activity Codes for Not Ready State, the agent is able to use the existing ACNT key to enter a four digit code to track (customer defined) activities to a MAX system. When the agent activates the Not Ready key, the ACNT key will wink, with display indication, to enter an activity code for the work presently being carried out. When the agent has finished entering the four digit code, the ACNT key is pressed again and an Activity Code message is sent via the High Speed Link to the MAX system. The agent can also change the ACNT code subsequent to the first activity while still in the Not Ready state, to indicate further activities, until the Not Ready key is deactivated and normal call answering resumes.

This feature will support the 32 digit entry, which is possible with the Symposium product, as does the existing Activity Code feature. It will also support new AML messaging for Symposium Meridian Link and Symposium TAPI server software.

Package Requirements

When using MAX, Activity Codes for Not Ready requires packages ACD-D (50), High Speed Link to MAX (51), Security package for HSL to MAX (114), and Activity Code (155).

When using Symposium, Activity Codes for Not Ready requires packages 155 and 311. Symposium 3.0 or later is required for Activity Codes for Not Ready. Symposium 3.0 is planned for availability by the end of 1999.

Automatic Hold

The Automatic Hold (AHLD) feature allows an active call to be put on hold without having to use a separate Hold Key. Therefore, a call can be placed on hold by pressing a DN type key on which the call is active or any other DN type keys on the set. This Release 24 capability reduces the incident of dropped calls that may occur when an attempt is made to answer an incoming call that is ringing on one DN, while the user is established on a call on another DN. With Automatic Hold configured, the user must press the release key to disconnect established calls.

This feature is applicable to all multi-line Meridian 1 digital sets, which are configured for Automatic Hold via a new class of service in Overlay 11.

The Automatic Hold feature does not apply to 500/2500 type sets. The feature already exists on attendant consoles for all markets in prior releases; therefore, no functionality changes are made to the attendant consoles.

Package Requirements

This feature is part of the X11 base package.

Boss Secretary Filtering Enhancement

The Boss Secretary Filtering Enhancement (BSFE) allows filtering of calls to a set designated as a "Boss Set", by a set designated as a "Secretary Set". The BSFE feature provides the following enhancements:

- In this new feature, the BFS key will have an additional functionality of a transfer key in addition to an auto dial key. There is no need to use the transfer key to transfer the call to the boss. If desired, it is still possible to transfer the call using the transfer key.

- BSFE feature can be activated or deactivated on the boss's set, using BFS keys on Boss/ Secretary sets.
- Boss and any of the secretaries which come under this Boss-Secretary configuration can modify the filtering from their respective sets by pressing the BFS key of the boss on their sets. By this, the calls to the boss's set are now forwarded to the new secretary who has pressed the BFS key on his set.
- If BSFE feature is active on boss's set, the boss's set display will be updated with the calling party's number/name when there is an incoming call to it. The BFS key lamp indicator on boss's set will operate in non-ringing mode. The boss can accept the call by pressing the BFS key.
- Pressing of DSP key and then the BFS key of the boss on any set which come under this configuration will provide the information to which target secretary DN the boss's set has BSFE call forwarded in the format "Forward To DN xyzu" and blank screen if BSFE feature is not active on the boss's set.
- Configuration of the lamp indication for boss states, on the LCD indicator is possible in customer data block.

Package Requirements

This feature is part of the X11 base package.

Call Redirection by Day

The Release 24 feature Call Redirection by Day (CRDAY) enhances the Release 22 Call Redirection by Time of Day (CRTOD) feature in two aspects.

The first part of the feature is to redirect calls coming to a set, to the alternate call redirection DNs depending on the day of the week. Any day of the week can be defined as an alternate day for alternate call redirection. The alternate days applicable to a set depend on the new alternate day option chosen by the set. CRTOD did allow for alternate call redirection to a specified DN depending on the time of day only.

The second part of the feature redirects calls coming to a set, to the alternate call redirection DNs during a predefined list of holidays. At the customer level, there are four lists of holidays configured from the pool of 20 holidays.

CRDAY is not supported on ISDN BRI sets.

Package Requirements

This feature is part of the X11 base package.

Calling Number Display Restriction (new on X11 24.24/24.25)

With the Calling Number Display Restriction (CNDR) for Argentina feature, Calling Line Identification (CLID) information can be denied or allowed for calls over R2MFC trunks.

The CNDR feature provides the following functionalities:

- restricts/allows the display of CLID information for calls over R2MFC trunks
- overrides the display restriction for emergency incoming calls
- outpulses the asterisk (*) and octothorpe (#) to the Argentinian Central Office (CO) over R2MFC trunks

Package Requirements

The Calling Number Display Restriction (CNDR) for Argentina feature requires the following packages:

- Multifrequency Compelled Signaling (MFC) package 128
- Flexible Feature Codes (FFC) package 139
- Calling Party Privacy (CPP) package 301.

Calling Party Privacy Override

The Calling Party Privacy Override (CPPO) feature allows Meridian 1 to support the "Calling Party Number and Name per call unblocking" required by FCC for all calls. Users are able to dial a CPPO FFC code (e.g. *82 for DTMF or 1182 for DIP) defined for the CPPO feature, to ensure that their telephone number and name are displayed on a receiving telephone across the Public/Private Network if the originating set has a class of service of CLBA (Calling Line Blocked Allowed - Release 21 Calling Party Privacy feature).

Package Requirements

Calling Party Privacy Override depends on the Calling Party Privacy (301) package.

Display of Access Code ID

The purpose of the new feature 'Display of Access Prefix on CLID' is to enhance the content of the set display. The Access Prefix is added to the normal CLID/CONN# display. The Prefix is obtained from a table maintaining values for all the allowed NPI and TON combinations.

The feature is supported for Meridian Digital sets, mobile sets and ATT console. The feature is not supported on analog 500/2500 or CLASS sets, but the feature is supported on mobile sets (Companion, MDECT) which are identified as part of 500 series sets. If the CLID is not available, then the trunk access code and the member number are displayed as per the existing operation.

The new feature is enabled from the route data block at the modified prompt DAPC. The feature can also be enabled from the set or ATT data block for a set or an ATT display respectively. A prefix table is associated with the Route Data Block when the feature is enabled. This table has Access Prefix values for the various allowed NPI and TON combinations. Based on the values of NPI and TON of the incoming trunk call, Access Prefix to be displayed is retrieved from the associated table and prefixed for both the CLID and CONN# dis-play. The Access Prefix display is supported for all ISDN routes.

Package Requirements

The Display of Access Prefix on CLID does not introduce any new packages, but the ISDN (145) package must be active for the feature to work.

Distinctive Ringing by DN

The Executive Distinctive Ringing (EDRG) feature allows a set that is configured as an 'executive' set to ring the called sets distinctively. The distinctive ringing given to the called set is determined by the set originating the call (call source). The existing feature provides this functionality on a TN basis and not on a DN-key basis. Hence, the calls originating from any DN-key on a multi-line set provides the same distinctive ringing cadences to the called set.

The Distinctive Ringing by DN (DRDN) feature enhances the EDRG feature with two new functionalities.

Distinctive Ringing by call source, per DN-key. The distinctive ringing given to the called set is determined by the call source (calling set). This functionality is same as that of EDRG, except that now it is DN-key based instead of set based.

Distinctive Ringing by call destination, per DN-key. The distinctive ringing given to the called set is determined by the call destination (called set) and is also DN-key based.

With the enhancements, a DN-key can be configured to give a distinctive ring to the terminating set, when it originates the call (call source), and get a distinctive ringing (call destination), when it receives a call.

A new class of service DRDA/(DRDD) is added for Meridian Modular Telephone (MMT) sets. The set is marked 'executive' when CLS is DRDA. New prompts are introduced at the DN-key level to define the distinctive ringing cadences for both, call source and call destination. The responses to these prompts will determine the distinctive ringing.

The enhancements are applicable to MMT sets only. The existing functionality of EDRG feature for non-MMT sets remains unchanged.

Package Requirements

DRDN relies on the Flexible Tones and Cadences (125) and Executive Distinctive Ringing (185) packages. Additionally, the ISDN Supplementary Features (161) is required across MCDN networks.

Flexible DID (new on X11 24.24/24.25)

The Flexible DID (FDID) feature is applicable to the hospitality market and allows for the temporary assignment of a DID DN to a guest-room set with CCSA class of service by the hotel/motel staff via the Property Management System (PMS) or the Background Terminal Facility (BGD). When the DID DN is cancelled, the DID is returned to an unused pool to be managed by the Property Management System (PMS). If a Background Terminal is used, the DID DNs must be managed manually.

A call to an unassigned DID DN is routed to the Attendant.

> ***Note:*** **PMS software modifications are required to implement FDID**.

Package Requirements

The FDID feature introduces a new Flexible DID (362) package and is dependant on the following packages: New Flexible Code Restrictions (49), Controlled Class Of Service (81), Background Terminal (99), Room Status (100), and Incoming DID Digit Conversion (113). The Property Management System Interface (103) package is required if using PMS.

M3900 Series Meridian Digital Telephone (new on X11 24.24/24.25)

M3900 Series Meridian Digital Telephones provide integrated voice and data communication. The M3900 Series telephones communicate with the Meridian 1 through digital transmission over standard twisted-pair wiring.

The M3900 Meridian Digital telephone interfaces with the eXtended Digital Line Card (XDLC) in the Intelligent Peripheral Equipment (IPE) shelf of the system. The XDLC supports 16 voice and 16 data ports. The system software assigns a Terminal Number (TN) to each port in the system.

The five models of the M3900 series telephones have their own unique characteristics.

The M3900 Series Meridian Digital Telephones support features through a variety of feature keys:

- Prelabeled feature keys
- Soft-labeled Programmable line/feature keys
- Soft Programmable feature keys
- Programmable feature keys

M3901 features

The M3901 Entry is a single line digital model designed as a "place" set for use in lobby/reception areas, cafeteria, hallways, etc. The main features of the M3901 are:

- one line (Directory Number) capability
- five programmable features
- Prelabeled feature keys:

- •DN line
- •Feature
- •Hold
- •Goodbye
- •Volume Control Bar
- •twelve dial pad keys

- Message Waiting and Call Status LED
- Feature Activation LED headset capabilities (no headset port)

M3902 features

The M3902 Basic brings the display and handsfree capability to a single line set level, supporting applications for light telephone use in manufacturing and warehouse environments. The main features of the M3902 are:

- one line (DN) capability
- three soft programmable feature keys
- Prelabeled feature keys:
  - •Goodbye
  - •Headset (with LED indicator)
  - •Hold
  - •Options
  - •Smart Mute
  - •Message (with LED indicator)
  - •Copy
  - •Transfer (with LED indicator)
  - •Quit
  - •four Navigation
  - •Volume Control Bar
  - •twelve dial pad

- •Handsfree Button (with LED indicator)

- two lines by twenty-four character display area
- handsfree calling option
- Group Listening feature available
- on-Hook dialing
- headset capability (no headset port)
- one accessory port

M3903 features

The M3903 Enhanced is the mid-range model designed for use by other professionals and technical specialists with enhancements in several areas. The main features of the M3903 are:

- two Soft-labeled line/feature keys (two layers each, giving the user access to four lines/features)
- four Soft Programmable feature keys (three layers each, giving the user access to twelve features)
- Prelabeled feature keys:
  - •Goodbye
  - •Headset (with LED indicator)
  - •Hold
  - •Options
  - •Smart Mute
  - •Message (with LED indicator)
  - •Copy
  - •Directory/Log
  - •Quit
  - •Shift (page 1, page 2)
  - •four Navigation
  - •Transfer (with LED indicator)

- •Volume Control Bar
- •twelve dial pad
- •Handsfree button key (with LED indicator)

- three line by twenty-four character display area Call Log
- Group Listening feature available
- on-Hook dialing
- two accessory ports
- Headset port
- handsfree calling option

M3904 features

The M3904 Professional set provides executives, managers and administrative assistants with a variety of enhancements. The main features of the M3904 are:

- six Soft-labeled lines/features (two layers each, giving the user access to twelve lines/features)
- four Soft Programmable feature keys (three layers each, giving the user access to twelve features)
- Prelabeled feature keys:
  - •Goodbye
  - •Shift (page 1, page 2)
  - •Hold
  - •Smart Mute (with Led indicator)
  - •Smart Mute
  - •Volume Control Bar
  - •Handsfree (with LED indicator)
  - •Quit
  - •Headset (with LED indicator)
  - •Copy

  - •Options
  - •twelve dial pad
  - •Message (with LED indicator)
  - •four Navigation
  - •Directory/Log
- four line by Twenty-four character display
- Personal Directory
- Call Log
- Group Listen capabilities
- on-Hook Dialing
- two Accessory Ports
- speaker Indicator
- Headset option (Headset port)
- handsfree calling option

M3905ACD features

The M3905 Call Center model is designed to support the specialized demands of call center agents and supervisors and is similar in appearance to the M3904, minus the handset. The main features of the M3905ACD are:

- eight Soft-labeled Programmable line/feature keys (two layers each, giving the user access to sixteen lines/features)
- four Soft Programmable feature keys (three layers each, giving the user access to twelve features).
- Prelabeled feature keys
  - •Goodbye
  - •Headset (with LED indicator)
  - •Hold
  - •Call Supervisor
  - •Smart Mute

- •Emergency
- •Copy
- •Not Ready
- •Quit
- •Make Set Busy
- •four Navigation
- •InCalls
- •Volume Control Bar
- •twelve dial pad
- •Supervisor Observe (with LED indicator)

- Personal Directory
- Call Log
- five line by twenty-four character display
- handset optional
- Supervisor Observe key with LED
- Supervisor Headset Observe port

Note: The prelabeled feature keys located across the lower edge of the telephone can be programmed to fit the needs of the M3905ACD telephone user.

