Electronic Private Automatic Branch Exchange and Business Communication Systems

Meridian MAX
Installation Guide

NORTEL
NORTHERN TELECOM

Electronic Private Automatic Branch Exchange and Business Communication Systems

Meridian MAX

Installation Guide

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This document is released as the *Meridian MAX 8 Installation Guide* (NTP 553-4001-111), Standard 1.0.

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About this document

This document details the steps and procedures required to successfully install the hardware and software for your Meridian MAX 8.

Terminology

The term "Meridian 1" is used throughout this document, and refers to Meridian 1 and Meridian 1-ready systems, such as Meridian 1 SL-1 style cabinets that have been upgraded.

Conventions

The following conventions are used throughout the Meridian MAX 8 document set.

CALLS ANSWD

Words in this typeface represent text on your screen or printed reports.

{RETURN}

Words or characters within braces and capitalized represent a specific key on your keyboard. When two or more such keys appear side by side, all the keys must be pressed simultaneously to achieve the desired effect.

Example

Press **{RETURN}** or **{CONTROL}{R}** to begin the procedure.

Note: {RETURN} and {ENTER} are interchangeable.

[Commands]

Words within square brackets represent the generic name attached to a specific function key.

For more information on the function key capabilities, refer to the *Meridian MAX 8 Supervisor's User Guide* (P0853407)*,* "Understanding the interface" chapter, "Function keys" section.

Example

[Commands]

Activity Code Report

Bold text represents specific text you must type on your keyboard. You must always press **{ENTER}** after you have typed and confirmed the text so that the system can recognize that you are ready to continue.

Example

Enter **10**, followed by **{RETURN}**.

"Graphic Format Definition"

Italicized text within quotation marks represents a specific choice you must make from a menu.

Example

Choose *"Graphic Format Definition"* from the Report Definition submenu.

Graph Title

Italicized text represents the name of a specific field on a screen or report.

Example

Move the cursor to the *Display Name* field.

"Configuration Control"

Text in quotation marks represents references to other areas of a document.

Example

Refer to the "Profile Maintenance" chapter.

Meridian MAX 8 Supervisor's User Guide
Italicized text represents references to other documents.

Example

Refer to the *Meridian MAX 8 Supervisor's User Guide.*

Sample screens

All screen depictions related to the Meridian Terminal Emulator (MTE) are based on a PC running the MTE software. All other screen depictions assume that you are using the DEC VT420 or a compatible workstation. If you are using a different type of workstation, there may be a difference between the function key menu as it appears on your screen and the function key menu as it appears in this document. This is due to the different keyboards that can be used with the workstation. Please refer to the *Meridian MAX 8 Supervisor's User Guide* (P0853407), "Understanding the interface" chapter, for more information.

Reference to other Meridian MAX documents

Additional information about Meridian MAX is contained in the following Nortel (Northern Telecom) documents:

- P0853407   *Meridian MAX 8 Supervisor's User Guide*
- 553-4001-210   *Meridian MAX 8 Upgrade Guide* (P0853412)
- 553-4001-811   *Meridian MAX 8 Maintenance and Diagnostics Guide* (P0853402)
- P0853414   *Meridian MAX 8 MSI/MEI Protocol Reference Guide*
- P0853413   *MTE 8 User Guide*
- P0815598   *Meridian MAX 7 Supervisor's User Guide*
- 553-4001-811   *Meridian MAX 7 Maintenance and Diagnostics Guide* (P0815589)
- 553-4001-911   *Meridian MAX 7 Overview* (P0815591)
- 553-4001-210   *Meridian MAX 7 Installation Upgrade Guide for Meridian MAX 3 through 6 Systems* (P0815593)
- P0821303   *MTE 7 User Guide*