Meridian Digital telephones headset

A headset can attach to the M3901 M3902, M3903, M3904, and the M3905. The M3903, M3904 and M3905 have headset jacks with a prelabeled headset feature key to turn the headset on and off. Check with your local distributor for the make and model of headsets compatible with your M3900 set.

Package Requirements

This feature is part of the X11 base package.

Make Set Busy Improvement

The Make Set Busy Improvement (MSBI) feature offers the ability to provide an audible notification (e.g., ringing, buzzing, etc.) to non-ringing keys when all the ringing appearances of the same DN have activated Make-Set-Busy. The MSBI feature is typically used in a Boss-Secretary configuration. The non-ringing keys can be either Single Call Non-Ringing (SCN), Multiple Call Non-Ringing (MCN) or Private Line Non-Ringing (PVN).

Typically, the Boss-Secretary configuration implies that the DN on a secretary phone is ringing while it is non-ringing on the boss phone. Thus, incoming calls directed to the DN key receives audible notification only on the secretary phone, while on the boss phone the DN key flashes.

The MSBI feature allows the secretary phone to change the non-ringing operation of the boss phone by activating Make Set Busy on the secretary phone. In this case, incoming call directed to the DN key receives audible notification on the boss phone.

Package Requirements

The MSBI feature is dependant on the Make Set Busy (17), and Flexible Feature Codes (139) packages.

Message Waiting Indicator by DN

The Message Waiting Indicator by DN (MWDN) feature provides greater flexibility in presenting Message Waiting Indication (MWI) on a Meridian Modular Telephone (MMT) set. Following are the various functionalities offered by this feature:

Multiple Message Waiting Indications

Multiple Message Waiting Indications on One set

According to the existing functionality of message waiting indication, if one set has more than one DN with associated mailbox, only the primary DN or single appearance non-primary DN had a Message Waiting Key (MWK) and the LED for the message waiting indication.

With this new feature:

- An Extended Message Waiting Key (XMWK) can be assigned for each of the non-primary mailbox DNs configured on the set.

- If there is one message waiting indication on a set, the LED can be configured to stay ON until all the new messages from all the mailboxes are retrieved.

The XMWK key is configurable via service change in overlay 11 and is not user programmable. It is mandatory that the DN to be associated with this key is configured as non-PDN on the set on which it is being configured.

The XMWK key starts FLASHING whenever any new voice message is received for the DN associated with this key. Once all the new voice messages have been retrieved, the indication on the XMWK key associated with that DN is canceled.

Pressing the idle DN key and then the XMWK key will AutoDial the Message Center DN associated with it. Pressing the display key (DSP) and then a XMWK key would display the Message Center DN and the associated mailbox DN.

Multiple MWIs for One mailbox on Many sets

In an environment where multiple users share a common Mailbox, an XMWK key can be configured for that mailbox DN on each user's set for message waiting key functions. For this, the DN associated with the common mailbox needs to be configured as non-PDN on all the user's sets.

When a new voice message is received for the DN associated with the common mailbox, all the XMWK keys configured on all the users sets and associated with this DN start FLASHING.

Once all the new messages from the common mailbox have been retrieved by any of the users, the indication on all the XMWK keys associated with the general mailbox DN is canceled.

Remote Propagation of Message Waiting Indication to MMT set

The Message Waiting by DN feature enables the user to monitor the status of his/her Mailbox from a remote set without logging into his/her set. This feature introduces a new feature key called Remote Message Waiting Key (RMWK) through which the user can remotely monitor his/her mailbox. When a new message arrives to the mailbox DN being monitored, the indication is also propagated to the RMWK key. The RMWK key can only be used to monitor those DNs, which have at least one primary appearance.

The RMWK key can be service changed through overlay 11. During service change the Message Center DN is mandatory but the Mailbox DN is optional. The Mailbox DN is also user programmable from the set.

When the RMWK key is programmed to monitor a DN, it starts FLASHING if any new voice message exists for the associated mailbox DN, if not the RMWK key remains steadily LIT.

Cancellation is done by pressing the RMWK key when it is LIT or FLASHING.

One Mailbox supporting Multiple DNs

According to the existing functionality, three DNs can be associated with one mailbox; however there are several constraints on the message waiting indication. The message waiting indication is only on the set on which one of the three DNs sharing the mailbox is configured, while there is no indication on the sets on which the other two DNs are configured.

The MWDN feature extends the indication to all sets on which the three DNs sharing the mailbox are configured provided the Voice Mailbox Administration (VMBA) package is equipped.

Package Requirements

MWDN requires the Message Waiting (46) package. The Digital Display (19) and Voice Mailbox Administration (246) packages are optional.

Multiple Queue Assignment Enhancement (new on X11 24.24/24.25)

The MQA Enhancement extends the Default login functionality currently available today to sites using Meridian Link Set Feature Invocation Login message in conjunction with MQA.

The current operation of the MQA feature allows agent roaming so agents have the flexibility to use any ACD set.

MQA allows agents to service up to five ACD directory numbers simultaneously. Agents must dial in an Agent ID followed by a sequence of queues. It also allows the agent to select a priority associated with each queue and to select the supervisor ID with whom they wish to be associated.

Package Requirements

There are no new packages associated with this feature. The following lists packages required for feature operation:

Package Mnemonic	Package Number	Package Description
ACD-D	50	ACD-D (Statistics, Command port serial link and MAX support)
MQA	297	Multiple Queue Assignment
AUX-LINK	51	High Speed Link to MAX
AUX_SECURITY	114	Security package for HSL to MAX

OHAS Half Disconnect Enhancement (new on X11 24.24/24.25)

The OHAS Half Disconnect Enhancement feature applies to 500/2500 analog (PBX) type sets in the Meridian 1 system configured with the existing Off-Hook Alarm Security (OHAS) feature and which were established in a call with a party internal or external to the M1 system. Once the M1 system recognizes that the other party or parties have disconnected from the call and the PBX set is detected to be in the half disconnect state (i.e., still off-hook), the OHAS Half Disconnect feature can be used.

With the OHAS Half Disconnect Enhancement feature enabled, the user can define on a customer basis the length of time before the OHAS HD treatment is given. The period of time configured in the OHAS HD timer (HDTM) should be selected to give the average user enough time to complete the disconnect of the previous call by placing all the analog sets on-hook. The length of the OHAS Half Disconnect timer can be defined from 1 second to 600 seconds (10 minutes). The HDTM timer starts after the half disconnect state is detected.

Once the Security DN answers the OHAS Half Disconnect treatment call, this connection is counted as one OHAS HD treatment. If the Security DN subsequently goes on-hook while the OHAS PBX set remains off-hook, the PBX set is put back into the half disconnect state.

As a result, the OHAS Half Disconnect Enhancement feature introduces a new customer based option (OHAS Half Disconnect Option, HDOPT) to determine the number of OHAS Half Disconnect treatments that can be given to PBX sets that remain in the half disconnect state. There are three functional OHAS HD options for half disconnected PBX sets with OHAS enabled. The OHAS HD treatment options can be selected as one of the following:

- No OHAS HD treatment is given. This is the default option, which is the current OHAS treatment.
- Number from 1 to 10 - maximum number of OHAS HD treatments given to the half disconnected PBX set.
- CONTinous - Continue to give the PBX set the OHAS HD treatment while this set stays in the half disconnected state.

If the PBX set goes on-hook at any time, the OHAS Half Disconnect treatment is cancelled.

Package Requirements

This feature is part of the X11 base package.

Ringing Instead of Buzzing on Digital Sets (new on X11 24.24/24.25)

This feature allows a digital set to be rung even if the handset is offhook or the set is busy on the other line. This is applicable on the following sets only: M2006, M2008, M2009, M2016, M2018, M2112, M2216, M2317, M2616, M3901, M3902, M3903, M3904, M3905.

If a call is presented to this set, it will ring according the digital telephone distinctive ringing CLS assigned (DRG1, DRG2, DRG3, DRG4) rather than buzz.

This is applicable when the following conditions are met:

- called set is type indicated above
- new CLS RNGI or RNGB is activated on the set which means:
- RNGI - The set is ringing when idle but off hook.

- RNGB - The set is ringing even it is busy on the other line or idle but offhook

This feature does not affect features where usually a buzz is provided (e.g. Ring Again, Manual signalling, etc.).

This feature does not change the behavior of the ringing. If any ringing feature (Ringing Change Key, Executive Distinctive Ringing, Network Distinctive Ringing, etc.) is applied on the set, the selected ringing will be used instead of buzzing.

Note: A set of type M2216 is usually in offhook state.

Package Requirements

This feature is part of the X11 base package.

Networking Features

Networking Features are those features that operate in a networking environment.

510 Trunk Route Member Expansion

Currently X11 software will support a total of 254 trunk members associated with a trunk route. The 510 Trunk Route Expansion feature was developed to accommodate up to 510 trunk members per trunk route. Within ISDN, the 510 Trunk Route Member Expansion allows the capability of a full NB+D configuration over one trunk route (382 BCH). This feature will also eliminate the same limitation with ISL configurations where 384 is the current limit of trunks controlled by one D-Channel.

The 510 Trunk Member Capacity feature will include the following trunk configurations: PRI mode, Shared Mode, ISL mode, VNS, VNS Shared, DTI mode and Analog mode. This feature is not limited to ISDN functionality.

Package Requirements

This feature is part of the X11 base package.

Asia Pacific ISDN PRI Central Office Connectivity

The ISDN PRI Meridian 1 to Asia Pacific connectivity provides ISDN Primary Rate Interface (PRI) connectivity between the Meridian 1 and Public Exchange/Central Offices in the following Asia Pacific markets:

- Australia (private or alternative carrier)
- China
- Hong Kong
- India
- Indonesia
- Japan
- Malaysia
- New Zealand
- Philippines
- Singapore
- Taiwan
- Thailand

The Asia Pacific connectivities support the following ISDN features:

- Basic Call Service
- Back-up D-Channel, for Hong Kong

Advice of Charge, for Japan (considered a basic service)

- Malicious Call Trace, for Australia
- Advice of Charge (AOC) at End of Call, for Australia
- Incoming Trunk Programmable CLID for analog trunks, for Australia.

This feature is available for use in a private or alternative carrier network, as required in Australia.

- nB+D, for Japan (up to 215 B-channels/nine interfaces), for New Zealand (up to 120 B-channels/four interfaces), for Malaysia (up to 120 B-channels/four interfaces), and for Hong Kong
- Calling Line Identification Presentation and Restriction (CLIP and CLIR)
- Connected Line Identification Presentation and Restriction (COLP and COLR), for India, Philippines, Taiwan, and Indonesia

- Circuit switched voice and data on the B-channel
- Direct Dialing Inward (DDI/DID), for Indonesia
- Overlap Sending (supported by all interfaces except Japan, Philippines)
- Overlap Receiving, for India, Indonesia, China, Malaysia, and Thailand
- COT, DID, DOD, and TIE trunk call types, as applicable
- 64 kbps clear digital information
- Flexible Numbering Plan
- Sub-addressing (supported only when information is received from the Asia Pacific ISDN interfaces and passed through a tandem node)
- Channel Negotiation (for all countries except Singapore. See the note which follows).

  Note: As part of the Singapore enhancement introduced with X11 Release 24, Channel Negotiation is not supported for Singapore. The CNEG option must be set to 1 (the default) in LD 17.

Interworking is provided with the following other ISDN or non-ISDN interfaces.

- existing ISDN CO connectivities (e.g., NUMERIS, Swiss Net 2) Taiwan R1 Modified Signaling
- private networks (e.g., Meridian Customer Defined Network, and QSIG)
- other digital signaling systems (e.g., Digital Private Network Signaling System #1 (DPNSS1), and Digital Access Signaling System #2 (DASS2), and 1.5/2.0 Mbps DTI)
- analog signaling systems (Inter Register Multifrequency Compelled signaling (R2/MFC), Multifrequency Compelled Signaling for Socotel (MFE), dial pulse (DP), and Digitone (DTN)

Hardware Requirements

For Options 51C-81C, the following hardware is required:

For Japan, Taiwan, and Hong Kong interfaces:

- For Primary Rate Access, the QPC720 1.5 Mbps PRI with the NT6D80AA MSDL card, or the NT5D12AA dual port 1.5 DTI/PRI card with the required NTBK51AA two-port Downloadable D-Channel daughterboard (DDCH).
- For D-Channel processing, the NT6D80AA MSDL card, or the NTBK51AA dual-port Downloadable D-Channel daughterboard (DDCH) to be used as an option to the MSDL with the NT5D12AA dual port 1.5 DTI/PRI.
- For ISDN Basic Rate Access, the NT6D73AA MISP card and the NT6D70BA SILC card.

For Australia, China, Indonesia, Malaysia, New Zealand, Singapore, Thailand, India, and the Philippines:

- For Primary Rate Access, the NT8D72AA PRI2 card, or the NTCK43AA Dual PRI2 card, or the NT5D97AA Dual PRI2/DTI2 card.
- For D-Channel processing, the NT6D80AA Multi-Serial Data Link (MSDL) card, or as an alternative to the MSDL, the NTBK51AA dual-port Downloadable D-Channel Daughterboard (DDCH) to be used with the NTCK43 Dual PRI2 card, or the NT5D97AA Dual PRI2/DTI2 card.
- For ISDN Basic Rate Access, the NT6D73AA MISP card and the NT6D70BA SILC card.
- For Japan, Taiwan, and Hong Kong interfaces, the QPC720 1.5 Mbps PRI with the NT6D80AA MSDL card, or the NT5D12AA dual port 1.5 DTI/PRI card with the required NTBK51AA two-port Downloadable D-channel daughterboard (DDCH)

For Option 11C, the following hardware is required:

For Japan, Taiwan, and Hong Kong interfaces:

- For Primary Rate Access, the 1.5 NTAK09AA (DTI/PRI) circuit card is required along with the NTBK51BA Downloadable D-Channel (DCHI) card, or the new NTRB21 TMDI card with D-Channel enabled.
- For Basic Rate Access, the NTBK22AA MISP card and the NT6D70BA SILC card.

For Australia, China, Indonesia, Malaysia, New Zealand, Singapore, Thailand, India, and the Philippines:

- For Primary Rate Access, the NTBK50AA PRI2 card is required along with the NTBK51BA Downloadable D-Channel (DCHI) card
- For Basic Rate Access, the NTBK22AA MISP card and the NT6D70BA SILC card.

Package Requirements

There are no new software packages required for this feature. However, the following packages are necessary in order to connect the Meridian 1 over an Asia Pacific ISDN PRI interface to a Central Office:

- Digit Display (DDSP) package 19
- 1.5 MBit/s Digital Trunk Interface (PBXI) package 75
- Integrated Services Digital Network (ISDN) package 145
- For Japan, Taiwan and Hong Kong, 1.5 Mbps Primary Rate Access (PRA) package 146
- For Australia, China, Indonesia, Malaysia, New Zealand, Singapore, Thailand, India, and the Philippines, 2.0 Mbps Primary Rate Interface (PRI2) package 154, which has the following dependencies:
  - 2.0 MBit/s Digital Trunk Interface (DTI2) package 129
  - Integrated Services Digital Network (ISDN) package 145
- International Primary Rate Access (IPRA) package 202, which has the following dependencies:
  - Digit Display (DDSP) package 19
  - 2.0 Mbps Primary Rate Interface (PRI2) package 154
  - Integrated Services Digital Network (ISDN) package 145
- Meridian 1 Extended Peripheral Equipment (XPE) package 203
- Multi-Purpose Serial Data Link (MSDL) package 222, which requires the Integrated Services Digital Network (ISDN) package 145
- New Format CDR (FCDR) package 234
- Basic Rate Interface (BRI) package 216

- Basic Rate Interface Trunk (BRIT) package 233

If the call is to interwork with any other trunk, the Universal ISDN Gateway (UIGW) package 283 is required.

For nB+D, the International nB+D (INBD) package 255 is required.

The Overlap Signaling feature requires:

- Network Class of Service (NCOS) package 32
- Basic Routing (BRTE) package 14
- Basic Alternate Route Selection (BARS) package 57, Network Alternate Route Selection (NARS) package 58, and/or Coordinated Dialing Plan (CDP) package 59
- Flexible Numbering Plan (FNP) package 160
- Overlap Signaling (OVLP) package 184

  Note: Note: This package should not be enabled for the Philippines. Basic Queuing (BQUE) package 28

Australia ETSI

The Australia ETSI feature supports 2.0 MBit/s ISDN Primary Rate Interface and Basic Rate Interface Trunk connectivity for the Australian Central Office, in compliance with the Australia ETSI specification (Telstra).

This feature uses the existing EuroISDN software packages to provide the basic ISDN capabilities and supplementary services listed below (EURO is configured as the interface in the overlay programs when configuring PRI2 and BRI).

Basic ISDN services:

- 2.0 MBit/s PRI and BRI Basic Call Service
- Circuit-mode bearer capabilities (speech, 3.1 kHz audio, 64 kbps digital and adapted 56 kbps to 64 kbps digital)
- COT, DID, DOD, and TIE trunk call types
- Calling Line Identification (public and private)

- Enbloc Sending
- Overlap Sending
- Channel Negotiation

Supplementary services:

- Calling Line Identification Presentation (CLIP)
- Calling Line Identification Restriction (CLIR)
- Connected Line Identification Presentation (COLP)
- Connected Line Identification Restriction (COLR)
- Malicious Call Trace
- Advice of Charge (AOC), during call set-up, during the call, and at end of call
- Sub-addressing (SUB)
- Direct Dial In (DDI)

Package Requirements

There are no new software packages required for this feature. However, the following packages are necessary in order to connect the Meridian 1 over an Australia ETSI PRI2/BRI interface to a Central Office.

For PRI2 connectivity:

- Integrated Services Digital Network (ISDN) package 145
- 2.0 Mbps Primary Rate Interface (PRI2) package 154
- Overlap Signaling (OVLP) package 184
- International Primary Rate Access (IPRA) package 202
- Multi-Purpose Serial Data Link (MSDL) package 222

If the call is to interwork with any other trunk, the Universal ISDN Gateway (UIGW) package 283 is required.

For the Advice of Charge capability:

- Controlled Class of Service (CCOS) package 81

- Background Terminal (BGD) package 99
- Periodic Pulse Metering/Message Registration (MR) package 101
- International Supplementary Features (SUPP) package 131

For the Malicious Call Trace capability:

- Controlled Class of Service (CCOS) package 81
- Malicious Call Trace (MCT) package 107
- International Supplementary Features (SUPP) package 131
- Flexible Features Code (FFC) package 139
- Network Attendant Service (NAS) package 159
- ISDN Supplementary Features (ISDN INTL SUP) package 161.

For ISDN Basic Rate Interface Trunking connectivity:

- Basic Rate Interface (BRI) package 216
- Basic Rate Interface Trunk (BRIT) package 233

Authorization Code Conditionally Last Enhancement

Certain networks have been configured to require the end user to enter an Authorization Code when processing calls. Different customers want to provide different tone/signals to the end user to inform them when to enter the Authorization Code.

The existing Authorization Code Conditionally Last (ACCL) feature provides an optional recorded announcement followed by 10 bursts of dial tone and then steady dial tone to prompt the user to enter the Authorization Code. Many end users do not recognize what these tones are, and end up abandoning the call. Another limitation of this feature is that the users are unable to interrupt the Recorded Announcement by entering the Authorization Code.

The Authorization Code Conditionally Last Enhancements (ACCLE) feature allows the user to receive an optional Recorded Announcement, followed by configurable bursts of tone and a steady dial tone. If the user enters the Authorization Code during Recorded Announcement, then Recorded Announcement is interrupted.

Package Requirements

This feature does not introduce any new packages.

The following feature packages are required:

- Basic Authorization Code (BAUT), package 25
- Basic Alternate Route Selection (BARS), package 57.
- Network Alternate Route Selection (NARS), package 58.
- Network Authorization Code (NAUT), package 63

The following packages are required for ACCLE to be completely functional:

- Recorded Announcement (RAN), package 7 (if the RAN package is not equipped, no recorded announcement will be given). RAN requires Intercept Treatment (INTR) package 11.
- Flexible Tones and Cadences (FTC), package 125 (if the FTC package is not equipped, it is not possible to configure the initial burst or steady dial tone).

The following feature packages can optionally be used with ACCLE:

- Direct Inward System Access (DISA), package 22.
- Network Class of Service (NCOS), package 32
- Coordinated Dialing Plan (CDP), package 59.
- Scheduled Access Restrictions (SAR), package 162.
- Supplementary Package (SUPP), package 131.
- RAN Broadcast Package (RAN_BRDCST), package 327.

Dual Signaling on Analog Trunks (new on X11 24.24/24.25)

The Dual Signaling on Analog Trunks feature allows a single trunk line to handle Dial pulse signaling on the incoming direction and DTMF signaling on the outgoing direction. This feature is applicable on IPE and EPE trunks. It reduces the amount of DTR units on the system since these units are no longer necessary for trunk access.

The trunk can now be configured as:

- incoming dial pulse - outgoing dial pulse (existing and default functionality)
- incoming DTMF - outgoing DTMF (existing functionality)
- incoming dial pulse - outgoing DTMF (new functionality)
- incoming DTMF - outgoing dial pulse (new functionality)

Package Requirements

This feature is part of the X11 base package.

Information Notification Service for Japan (new on X11 24.24/24.25)

The Information Notification Service for Japan (INS-J) feature allows a Japan local exchange to extract the calling line identification information received on Japan analog trunks (JCO/JDID) and to deliver it to subscribers' terminals/trunks with display capability and customer oriented applications.

In Japan, this service is already available on ISDN. However, analog trunks are still seen as efficient alternatives to ISDN.

The INS-J feature introduces a new circuit card, the NT5D39 DXUT-J card.

The DXUT-J is a Digital Signaling Processor-based Extended Universal Trunk card for the Japan market. The DXUT-J collects the FSK-format INS-J information sent by the CO and sends it to the Meridian 1 software. The DXUT-J also supports the Busy Tone Detection for Japan that is available on the EXUT-J card.

On an incoming call with INS-J, the Meridian 1 extracts information such as: Calling Party Number, Calling Party Name, Called Party Number, Date and Time, and, if applicable, Reason for absence of Calling Party Number/Calling Party Name. This information is passed on to the terminating party, which can be:

- a trunk,
- a terminal, or
- an application.

The INS-J information is sent by the CO in Frequency Shifted Key (FSK) format. The NT5D39 DXUT-J card decodes this information and sends it to the Meridian 1 software via SSD messages.