- P0815602   *MTE 6 User Guide*
- P0802089   *Meridian MAX 6 Supervisor's User Guide*
- P0802091   *Meridian MAX 6 Supervisor's Reference Guide*
- 553-4001-811   *Meridian MAX 6 Maintenance and Diagnostics Guide* (P0802081)
- 553-4001-911   *Meridian MAX 6 Overview* (P0802083)
- 553-4001-210   *Meridian MAX 6 Installation Upgrade Guide for Meridian MAX 3, 4, 4.6 and 5 Systems* (P0802085)
- 553-4001-212   *Meridian MAX 6 Platform Upgrade Guide for ACD-MAX 3, 4 and ACD-D Systems* (P0802087)
- P0743664   *Meridian MAX 5 Supervisor's User Guide*
- P0743656   *Meridian MAX 5 Supervisor's Reference Guide*
- 553-4001-111   *Meridian MAX 5 Installation Guide* (P0743645)
- 553-4001-811   *Meridian MAX 5 Maintenance and Diagnostics Guide* (P0743647)
- 553-4001-911   *Meridian MAX 5 Overview* (P0743643)
- 553-4001-210   *Meridian MAX 5 Installation Upgrade Guide for Meridian MAX 3, 4 and 4.6 Systems* (P0743683)
- 553-4001-212   *Meridian MAX 5 Platform Upgrade Guide for ACD-MAX 3, 4 and ACD-D Systems* (P0743687)
- P0741145   *Meridian MAX - IPE 4.6 Supervisor's User Guide*
- 553-4001-024   *Meridian MAX - IPE 4.6 Master Index*
- 553-4001-121   *Meridian MAX - IPE 4.6 Installation*
- 553-4001-821   *Meridian MAX - IPE 4.6 Maintenance and Diagnostics*
- 553-4001-921   *Meridian MAX - IPE 4.6 Overview*

- 553-4001-004   *Meridian MAX 4 Master Index*
- 553-4001-111   *Meridian MAX 4 Installation*
- 553-4001-811   *Meridian MAX 4 Maintenance and Diagnostics*
- 553-4001-911   *Meridian MAX 4 Overview*

For more information on the hardware and software that operate in conjunction with Meridian MAX - IPE, refer to the following Nortel documents:

- P0735303   *Option 11—X11 Software Guide, Including Supplementary Features*
- 553-3011-200   *Option 11 General Installation and Planning Guide — Read Me First*
- 553-3011-210   *Option 11 Installation Guide*
- 553-3011-300   *Option 11 Administration Guide*
- 553-3001-200   *System Option 21, 51, 61, 71— System Installation Procedures*
- 553-3001-500   *System Option 21, 51, 61, 71 General Maintenance*
- 553-3001-305   *X11 Features and Services **
- 553-3001-400   *X11 Input/Output Guide*
- 553-2311-105A2   *Appendix to Features and Services for Generic X11 Supplementary Features **
- 553-2311-311   *X11 Data Administration Input/Output Guide Including Supplementary Features **
- 553-2301-511   *X11 Maintenance Input/Output Guide Including Supplementary Features **

(* document also used for Generic X11 International software)

Reference to NAC documents

Additional information about NAC is contained in the following Nortel documents:

- P0724352   *NAC 2 Supervisor's User Guide*

- 553-4011-110   *NAC 2 Installation Guide* (P0724340)

- 553-4011-510   *NAC 2 System Administration and Maintenance Guide* (P0724342)

- 553-4011-100   *NAC 1 Installation*

- 553-4011-500   *NAC 1 Operations*

- 553-4011-800   *NAC 1 System Messages*

- P0743022   *NAC 1 Supervisor's User Guide*

Reference to other ACD documents

Other Nortel ACD documents associated with Meridian MAX are listed below:

- 553-2671-100   *ACD Basic Features Description (Package A)*

- 553-2671-101   *ACD Advanced Features Description (Package B)*

- 553-2671-102   *Management Reports Description (Package C1)*

- 553-2671-103   *ACD Load Management Description (Package C2)*

- 553-2671-104   *ACD-D General Description (Section 3 only)*

The following Nortel documents refer to Customer Controlled Routing (CCR):

- 553-3201-110   *Application Module Overview Guide*

- 553-3201-200   *Application Equipment Module Installation Guide*

- 553-3201-210   *Application Module Installation and Upgrade Guide*

- P0729367   *Customer Controlled Routing (CCR) User Guide*

Chapter 1: Introduction

Hardware platforms

Meridian MAX 8 runs on four hardware platforms. The type of hardware platform which you use determines the features and functionality available to you. Features are common to all hardware platforms unless otherwise specified. Table 1-1 lists the available hardware platforms and their hardware composition. Refer to the "Field replaceable parts" chapter for applicable part numbers.