The Meridian 1 software extracts the Calling Party Number, Called Party Number, Calling Party Name, and Date and Time information, and the call termination follows the existing procedure. For example, if the call is from an incoming CO trunk, it terminates at the attendant or where designated by the system's database; if the call is a DID call, the Meridian 1 software extracts the information from the INS-J and terminates the call accordingly.

The INS-J information is passed on to the terminating party, which can be:

Trunks

- ISDN
  - •PRI/BRI
- R2MFC
  - •DTI/DTI2
  - •Analog

Terminals

- Digital sets
  - •SL-1
  - •Meridian Digital telephones
  - •BRIL sets
- Attendant Console

Applications

- Meridian Mail
- Meridian Link
- Meridian IVR
- Customer Controlled Routing
- Symposium Call Center Server

Package Requirements

This feature introduces a new package: Analog CLI (ACLI), package number 349.

The ACLI package requires Japan package 97.

The UK package (package 190) is incompatible with ACLI, and should not be packaged if ACLI is turned on.

ISDN QSIG/ETSI GF Enhancements

For North America, this feature enhances the existing ISDN QSIG Generic Functional (GF) transport platform.

This ISDN QSIG GF transport platform provides the means to exchange signaling information for the control of Supplementary Services (SS) over a Private Integrated Services Network.

The ISDN QSIG/ETSI GF transport platform and its enhancement are compliant to ISO/IEC DIS 11582, ETS 300 239 and ETS 300 196-1.

- The improvement of ISDN QSIG GF transport platform by Call Independent gateways from QSIG to MCDN signaling protocol.

  Note: the ISDN QSIG GF transport platform does not by itself control any Supplementary Service but rather provides a generic transport platform that supports QSIG compliant Supplementary Services. Procedures for the control of individual Supplementary Service based on these generic procedures are defined in each individual Supplementary Service specification or may be manufacturer-specific, and they are outside of the scope of the ISDN QSIG GF transport platform and its enhancement.

Package Requirements

This feature included in the QSIG Supplementary Services (316) and QSIG - Generic Functional Protocol (305) packages. In addition, the feature requires the following packages to be operational: QSIG Interface (263), ISDN (145), PRA (146), MSDL (222), and [Coordinated Dialing Plan (59), NARS (58), or BARS (57)].

MCDN Alternate Routing

The MCDN Alternate Routing (MALT) feature provides the capability of re-routing a call progressing on a Meridian Customer Defined Networking (MCDN) network that is rejected during its establishment due to congestion, busy or unavailable channels. The next free alternate route is used.

MALT re-routing options are defined in overlay 86 Route List Block Administration. Calls can be routed via: No MALT (NRR), MALT re-routing only at origination node (RRO), MALT re-routing at any node (RRA).

The following cause values will activate the MALT feature:

- cause 3 "No route to destination"
- cause 27 "Destination is out of service"
- cause 34 "No channel/circuit available"
- cause 38 "Network out of order"
- cause 41 "Temporary Failure"
- cause 42 "Congestion"

Package Requirements

This feature requires the following packages: Base Routing (14), Network Class of Service (32), PRA (146), ISDN (145), and [Coordinated Dialing Plan (59), Basic Alternate Route Selection (57), or Network Alternate Route Selection (58)].

MCDN End to End Transparency

The MCDN End to End Transparency (MEET) enables the conveyance of MCDN proprietary services over a standardized interface.

QSIG defines a private network signaling system used between PBXs from multiple vendors and allows Nortel to carry its proprietary signaling system transparently either in a QSIG network or in a mixed MCDN/QSIG network.

MEET within QSIG development is made of four distinct parts:

- an enhancement of the generic MCDN QSIG conversion tool to provide the MCDN QSIG gateway for the MCDN Supplementary Services (SS) which are encapsulated,
- encapsulation of MCDN Network Attendant Service (NAS) feature within QSIG,
- encapsulation of MCDN Network ACD (NACD) feature within QSIG,
- encapsulation of MCDN Network Message Service - Message Center (NMS-MC) and Network Message Service - Meridian Mail (NMS-MM) features within QSIG.

Package Requirements

The MEET feature introduces a new MCDN End to End Transparency (348) package. The feature also has the following package dependencies: QSIG Interface (263), QSIG GF Transport (305), ISDN Signaling (145), Advanced ISDN Network Services (148), MSDL (222), PRA (146) and the appropriate NAS, NMS and NACD packages.

MSDL/DDP Enhancements - Idle Code Selection

The Idle Code Selection (ICS) feature provides for a selected option (service change) for network framing (idle code selection - yellow alarm) of either "7F" or "FF".

By providing a service change selection for framing, the Meridian 1 becomes much more flexible and user friendly for any future standards changes. This feature also allows the Meridian 1 to be networked with ISDN PRI or DTI to the Lucent 5ESS.

The service change selection will be either hexadecimal "7F" or "FF" based upon the equipment and interface requirements for idle code (yellow alarm) situations. The default will be hexadecimal "FF".

Package Requirements

This feature is dependent on the ISDN (145) package. Configuration dependencies exist on the DTI (75) and PRA (146) packages.

MSDL/DDP Enhancements - Port Overload Counter

The Port Overload Counter (POC) feature provides an overload counter capability on a port-by-port basis. Once the overload threshold has been met, only the port will be disabled, not the entire MSDL card.

Package Requirements

The Port Overload Counter depends on the MSDL Card (222) package.

MSDL/DDP Enhancements - Status Enquiry Message Throttle

The Status Enquiry Message Throttle (SEMT) feature provides a mechanism to throttle MSDL messages in a high traffic situation. This feature regulates the sending of "Status Enquiry" messages by limiting the number of messages sent within a 128 millisecond time period.

Package Requirements

The Status Equiry Message Throttle is dependent on the MSDL (222), ISDN (145), and [PRA (146) or ISL (147)} packages.

NACD Source Table Viewer (new on X11 24.24/24.25)

The NACD source table is an internally created table. Prior to Release 24.24/24.25 there has been no mechanism to print this table. The NACD Source Table Viewer provides the capability to view the internal source table via overlay 23 (ACD).

The two tables that can currently be configured (and printed) in overlay 23 are the Day Table and Night Table. These tables define the NACD routing for a particular local ACD queue. These tables define entries that "point" to ACD queues at other Meridian nodes. When an entry in a Day or Night table is configured, an NACD facility message is sent to the target node. Once this message is received at the target node, an ACD source table entry is created at the target ACD queue. When the target ACD queue changes state, e.g. goes into night service, the target node can send a message to the "source" node to inform it of the state change. Once the source node receives this message, it changes the state of the entry in the associated day or night table. The structure of the source table is very similar to the Day and Night tables.

In overlay 23, the source table must be actually specified for it to be printed i.e. against the prompt TABL, the response must be "s" for the source table to be printed. If the TABL prompt is left blank, only the Day and Night tables will be printed as per existing functionality.

Package Requirements

The NACD Source Table Viewer depends on package NACD (178).

NI2 Compliance Enhancement (new on X11 24.24/24.25)

The existing QSIG protocol provide Meridian 1 customers with a ETSI-QSIG interface based on ETS 300-172 2nd edition, and ISO-QSIG interface based on ISO/IEC 11572 for basic call. Similarly the National ISDN-2 (NI-2) protocol provides ISDN connectivity to Meridian 1 Customers compliant to Bellcore TR-NWT-001268 specifications.

Currently on all the above protocols when Meridian 1 encounters a recoverable error, it responds with a STATUS message. The STATUS message reports the cause of the error - unsupported IE, unrecognized IE etc. The call state information sent in this message, by Meridian 1, is incorrect.

This product improvement addresses the Performance Enhancement Products (PEPs) BV67799, BV74803 and BV80951. This feature addresses the call state mismatch issue, to make Meridian 1 compliant with latest Bellcore TR-NWT-001268, ISO/IEC 11572 and ETS 300-172 (4th edition), specifications.

Package Requirements

There are no new packages associated with this feature. The existing packages required to use this feature are listed in the following tables.

Packaging requirement for ISDN PRA QSIG Interface

Package Mnemonic	Package Number	Package Description
QSIG	263	QSIG Interface
ISDN	145	ISDN Signalling
MSDL	222	MSDL package
PRA	146	Primary Rate Interface
PRI2	154	2Mbps PRI
IPRA	202	International PRA

Packaging requirement for ISL QSIG Interface

Package Mnemonic	Package Number	Package Description
QSIG	263	QSIG Interface
ISDN	145	ISDN Signalling
PRA	146	Primary Rate Interface
PRI2	154	2Mbps PRI package
ISL	147	ISL package
MSDL (for PRI only)	222	MSDL package

Packaging requirement for ISDN BRIT QSIG Interface

Package Mnemonic	Package Number	Package Description
QSIG	263	QSIG Interface
ISDN	145	ISDN Signalling
MSDL	222	MSDL package
BRI	216	ISDN Basic Rate Access
BRIT	233	ISDN BRI Trunk Access

Packaging requirement for ISDN PRA NI-2 Interface

Package Mnemonic	Package Number	Package Description
NI-2	291	National ISDN-2 Interface
ISDN	145	ISDN Signalling
MSDL	222	MSDL package
PRA	146	Primary Rate Interface

North America 1.5/2.0 MBPS Gateway

The North America 1.5/2.0 MBPS Gateway (GWAY) feature allows the interworking of T1 and E1 connections when using digital trunk connectivity for ISDN PRI/DTI trunks. This feature supports 2.0 Mbps (E1 connections) in addition to 1.5 Mbps (T1 connections) on the same Meridian 1 switch. The connections will be programmable as either A-law or MU-law.

To support the GWAY feature, the following 2.0 Mbps cards have been introduced in North America:

	PRI2	DTI2
Large Systems	NT5D97AA Dual-port DTI2/PRI2 card (in PRI2 mode)	NT5D97AA Dual-port DTI2/PRI2 card (in DTI2 mode)
Small Systems	NTBK50AA PRI2 card	NTAK10DC DTI2 card

Hardware Requirements

To support the North America 1.5/2.0 Mbps Gateway feature, the following existing 2.0 Mbps cards have been introduced in North America.

For PRI2 on Meridian 1 large systems (Options 51C, 61C, 81, 81C):

- NT5D97AA Dual-port DTI2/PRI2 card (in PRI2 mode)
- NTBK51AA Downloadable D-Channel Daughterboard

  Note: Please note the vintage requirement of the NTBK51 card. Only one version, the NTBK51AA, can be used with the DDP2 cards. The newer NTBK51BA version has only 30+30 pin connectors (instead of 40+30 pins in the AA version). The missing 10 pins in the BA version prohibits usage of port 0 on the DDP2 card. As shown below, the NTBK51BA is used on the Option 11C, with the NTBK50AA PRI2 card.

For DTI2 on Meridian 1 large systems (Options 51C, 61C, 81, 81C):

- NT5D97AA Dual-port DTI2/PRI2 card (in DTI2 mode)

For PRI2 on the Meridian 1 small system (Option 11C):

- NTBK50AA PRI2 card
- NTBK51BA Downloadable D-Channel Daughterboard, used by the NTBK50AA PRI2 card

For DTI2 on the Meridian 1 small system (Option 11C):

- NTAK10DC DTI2 card

Note: Please note the following when configuring a Clock Controller. For both large and small systems, either a Stratum 3 or a Stratum 4 Clock Controller is supported, depending on specific country requirements. Please refer to the X11 Software Features guide for detailed clock controller support information.

Package Requirements

The GWAY feature is dependent on the following packages: International Gateway (167), DTI (75), ISDN (145), and PRA (46). Depending on the configuration the following packages are also required: PRI2 (154), IPRA (202) or DTI2 (129).

Process Notification for Networked Calls

In an existing R2MFC Meridian 1 network, when an outgoing call hops through more than two R2MFC steps, it experiences a delay during which the caller may drop the call.

The Process Notification for Networked Calls feature informs the user that the call is in progress during such a delay, using a configured message or a tone. This feature is enabled on a per route basis. The user has an option to configure the choice of announcement, a message or a tone. When the first digit on an MFC trunk is outpulsed, and if the user waits for more than 6 seconds (default configuration) between the digits or after all the digits, the Process Notification tone or message is given.

If the announcement is a RAN message and it ends, a pause timer is started, otherwise a tone is given as per the configuration in the FTC table. When the pause timer expires the RAN announcement is given again (depending on the configuration of NMSG).

If the user continues to dial, the announcement is stopped and the notification delay timer is restarted. The digit is outpulsed.

The Process Notification is abruptly stopped in the event that the call is completed successfully, or in the event the call is dropped due to a busy destination set, one of the legs of the R2MFC trunks is busy, the MFC timed out waiting for a response, or the caller hangs up.

Package Requirements

This feature requires the Multi Frequency Compelled Signaling (MFC) package, package128.

The Flexible Tones and Cadences (FTC) package, package 125, is required if a tone is to be provided.

The Recorded Announcement (RAN) package, package 7, is required in order to provide a recorded announcement.

QSIG Alternate Routing

The QSIG Alternate Routing (QALT) feature provides the capability of rerouting a call progressing on a QSIG network and rejected during its establishment due to a network congestion. The next free alternate route is used for the alternate call at the node when a call clearing message with congestion information is received.

This functionality is configurable on any route.

Before this feature, alternate routing on QSIG was only provided at the time the route is seized. When all the trunks of the first choice route in the route list are busy, the second choice is used to route the call, but no alternate routing occurred when a call clearing message with congestion information was received. Only a retry mechanism, existed on receipt of a RELEASE COMPLETE message with cause 44 " requested channel not available " or 82 "identifier channel doesn't exist" to find another idle trunk in the same route.

As per configuration in each entry of the route list, the alternate route can now be taken from any node after a congestion is encountered.

QSIG Alternate Routing is achieved in both enbloc and overlap dialing on receipt of DISCONNECT or RELEASE COMPLETE message if the clearing cause is configured to trigger it.

Two configurable options in the route list (ESN data) exist for the clearing causes supported by this feature:

- Option 1 cause values are:
  - cause 34 " No channel / circuit available"

- cause 38 " Network out of order"
- cause 42 "Congestion"

- Option 2 cause value are:
  - cause 27 " Destination is out of service"
  - cause 34 " No channel / circuit available"
  - cause 38 " Network out of order"
  - cause 42 "Congestion"

Note: Causes 38 and 42 are not defined in QSIG standards but in Q931.

Package Requirements

The QSIG Alternate Routing feature requires the following packages: Basic Routing (14), Network Class of Service (32), QSIG (263), QSIG GF Transport (305), ISDN QSIG Supplementary Services - Call Completion (316), MSDL (222), and [Coordinated Dialing Plan (59), BARS (57), or NARS (58)].

QSIG Call Transfer Notification

The QSIG Call Transfer Supplementary Service enables a user to transform two of that user's calls into a new call between the other two users of these two calls. The QSIG Call Transfer Supplementary Service is implemented with the transfer by join method.

Note that after completion of the transfer by join, QSIG Path Replacement can be triggered, if configured, in order to obtain a more efficient connection if necessary.

This present feature provides the notification of the transfer to the Originating and to the Transferred-to parties. This information is used by the Meridian 1 for the display and for the CDR record features.

As equivalent services are supported on MCDN, the gateway QSIG to MCDN or MCDN to QSIG are also implemented.

Package Requirements

The QSIG Call Transfer Notification feature is dependent on the QSIG-SS (316) and QSIG GF (305) packages. When used in the ISDN PRI QSIG configuration, packages QSIG (263), ISDN (145), PRA (146) and MSDL (222) are also required. If the notification display part of this feature is to be activated, CPND (95) and Digit Display (19) packages are required.

QSIG Channel ID coding PI (new on X11 24.24/24.25)

This product improvement provides, for QSIG GF interfaces, the capability of configuring the mapping between the channel number field in the Channel ID IE and timeslot number for the timeslot 17 to 31 on a PRI2 loop. The way the timeslot 1 - 15 are coded in the channel id is not changed.

Two configurable options on per D-channel basis are available:

- The channel number of the CHID IE matches the timeslot number. In other words, timeslot 17 - 31 are coded channel 17 - 31. It is the previous behavior on M1.
- The channel number of the CHID IE matches the internal channel number. In other words, timeslot 17 - 31 are coded channel 16 - 30.

The following tables sum up the different coding rules:

Channel number coded in CHID number IE:

timeslot number	channel number for SL1 software	channel number in Channel Id IE
1- 15	1-15	1-15
17 - 31	16-30	16-30
16 (signalling)	31 (D-Channel)	not applicable

Timeslot number is coded in CHID number IE:

timeslot number	channel number for SL1 software	channel number in Channel Id IE
1- 15	1-15	1-15
17 - 31	16-30	17-31
16 (signalling)	31 (D-Channel)	not applicable

Package Requirements

There are no new packages for this feature. The following table describes the total required X11 packaging for this feature to be operable.

Packaging requirement for ISDN PRI2 QSIG Interface:

Package Mnemonic	Package Number	Package Description
QSIG	263	QSIG Interface
QSIG GF	305	QSIG GF Transport
ISDN	145	ISDN Signalling
MSDL	222	MSDL package
PRI2	154	2Mbps PRI
IPRA	202	International PRA

QSIG Integer Vs Object ID (for Name and Call Completion)

QSIG Name Display and Call completion SS introduced in Release 22 only supported ETSI object ID coding method. With the Release 24 QSIG Integer vs Object ID feature, the ISO integer coding method will also be supported. The development introduces changes both in QSIG SS Name display feature and QSIG SS Call completion feature.

Package Requirements

This feature is part of the X11 basic QSIG package, which consists of QSIG (263), QSIG GF (305) and QSIG-SS (316).

QSIG SS - Call Diversion Enhancements

QSIG diversion notification was introduced in Release 23. In Release 24, this feature has been enhanced to support MCDN gateways. The originating and diverted to user will now be notified of the redirection even if they are connected through an heterogeneous network using QSIG and MCDN links.

The Release 24 feature QSIG Call Diversion Notification allows the Meridian 1 to support the notification of originating and diverted-to users within three different services: Call Forwarding Unconditional (CFU), Call Forwarding Busy (CFB) and Call Forwarding No Reply (CFNR).

These services allow a user to forward incoming calls to his/her set to a different set. This forward can be triggered by different reasons:

- unconditionally for CFU, i.e. as soon as a call reaches the forwarding set. On the Meridian 1, this is known as Call Forward All Calls,
- when the forwarding DN is busy for CFB, i.e. when the forwarding set is already in use. On the Meridian 1, this is known as Hunt,
- when the forwarding set user does not answer for CFNR, i.e. after a given number of rings occurred. On the Meridian 1, this is known as Call Forward No Answer.

Providing the Call Diversion Notification on a QSIG private network basis allows the originating and diverted-to parties to be notified that a diversion occurred. Notification of these parties is provided on their display.

Package Requirements

The Call Diversion Enhancement feature is dependent on the QSIG supplementary services (316) package. It is also dependent on QSIG (263), QSIG GF (305), ISDN (145), PRA (146) and MSDL (222) packages.

Taiwan R1 Modified Signaling

The Taiwan R1 Modified Signaling feature supports Taiwan R1 Modified Signaling (TWR1 MS) over Taiwan R1 Direct Inward Dial (DID) or Direct Outward Dial (DOD) DTI trunks. With TWR1 MS, the capability to carry Calling Line Identification (CLID) across a Meridian 1 network is supported for local and national calls. Please note that, in a networking environment, the CLID is supported only for TWR1 calls that are tandemed over MCDN, ISDN, or QSIG trunks.

The Taiwan R1 Modified Signaling feature may operate in a standalone or network environment. In a standalone environment, the Meridian 1 connects directly to a Taiwan Public Exchange over Taiwan R1 Modified Signaling trunks.

In a networking environment, the tandem Meridian 1 connects to a Taiwan Public Exchange over Taiwan R1 or Taiwan ISDN trunks, and to one or more other Meridian 1 Private Exchange(s) over MCDN, QSIG, Dual Tone Multi Frequency (DTMF), or Dial Pulse (DP) trunks. Connectivity to the Private Exchange over Taiwan R1 Modified Signaling, Digital Private Networking Signaling System No. 1 (DPNSS1), or Level 2 Multi Frequency Compelled Signaling (R2 MFC) trunks is not supported.

Hardware Requirements

For large systems (Meridian 1 Options 51C, 61C, 81, 81C), the 1.5 Mbit NT5D12AE Dual-port DTI/PRI (DDP) card is required, operating in DTI mode.

For the small system Meridian 1 Option 11C, the 1.5 Mbit NTAK09DA DTI/PRI card is required, operating in DTI mode.

These cards send the timed wink (modified wink start) required for the Taiwan R1 Modified Signaling operation.

Package Requirements

The following packages are required for the Taiwan R1 Modified Signaling feature:

- Automatic Number Identification (ANI) package 12
- Taiwan R1 (TWR1) package 347

- If ESN dialing is used, the Flexible Numbering Plan (FNP) package 160, to support Taiwan's variable numbering plan

UAE Analog Semi-Permanent Connection (SPC) (new on X11 24.24/24.25)

This development provides the capability to re-establish automatically any SPC call detected as being disconnected and to provide the capability to output a specific message when a SPC call is detected as being disconnect. Another specific message is output as well when the SPC call is connected or reconnected.

This feature replaces two Performance Enhancement Products (PEPs): BV59658 (MPLR 08700) and BV81591 (MPLR11231) and enhances the functionality provided by those PEPs in the following way:

- Create a new CLS to make this feature configurable for a trunk.
- Create a configurable timer to set up the time between two attempts for re-establish a SPC call.

Package Requirements

This feature is part of the X11 base package.

Chapter 6 - Software Packaging

Software Options and Package Dependencies

Packages which are not supported on any machine type are not included in this table.

Prior to ordering packages indicated as pre-requisites, please contact your regional sales representatives. Some of the package dependencies may not be required in some regions, also some of the packages are not supported in some regions.

In the Package Dependencies column of this table, a "," incidates AND, and "/" indicates OR.

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
0	BASIC (R1)	Basic call Processing	OPTF-1	
1	OPTF (R1)	Extended PBX Features	BASIC-0	
2	CUST (R1)	Multiple Customer Operation		
4	CDR (R1)	Call Detail Recording	CTY-5	see also pkg# 5, 24, 83, 108 Without pkg#5 CDR cannot output statistics or reports
5	CTY (R1)	CDR on Teletype Machine (TTY)	CDR-4	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
7	RAN (R1)	Recorded Announcement	INTR - 11	
8	TAD (R1)	Time and Date		
9	DNDI (R1)	Do Not Disturb Indiv	DNDG-16	
10	EES (R1)	End to End Sig.		
11	INTR (R1)	Intercept Treatment		
12	ANI (R1)	Auto. Number Ident.	ANIR-13	
13	ANIR (R1)	ANI Route Selection	ANI - 12	
14	BRTE (R1)	Basic Routing	NCOS-32	
15	RPE (R1)	Remote Peripheral Equip.		Not supported on 11/11E/11C Mutually exclusive with RPE2-165
16	DNDG (R1)	Do Not Disturb Group	DNDI -9	
17	MSB (R1)	Make set Busy		
18	SS25 (R1)	2500 set features	SS5-73	
19	DDSP (R1)	Digit Display		
20	ODAS (R1)	Office Data Admin. System		
21	DI (R1)	Dial Intercom		
22	DISA (R1)	Direct Inward System Access		
23	CHG (R1)	Charge account for CDR	CDR -4, CAB - 24, FCA-52	
24	CAB (R1)	Charge Account / Authorization Code	CHG-23, FCA-52	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
25	BAUT (R1)	Basic Auth. Code	CHG-23, CAB-24, FCA-52	
26	CASM (R1)	Centralized Attn. Service (Main)		Mutually exclusive with pkg 159 (NAS) Supported on Option 11C and with AOP-56 with Release 23.55 and later
27	CASR (R1)	Centralized Attn. Service (Remote)		Mutually exclusive with pkg 159 (NAS) Supported on Option 11C and with AOP-56 with Release 23.55 and later
28	BQUE (R1)	Basic Queuing		
29	NTRF (R1)	Network Traffic Measurements	BARS-57, NARS-58, CDP-59, PQUE-60, FCBQ-61, OHQ-62	One of Pkg. 57-62 must be equipped
32	NCOS (R1)	Network Class Of Service		
33	CPRK (R2)	Call Park		
34	SSC (R2)	System Speed Call	NCOS-32	
35	IMS (R2)	Integrated Message System	BACD-40, ACDA-45, MWC-46, APL-109	
36	ROA (R2)	Recorded Overflow Announcement	RAN-7	
37	NSIG (R2)	Network Signalling	NCOS-32	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
38	MCBQ (R2)	Network Queuing - Main	BRTE-14, BQUE-28, NCOS-32, NSIG-37, BARS-57/ NARS-58/ CDP-59, FCBQ-61	
39	NSC (R2)	Network Speed Call	BRTE-14, BQUE-28, NCOS- 32, SSC-34, BARS-57/ NARS-58/ CDP-59, FCBQ-61	
40	BACD (R1)	Basic ACD		see also ACDA-45, ACDB-41, ACDC-42, LMAN-43, ACDD-50, LNK-51, CDRQ-83, TOF-111, DNIS-98
41	ACDB (R1)	ACD Package B	BACD-40, ACDA-45	
42	ACDC (R1)	ACD Package C1	BACD-40, ACDB-41, ACDA-45	
43	LMAN (R1)	ACD Load Mgmt. C2	BACD-40, ACDB-41, ACDC-42, ACDA-45	
44	MUS (R1)	Music	RAN-7	
45	ACDA (R1)	ACD Package A	BACD-40	
46	MWC (R1)	Message Center	BACD-40	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
47	AAB (R1)	Auto. Answer Back		
48	GRP (R1)	Group Call		
49	NCFR (R2)	New Flexible Code Restriction	NCOS-32	
50	ACDD (R2)	ACD package D	BACD-40, ACDB-41, ACDC-42, ACDA-45, LNK-51	
51	LNK (R2)	ACD Package D, Auxiliary Link Processor	ACDD-50	
52	FCA (R1)	Forced Charge Account	CHG-23, CAB-24	
53	SR (R1)	Set Relocation		
54	AA (R1)	Attn. Administration		
55	HIST (R1)	History File		
56	AOP (R1)	Attendant Overflow Position		Mutually exclusive with package 159.
57	BARS (R1)	Basic Alternate Route Selection	BRTE-14, NCOS-32	
58	NARS (R2)	Network Alternate Route Selection	BRTE-14, NCOS-32	
59	CDP (R1)	Coordinated Dialing Plan	BRTE-14, BQUE-28, NCOS-32, BARS-57/ NARS-58, FCBQ-61	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
60	PQUE (R1)	Priority Queuing	BRTE-14, BQUE-28, NCOS-32, NARS-58, FCBQ-61	
61	FCBQ (R1)	Flexible Call Back Queuing	BRTE-14, BQUE-28, NCOS-32, BARS-57/ NARS-58/ CDP-59	
62	OHQ (R1)	Off-Hook Queuing	BRTE-14, BQUE-28, NCOS-32, FCBQ-61 Optional: NTRF-29	Package 29 is optional on main and/or remote
63	NAUT (R1)	Network Authorization Code	BRTE-14, CHG-23, CAB-24, BAUT-25, BQUE-28, NCOS-32, FCA-52, BARS-57/ NARS-58/ CDP-59, FCBQ-61	
64	SNR (R3)	Stored Number Redial		
65	TDET (R7)	Tone Detector		Not supported on 11/11E/11C
67	NXFR (R3)	Network Call Transfer	NCOS-32, NSIG-37	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
70	HOT (R4/R10)	Hot Line Services / Enhanced Hot Line	NCOS-32, SSC-34. Optional Pkgs: ISDN-145, PRA-146/ ISL-147, NTWK-148	Add optional packages for Network Intercom / Network Hot Line
71	DHLD (R4)	Deluxe Hold		
72	LSEL (R4)	Auto. Line Selection		
73	SS5 (R4)	500 Set Features	SS25-18	
74	DRNG (R4/R9)	Distinctive and New Distinctive Ringing		
75	PBXI (R5)	PBX Interface for DTI		
76	DLDN (R5)	Dept. Listed DN		
77	CSL (R8)	Command Status Link		
79	OOD (R5)	Optional Outpulsing Delay		
80	SCI (R7)	Station Category Indication		
81	CCOS (R7)	Controlled Class of Service		
82	RESDB	Resident Debug		Not supported on Option 11C
83	CDRQ (R3)	ACD CDR Queue Record	CDR-4, BACD-40	
84	ATM (R7)	Automatic Trunk Maintenance	TDET - 65	Not supported on Option 11/11E/11C
86	TENS (R7)	Mult. Tenant Service		

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
87	FTDS (R7)	Fast Tone and Digit Switch		
88	DSET (R7)	Digital Telephones		
89	TSET (R7)	M3000 Touchphone	DSET-88	
90	LNR (R8)	Last Number Redial		
91	DLT2 (R9)	M2317 Digital Display Telephone	DSET-88	
92	PXLT (R8/R14)	Pretranslation / Enhanced Pretranslation		
93	SUPV (R8)	Sup. Attn. Console		
95	CPND (R10)	Call Party Name Display	DDSP-19, ODAS-20, BGD-99, DSET-88/ TSET-89/ DLT2-91/ DCON-140/ ARIE-170	ODAS for DES, BGD for Hotel/Motel applications
97	JCO	Japan CO Trunk		
98	DNIS (R10)	Dialed Number Identification Service	DDSP-19, BACD-40, ACDA-45, APL-109, IDC-113	APL for DP link, IDC for routing by DNIS
99	BGD (R10)	Background Terminal Facility	RMS-100, MR-101, AWU-102, PMSI-103	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
100	RMS (R10)	Room Status	DNDI-9, MWC-46, CCOS-81, BGD-99	packages DNDI and MWC are required for lamp status
101	MR (R10)	Message Registration	BGD-99, SUPP-131	
102	AWU (R10)	Automatic Wake-up	RAN-7, CCOS-81, BGD-99	
103	PMSI (R10)	Property Management System Interface	CCOS-81, BGD-99, RMS-100/ MR-101/ AWU-102	
104	OPAO	Outpulsing of * and #		
105	LLC (R14)	Line Load Control		
106	SLP	Station Loop Preemption		
107	MCT (R10/R20)	Malicious Call Trace	CDR-4, ISDN-145, PRA-146 or ISL-147, NAS-159, ISDNS-161	
108	ICDR (R10)	Internal CDR	CDR-4	
109	APL (R10)	Aux. Processor Link	BACD-40, ACDA-45	
110	TVS (R9.32)	Trunk Verification from a Station		

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
111	TOF (R10)	ACD Timed Overflow	BACD-40, ACDB-41, ACDA-45	
113	IDC (R12)	Incoming DID Digit Conversion	NCOS-32, NFCR-49	
114	AUXS (R12)	ACD-D Aux. Security	BACD-40, ACDB-41, ACDC-42, ACDA-45, ACDD-50, LNK-51	
115	DCP (R12)	Directed Call Pickup		
116	PAGT (R12)	ACD Priority Agent	BACD-40, ACDA-45	
117	CBC (R16)	Call By Call Service Selection	ISDN-145, PRI2-154/ ISL-147, PRA-146, IEC-149	IEC for Inter-Exchange Carrier
118	CCDR (R13)	Calling Line ID in CDR	CDR-4, ISDN-145, PRI2-154/ ISL-147	
119	EMUS (R12)	Enhanced Music	RAN-7, MUS-44	
120	PLDN	Group Hunt/DN access to SCL	NCOS-32, SSC-34, CCOS-81, SUPP-131, FFC-139	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
121	SCMP (R20)	Station Camp on	SUPP-131	
122	COMDT	Common DAS/DPNSS DTRK Package	DTI2-129	
123	DPNSS	DPNSS	BRTE-14, BQUE-28, NCOS-32, BARS-57/ NARS-58/ CDP-59, FCBQ-61, COMDT-122, ISDN-145, NTWK-148, PRI2-154/ ISL-147	
124	DASS2	DASS2	BRTE-14, BQUE-28, NCOS-32, BARS-57/ NARS-58/ CDP-59, FCBQ-61, COMDT-122, DPNSS-123, ISDN-145, NTWK-148, PRI2-154/ ISL-147	
125	FTC (R16)	Flexible Tone and Cadences	DRNG-74	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
126	OPCB	Operator Call Back	SUPP-131, MCT-107/ BKI-127/ MFC-128	if package 107 is used, then CDR-4 is required
127	BKI (R20)	Attendant Break-in / Trunk Offer		
128	MFC	Multifrequency Compelled Sig.		
129	DTI2	2.0 Mb DTI2		
131	SUPP	International Supp. Features		Not supported in North America and Japan
132	TBAR (R20)	Trunk Baring		
133	ENS (R20)	Enhanced Night Service		
134	AFNA	Auto. Forward No Answer		Mutually Exclusive with AAA-174
135	MFE	MFE Sig. (France)		
136	JDMI	2.0 Mb Digital MUX interface (Japan)		Not supported on Option 11/11E/11C
137	LSCM	Local Steering Code Modification	NARS-58/ CDP-59, FCBQ-61	
138	DTD	Dial Tone Detector		

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
139	FFC (R15/R21)	Flexible Feature Codes	CCOS-81, SS5-73, NCOS-32 CCOS-81 and ISDN-145, SS25-18, NFCR-49	CCOS for Electronic Lock and Remote Call Forward, SS5 for FFCs on 500 telephones, NCOS, CCOS, and ISDN for Electronic Lock Network Wide, SS25 for Customer Call Forward, NFCR for Outgoing Call Barring
140	DCON (R15)	M2250 TCM Console	DSET-88	
141	MPO (R20)	Multi Party Operation	FTC-125	FTC for recall ringing cadence and control/special dial tones
143	ICP	Intercept Computer Interface	RAN-7, MSB-17, IMS-35, BACD-40, ACDA-45, MWC-46, CCOS-81, APL-109, SUPP-131, FFC-139	
144	ABCD	16-Button DTMF		
145	ISDN (R13)	ISDN Signaling	DCP-115, NTWK-148, PRA-146/BRI -216	PRA / BRI for Call pickup Network Wide
146	PRA (R13)	ISDN Primary Rate Access	PBXI-75, ISDN-145, DDSP-19	DDSP for CLID
147	ISL (R14)	ISDN Signaling Link	ISDN-145	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
148	NTWK (R14)	Advanced Network Services	BRTE-14, BQUE-28, NCOS-32, NSIG-37, NARS-58/ CDP-59, FCBQ-61, ISDN-145, PRA-146/ DTI2-129& ISL-147/ PRI2-154/ VNS-183/ BRIT-233	NSIG for tandem node
149	IEC (R13)	Inter-exchange Carrier	PBXI-75, ISDN-145, PRA-146	
150	DNXP (R13)	Direct Number Expansion	CDRE-151	CDRE if CDR is equipped
151	CDRE (R13)	Call Detail Recording Expansion	CDR-4, DNXP-150	
153	IAP3P (R13)	Application Module Link	CSL-77, IMS-35	
154	PRI2	2.0 Mb PRI	ISDN-145	
155	ACNT (R13)	ACD Activity Code Entry	BACD-40, ACDB-41, ACDC-42, ACDA-45, ACDD-50, LNK-51, AUXS-114	
157	THF (R14)	Centrex Switchhook Flash		

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
158	FGD (R17)	Feature Group D	BARS-57, NARS-58, CDP-59, CDRE-151	
159	NAS (R20)	Network Attn. Services	BRTE-14, BARS-57/ NARS-58/ CDP-59, BQUE-28, NCOS-32, FCBQ-61, ISDN-145, DTI2-129& ISL-147/ PRI2-154/ BRIT-233, ISDNS-161	Mutually exclusive with packages 26, 27, and 56, For 1.5Mbit interface add PBXI - 75 and PRA - 146
160	FNP (R20)	Flexible Numbering Plan	BRTE-14, BQUE-28, NCOS-32, BARS-57/ NARS-58/ CDP-59	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
161	ISDNS (R20)	ISDN Supplementary Features	BRTE-14, BQUE-28, NCOS-32, BARS-57/ NARS-58/ CDP-59, FCBQ-61, ISDN-145, DTI2-129& ISL-147/ PRI2-154& optionally IPRA-202/ BRIT-233, NAS-159	for call connection limitations add PRA-146 and ISL-147 Pkg 202 is for call CX limintation, DID to network, L1/ISDn gateway
162	SAR (R20)	Scheduled Access Restrictions	BAUT-25	for manual modifications BAUT-25, FCA-52, FFC-139, for NCOS restrictions NCOS-32, for Multi-tenant TENS-86
163	MIN	Message Intercept	DRNG-74, FTC-125	
164	LAPW (R16)	Limited Access to overlays		
165	RPE2	2.0 Mb RPE2		Not supported on Option 11/11E/11C Mutually Exclusive with RPE-15
166	HOSP	Hospitality Mgmt.		
167	GPRI	1.5/2.0 MB Gateway	ISDN-145, PRA-146, PRI2-154, optionally PBXI-75	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
168	TMON	Traffic Monitoring		Not supported on Option 11/11E/11C
169	COOP	Console Operation		
170	ARIE (R14)	Meridian Modular Telephone	DSET-88/ TSET-89	
171	JTDS	Japan Tone and Digit Service	DRNG-74	
172	CPGS (R15)	Console Presentation Group Level Services	TENS-86, SAR-162	
173	ECCS (R15)	Enhanced Controlled Class of Service	CCOS-81	
174	AAA (R15)	Attendant Alternative Answering		Mutually Exclusive with AFNA-134

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
175	NMS (R16)	Network Message Services	EES-10, MWC-46, ISDN-145, NTWK-148.	for Network Message Center, Originating or Teminrating PBX
			ISDN-145, NTWK-148.	for Network Message Center, Tandem PBX
			EES-10, ACDA-45, MWC-46, ISDN-145, NTWK-148.	for Meridian Mail, Originating PBX
			ISDN-145, NTWK-148.	for Meridian Mail, Tandem PBX
			EES-10, IMS-35, CSL-77, ISDN-145, NTWK-148.	for Meridian Mail, Terminating PBX
			EES-10, MWC-46, ISDN-145, NTWK-148.	for ACD Message Center, originating PBX
			ISDN-145, NTWK-148.	for ACD Message Center, tandem PBX
			EES-10, ACDA-45, MWC-46, ISDN-145, NTWK-148.	for ACD Message Center, terminating PBX
176	DTOT	DID to TIE		Japan only
178	EOVF (R15)	Enhanced Overflow	BACD-40, ACDB-41, ACDA-45, TOF-111	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
179	HVS (R16)	Hospitality Voice Services	RAN-7, EES-10, MSB-17, IMS-35, BACD-40, ACDA-45, MWC-46, CSL-77, APL-109, DKS-180, PMSI-103	for Pretranslation and DND enhancements. for PMSI enhancements.
180	DKS (R16)	Digital Key Signaling	RAN-7, EES-10, MSB-17, IMS-35, BACD-40, ACDA-45, MWC-46, CSL-77, APL-109	
181	SACP (R21)	Semi-automatic Camp-on		
182	TFM	Trunk Failure Monitor		
183	VNS (R21)	Virtual Network Services	NARS-58, NCOS-32, BRTE-14, ISDN-145, ISL-147, NTWK-148, ISDNS-161	PRI2-154 is required for PRI2
184	OVPL	Overlap Signaling	BRTE-14, NCOS-32, NARS-58	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
185	EDRG	Executive Distinctive Ringing	NCOS-32, NARS-58, ISDN-145, ISDNS-161	
186	POVR (R20)	Priority Override / Forced Camp On	CCOS-81, FFC-139, MPO-141	dependencies for 500-2500 sets
187	RPA	Radio Paging	CCOS-81, FFC-139	
188	L1MF	L1-MFC Signalling	BRTE-14, BQUE-28, NCOS-32, BARS-57/ NARS-58/ CDP-59, FCBQ-61, MFC-128, ISDN-145, ISL-147/ PRI2-154, NAS-159, ISDNS-161	
189	SVCT	Sup. Console Tones		
190	UK	UK H/W support	XPE-203, XCT0-204, XCT1-205	UK only
191	SECL (R21)	Series Call		

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
192	RVQ (R18)	Remote Virtual Queuing	MCBQ-38, FCBQ-61, DTI-75, ISDN-145, PRA-146, NTWK-148	R20 renamed package to Originator Routing Control / Remote Virtual Queuing (ORC-RVQ) with additional dependencies BRTE-14, BQUE-28, NCOS-32, NSIG-37, BARS-57 NARS-58 or CDP-59, removal of DTI-75 dependency and change of either PRA-146 or ISL-147. For Drop Back Busy add OHQ-62, NAS-159, and ISDNS-161
193	RCK	Ring Change Key		
195	FAXS	HiMail Fax Server Interface		
196	OHOL	On Hold on Loudspeaker		
197	FTA	French Type Approval	SUPP-131	
198	FFCSF	Boss Secretary Filtering	FFC-139	
200	AINS	Auto. Set Based Installation		Only supported on Option 11/11E/11C
202	IPRA	International PRA	ISDN-145, PRI2-154	
203	XPE (R15)	Extended Peripheral Equipment (Superloop)	SUPP-131, XCT0-204, XCT1-205	
204	XCT0 (R15)	Enhanced Conference, TDS, and MFS card	XCT1-205	
205	XCT1 (R15)	Superloop Administration	XCT0-204	Overlay 97

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
206	MLWU (R16)	Multi-Language Wake-up	RAN-7, CCOS-81, BGD-99, AWU-102, PMSI-103	
207	NACD (R15)	Network ACD	BRTE-14, BQUE-28, NCOS-32, NSIG-37, BACD-40, ACDB-41, ACDA-45, NARS-58/ CDP-59, FCBQ-61, TOF-111, ISDN-145, NTWK-148, PRI2-154/ ISL-147, EOVF-178	
208	HSE (R17)	Hospitality Screen Enhancement	ARIE-170	
209	MLM (R16)	Meridian Link Module	RAN-7, TAD-8, EES-10, MSB-17, DDSP-19, IMS-35, BACD-40, ACDA-45, MWC-46, CSL-77, APL-109, IAP3P-153, DKS-180	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
210	MAID (R17)	Maid Identification	CCOS-81, BGD-99, RMS-100, PMSI-103, HSE-208	- PMSI to capture Maid ID for statistic reports. - HSE to bring up Maid ID screen for Meridian Modular Telephones with Hospitality Screen Enhancement feature
211	MLIO	Multi-Language CPND	DSET-88, CPND-95	
212	VAWU (R17)	VIP Auto Wake-up	AWU-102	
214	EAR (R17)	Enhanced ACD Routing	ACDB-41	
215	CCR (R18)	Customer Controlled Routing	CSL-77, EAR-214, CALL ID-247	Note: CALL ID for R19 and later
216	BRI (R18)	Basic Rate Interface	XPE-203, MSDL-222	For R20 and later add BRIL-235
218	IVR (R18)	Hold in Queue for IVR	CCR-215	
219	MWI (R19)	Message Waiting Indication Interworking with DMS	EES-10, MWC-46, NTWK-148, NWC/NMS-175	For originating node. Add ACDA-45 is ACD DN is used as Message Center DN
			EES-10, IMS-35, NTWK-148, NWC/NMS-175	For host node
			NTWK-148	For Tandem node
221	CIST	DTI/3-wire analog trunk	FTC-125, SUPP-131, FNP-160, XPE-203	for DTI: DTI2-129, XCT0-204, XCT1-205. For 3WIRE: FTDS-87, TFM-182

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
222	MSDL (R18)	Multi-Purpose Serial Data Link	ISDN-145, PRA-146. ISDN-145, ISL-147. MSDL SDI-227. MSDL SDI-227, STA-228. IMS-35, CSL-77, IAP3P-153. ISDN-145, PRI2-154	for D-Channel with PRA for D-Channel with ISL for Serial Data Interface for Single Terminal Access for Application Module Link for ISDN functionality
223	FC68 (R17)	FFC Comp for DID Answer Supervision		Mutually Exclusive with JCO-97
224	M911 (R19)	Meridian 911	DDSP-19, BACD-40, ACDB-41, ACDA-45, IAP3P-153, EAR-214, CWNT-225, CALL ID-247	- for full M911 operation add CWNT-225. - for Meridian Link add MLM-209. - for Call Abandon (R21) add BACD-40, ACDB-41, ACDA-45, CWNT-225. - Recommended CDR-4, CTY-5, ACDC-42, LMAN-43, ACDD-50, LNK-51, CPND-95, MCT-107, and CCDR-118. If 50 and 51 are enabled, 42 is not needed.
225	CWNT (R19)	Call Waiting Notification	DDSP-19, BACD-40, ACDB-41, ACDA-45, EAR-214	
227	MSDL SDI (R19)	MSDL Serial Data Interface	MSDL-222	Not Supported on Option 11/11E/11C

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
228	STA (R19)	Single Terminal Access	MSDL-222, MSDL SDI-227	Not Supported on Option 11/11E/11C
229	SSAU (R19)	Station Specific Authcode	BAUT-25	
230	MDP	Manufactured Delivered Patches		Not Supported on Option 11/11E/11C
231	DNWK	DPNSS Network Services	BRTE-14, BQUE-28, NCOS-32, BARS-57/ NARS-58/ CDP-59, FCBQ-61, COMDT-122, DPNSS-123, DTI2-129, SUPP-131, ISDN-145, NTWK-148, PRI2-154/ ISL-147, optionally ISDNS-161	For MCDN Gateway: SUPP-131, ISDN-145, NTWK-148, NAS-159.
232	PEMD	Pulsed EAM	SS25-18, SS5-73, MR-101, DTi2-129, SUPP-131, BKI-127, MFC-128	Not Supported on Option 11/11E/11C
233	BRIT	BRI Trunk Application	ISDN-145, XPE-203, BRI-216	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
234	FCDR (R20)	New Format CDR	CDR-4, CTY-5	
235	BRIL (R20)	Basic Rate Interface Line Application	ISDN-145, XPE-203, BRI-216	for Packet Data add ISDN-145
236	ARCL	AC15 Timed Recall		for Reminded Timer and Norstart transfer SUPP-131. for M1 transfer add ATX-258
240	MCMO (R20)	Meridian Companion	SS25-18, DDSP-19, MWC-46, CPND-95, FFC-139	for Network Call Party Name Display / Calling Line ID add ISDN-145, PRA-146, ISL-147
242	MULI (R19)	MultiUser Login		
243	ALMR_FIL TER (R19)	Alarm Filtering	HIST-55	Supported on Option 11C
245	SYS_MSG_ LKUP (R19)	System Errors and Events Look-up	HIST-55	Supported on Option 11C - requires use of EDC to store lookup table
246	VMBA (R19)	Meridian Mail Voice Mail Box Administration		CPND-95 and ALRM_FILTER-243 are recommended
247	CLID (R19)	Call ID		

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
248	MPH (R19)	Meridian 1 Packet Handler	XPE-203, BRI-216	Not Supported on Option 11/11E/11C Package 145/154 only required if Packet Data Network (PDN) connection is via T1 channel and not via Meridian Communication unit (MCU) for 1.5 Mbps PRI add ISDN-145, for 2Mbps PIR add PRI2-154
250	DPNA (R21)	Direct Private Network Access	DISA-22. RAN-7, DISA-22. RAN-7, BAUT-25, NAUT-63.	for DISA Digit Insertion for DISA RAN for Authcode-last Retry (RAN only if RAN is required).
251	SCDR (R20)	Station Activity Record	CDR-4, CTY-5	
252	KD3	Spanish KD3 DID/DOD Interface	BRTE-14, SS25-18, NARS-58, CDP-59, FCBQ-61, IDC-113, OPCB-126, DTI2-129, SUPP-131, FNP-160	
253	ARFW (R20)	Attendant Remote Call Forward	OPTF-1, CCOS-81, FFC-139	for Set based network RCFW. For implementation of 500/2500 sets add SS25-18, and SS5-73. For network RCFW add ISDN-145, NARS-58, and CDP-59

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
254	PHTN (R20)	Phantom TN Operation	FFC-139	for Remote Call Forward
255	INBD	Intn. nB+D	19, 75, 145, 146, 202, 222	
256	ADMINSET	Set Based Administration	FFC-139, LAPW-164, MULI-242	For digit display add DDSP-19. For Automatic Installation (Option 11E only) add AINS-200. For Admin Set: DDSP-19, DSET-88, ARIE-170. For CPND: CPND-95
258	ATX (R20)	Autodial Tandem Transfer	EES-10, THF-157	
259	CDRX	CDR Enhancements	CDR-4, CTY-5, FCDR-234	
261	EURO	EURO ISDN	DDSP-19, ISDN-145	DDSP-19 is required for CLID. for AOC: CDR-4, CCOS-81, MR-101, SUPP-131, ISDNS-161. for PRI: PRI2-154, IPRA-202, MSDL-222. for BRI: XPE-203, BRI-216, BRIT-233 for OVLP: OVLP-184, FNP-160, BARS-57/AOP- 56
262	SAMM	Stand-alone Meridian Mail	COMDT-122, DPNSS-123, NMS-175	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
263	QSIG (R22)	QSIG Interface	DDSP-19, ISDN-145, PRA-146, MSDL-222	On Option 11/11E/11C: Full ISL & VNS not supported. DDSP-19 is required for CLID. for PRI: PRI2-154, IPRA-202, MSDL-222. for BRI: XPE-203, BRI-216, BRIT-233 for OVLP: OVLP-184, FNP-160, BARS-57/AOP- 56 for Name Display: DDSP-19, CPND-95, QSIGGF-305
279	MLMS	Multi-Language Messages	MLIO-211, SYS_MSG_LKUP-245	
264-280	SMLL	System Message Lookup (Country Specific)		Supported on Option 11C - requires country specific data on SDC plus EDC for storage
283	UIGW	ISDN/DPNSS DASS Gateway	PRI2-154	For DPNSS Interworking: COMDT-122, DPNSS-123, DASS2-124
284	DPNSS 1891	DPNSS 1891	COMDT-122, DPNSS-123, PRI2-154	
285	CHINA	M1 IPE Loss Plan for China	OPCB-126, SUPP-131	
286	REM_IPE	Remote IPE	XPE-203	Not supported on Option 11/11E/11C. for 1.5 MB RPE: RPE-15 for 2.0 MB RPE: RPE2-165
288	DPNSS ES	DPNSS Enhanced Services		for Attendant Consoles: BKI-127 for DPNSS Network: COMDT-122, DPNSS-123, SUPP-131, ISDN-145, PRI2-154

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
289	ADSP	ACD Disconnect Supervision		
290	CCB	Collect Call Blocking		
291	NI2 (R21)	North America National ISDN Class II Equipment	ISDN-145, PRA-146, MSDL-222	
292	CHTL	China Toll Loss Plan	MFC-128, DTI2-129, SUPP-131	
293	TAT	Trunk Anti Tromboning		Pkg. replaced with TATO 312
294	BTD	Busy Tone Detection	XPE-203	
296	MAT_PKG (R22)	Meridian Administration Tools Management Interface	LAPW-164, MULI-242 optionally ALMR_FILTER-243	
297	MQA (R21)	Multiple Queue Assignment	BACD-40, ACDB-41, ACDC-42, ACDA-45, ACDD-50, LNK-51, DSET-88, ARIE-170	for Agents to specify priorities add PAGT-116. for Automatic Call Forward of non-ACD calls add FFC-139, and PHTN-254
298	CPIO (R21)	Call Processor Input / Output (Opt 81)		Not supported on Option 11/11E/11C. Mutually Exclusive with CORENET-299

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
299	CORENET (R21)	Core Network Module (Opt 81C)		Not supported on Option 11/11E/11C. Mutually exclusive with CPIO-298
301	CPP (R21)	Calling Party Privacy	FFC-139	
302	MOSR (R22C)	Mobility Server	MMO-303, BRI-216, PHTN-254, and MAT5 dependencies LAPW-164, MULI-242, MAT-PKG29, optionally ALMR_FILTER-243	Supported on Release 22.37 and later
303	MMO (R22C)	M1 Microcellular Option	MOSR-302, BRI-216, PHTN-254, and MAT5 dependencies LAPW-164, MULI-242, MAT-PKG29, optionally ALMR_FILTER-243	Supported on Release 22.37 and later
305	QSIGGF (R22)	QSIG GF Transport	QSIG-263, ISDN-145, PRA-146, MSDL-222	
306	CPRKNET (R22)	Call Park Networkwide	CPRK-33,	for Network Call Park: NAS-159

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
307	PAGENET (R22)	Call Page - Networkwide		
309	MASTER	Euro ISDN Master Mode	EURO-261	
310	CPCI (R22)	Called Party Control on Internal Calls	MCT-107	
311	NGCC (R22)	Next Generation CC (ICCM/Symposium)	ACDB-41, ACDC-42, LMAN43, ACDD-50, AUXS-114, DCP-115, EAR-214, CCR-215, IVR-218, CLID-247, NGEN-324	
312	TATO (R21)	Trunk Anti Tromboning	ISDN-145, PRA-146/ ISL-147, PRI2-154	Recommended NTWK-148
313	ISPC	ISDN Semi-Perm Connection -Australia	DTI2-129, ISDN-145, ISL-147, PRI2-154, IPRA-202, XPE-203, MSDL-222	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
314	MMSN (R22C)	M1 Mobility Multi-Site Networking	NARS-58/ CDP-59, ISDN-145, PRA-146, ISL-147, NTWK-148, BRI-216, PHTN-254, MOSR-302, MMO-303	Supported on Release 22.37 and later
315	OPEN ALARM (R22)	Open Alarms	ALRM_FILTER-243, MAT-296	
316	QSIG_SS (R22)	ISDN Qsig Supplementary Services - Call Completion	OPTF-1, CDP-59, FNP-160, QSIG-263, QSIGGF-305, optionally OVLP-184	
321	QTN (R22C)	CCR-NACD Interworking	NACD-207, CCR-215	Supported on Release 22.37 and later
323	EISDN (R22)	EISDN Supp. Services	OPTF-1, CDP-59, FNP-160, EURO-261	
324	NGEN (R22)	New Generation Connectivity	CSL-77, IAP3P-153, LAPW-164, MULI-242, ALMR_FILTER-243, MAT_PKG-296	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
325	DMWI (R23)	DPNSS Message Waiting	EES-10, MWC-46, COMDT-122, DPNSS-123, DNWK-231	
326	CISMFS (R23)	CIS MF Shuttle Signalling	FTC-125, DTI2-129, SUPP-131, FNP-160, CIST-221	
327	RANBRD (R23)	RAN Broadcast	RAN-7, INTR-11	
328	MUSBRD (R23)	Music Broadcast	RAN-7, MUS-44	
329	ESA (R23)	Emergency Services Access	ANI-12, ODAS-20, CPND-95	if using ISDN add ISDN-145
330	ESA_SUPP (R23)	Emergency Services Access Supplementary	ESA-329	
331	ESA_CLM P (R23)	Emergency Sedrvices Access Calling Number	ESA-329	
332	CNUMB (R23)	CLASS: Calling Number Delivery		
333	CNAME (R23)	CLASS: Calling Name Delivery	CPND-95	
334	NI2CBC (R23)	NI-2 Call by Call Service Selection	ISDN-145, PRA-146, MSDL-222, NI2-291	

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
335	JTTC (R23)	Japan TTC Common Channel Signalling	ISDN-145, PRA-146/ PRI2-154, IPRA-202, BRI-216, BRIT-233	
344	GCM (R24)	Russian Call monitoring SORM	LAPW-164, RUCM-353	
347	TWR1 (R24)	Taiwan R1 Modified Signalling	FNP-160	
348	MEET (R24)	MCDN End to End Transparency	NTWK-148	for ISDN PRI: ISDN-145, PRA-146, MSDL-222, QSIG-263, QSIGGF-305 for ISDN PRI2: ISDN-145, PRI2-154, IPRA-202, MSDL-222, QSIG-263, QSIGGF-305 for ISDN BRIT: ISDN-145, BRI-216, MSDL-222, BRIT-233, QSIG-263, QSIGGF-305 for NAS: BRTE-14, BQUE-28, NCOS-32, NARS-58, CDP-59, FCBQ-61, TENS-86, NAS-159, ISDNS-161, RVQ-192 (mutually exclusive with CASM-26, CASR-27, AOP-56) for NACD: BRTE-14, DDSP-19, BQUE-28, NCOS-32, BACD-40, ACDB-41, NARS-58, EOVF-178, NACD-207, BARS-57/ CDP-59 for NMS-MC: MWC-46, NMS-175 (with ACD: BACD-40, C-42, ACDA-45) for NMS-MM: EES-10, IMS-35, BACD-40, ACDA-45,MWC- 46, CSL-77, NMS-175

Table 1: Software Package Dependencies

Pkg #	Mnemonic	Name	Package Dependency	Comments
350	MC32 (R24)	Meridian Companion Enhanced Capacity	MCMO-240	
351	DBA (R24)	MAT Data Buffering and Access	MAT_PKG-296	
353	RUCM (R24)	Russian Call Monitoring SORM	LAPW-164, GCM-344	
362	FDID (R24)	Flexible DID	NCFR-49, CCOS-81, BGD-99, RMS-100, IDC-113,	if using PMS, add PMSI-103
364	NMCE (R23C)	Meridian Communication Exchange / Call Pilot	EES-10, ACDB-41, MWC-46, CSL-77, CPND-95, IAP3P-153, LAPW-164, EAR-214, CCR-215, IVR-218, MULI-242, ALMR_FILTER-243, CLID-247, PHTN-254, MAT_PKG-296, NGEN-324	For Networked Messaging: 175

Packages Introduced in Release 24

The following table provides a list of the packages introduced in Release 24, their mnemonics, and their package numbers.

Table 2: Packages introduced with X11 Release 24

Pakage Name	Mnemonic	Package Number
MCDN End to End Transparency	MEET	348
Meridian Companion Enhenced Capacity	MC500	350
MAT Data Buffering and Access	DBA	351
Flexible DID	FDID	362

Packages not supported on Option 11C

The following table lists the packages which are not supported on Option 11 machine types.

Table 3: Packages Not Supported on Option 11/11E/11C

Package Name	Mnemonic	Package Number
Remote Peripheral Equipment	RPE	15
Tone Detector	TDET	65
Resident Debug	RESDB	82
Automatic Trunk Maintenance	ATM	84
2 Mb. Digital Mux Interface (Japan)	JDMI	136
2 Mb RPE	RPE2	165
Traffic Monitoring	TMON	168
MSDL - Serial Data Interface	MSDL SDI	227
Single Terminal Access	STA	228
Manufactured Delivered Patches	MDP	230
Pulsed EAM	PEMD	232
Meridian 1 Packet Handler	MPH	248
Remote IPE	REM_IPE	286
CP1 Processor I/O	CPIO	298
CP1 Processor Network	CORENET	299

Chapter 7 - Auxiliary Processor Compatibility

Auxiliary Processor	Release 24.24/24.25
Meridian Administration Tools (for Windows 95/98 and NT Workstation V4.0)	6.5
Symposium Call Center Server	1.0, 1.1, 1.5
Multimedia Symposium Conference	4, 5
Symposium Communicator	1.x – 2.0
Symposium Messenger	3.x – 4.0
Symposium Fast Call/ Fast View (Windows only)	1.1- 1.6
Symposium TAPI Service Provider	2.x
Symposium Desktop TAPI Service Provider for MCA (Meridian Communications Adapter)	1.x – 2.x
Symposium Call Manager	4.x – 5.x
Symposium Agent	1.x – 2.x
Symposium Express Call Center	1.0
Symposium Integrated Interactive Voice Response	2.2
Symposium Open Interactive Voice Response	4.0

Meridian Link	5, 5C
Meridian Customer Controlled Routing	2.x,3.x,3B,3C
ACD MAX	N/A
Meridian MAX	6.3, 7.5, 8.x – 9.x
Network Administration Center	2.5
M911	1.x – 2.x
Cplus (base)	3.11
Cplus LAN Key	1.0
Cplus Preformer	1.0 and later
Meridian Mail	8.x – 12.x
Meridian Mail Card Option	8.x – 12.x
Call Pilot	1.0

Meridian 1

Option 11C, 11C Mini, 51C, 61C, 81, and 81C

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