Table 1-1
Meridian MAX 8 platform compositions

System type		CPU	Mass Storage Unit (MSU)	
Abbreviation	Module type	Card type	Hard drive	Cassette drive
SNN	Single	MVME167-34	1 Gbyte	600 Mbyte
SNN-E	Single	MVME177-005	2 Gbyte	600 Mbyte
IPE	IPE	SMM167	180 Mbyte or 240 Mbyte*	155 Mbyte or 600 Mbyte
IPE-E	IPE	SMM167	1 Gbyte	600 Mbyte
* The 240 Mbyte hard disk is configured and recognized by the software as a 180 Mbyte hard disk.				

Before you begin

This document describes the procedures to install the Meridian MAX hardware and software. These procedures should only be carried out by trained personnel.

> *Note:* Not all products mentioned in this document are available worldwide. Contact your Meridian MAX service representative for more information.

Installation responsibilities

The following installation procedures are performed by your staff or the Meridian 1 distributor:

- Obtain the hardware and software required for this installation.
- Install the Meridian 1 column (if applicable).
- Install the Meridian 1 switch (if applicable).
- Install the Meridian MAX Application Equipment Module(s) (if applicable).
- Install the Meridian MAX hardware.
- Install and connect the peripheral equipment (printers, workstations, and modems).
- Install the operating system and Meridian MAX application software.
- Configure the Meridian MAX.
- Start up the system.
- Set up the High Speed Link and the Load Management Link (if applicable) between the Meridian MAX and the Meridian 1.
- Connect the Meridian MAX to the LAN, if required.
- Establish all other connections to the Meridian MAX based on the feature options which have been purchased.

Hardware overview

For an Application Equipment Module (AEM) installation, please read the following chapters in the *Application Equipment Module Installation Guide* (NTP 553-3201-200):

- "Overview"

- "Installing a Stand-alone AEM"

- "Adding an AEM to a Column"

For an IPE/IPE-E installation, please read the following chapters in the *System Option 21, 51, 61, 71, 81 Installation and Maintenance Guide* (P0736432):

- "System overview"

- "System installation"

The following information should be obtained from the "Hardware installation: Application Module (SNN/SNN-E)" or "Hardware installation: IPE/IPE-E module" chapters of this document depending on your hardware platform:

- VME card switch settings

- the internal input/output cables

- the external input/output cables

- MVME332XTS/XT serial input/output port upgrade (AEM installation only)

The installation and connection of peripheral equipment can be obtained from the "Modems," "Workstations," "Printers," and "Meridian 1 circuit card configuration" chapters of this document.

Installing the hardware

The following is a list of steps to install the Meridian MAX hardware:

1   Decide upon the layout of the peripheral equipment to be attached to the Meridian MAX, bearing in mind the environmental and power requirements.

2   Assess the need for self-powered limited-distance modems that permit a distance between a peripheral and the Meridian MAX of more than 15 meters (50 feet).

3   Install the Meridian MAX Application Module or Meridian MAX IPE/IPE-E module, cards, power supply, and disk/tape assemblies.

4   Install the peripherals, connecting the appropriate equipment with the designated cables.

Software overview

The following is a list of the steps to install the Meridian MAX software:

1   Install the operating system and the Meridian MAX application software (customer-installed software sites).

2   Start up the Meridian MAX in training mode.

3   Train all users with the training mode.

4   Switch from training mode to precutover mode.

5   Set up the database while in precutover mode.

6   Switch from precutover mode to product mode.

7   Configure and enable the High-Speed Link (HSL).

The "Meridian MAX installation checklist" chapter lists the steps to be followed while installing Meridian MAX 8. Each step should be performed only if all of the following conditions are met:

•   This document was read and understood by the qualified personnel using the checklist.

•   All preceding steps were completed (where applicable) and were performed correctly.

To update certain software options on your Meridian MAX, refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration: system running" or "Maintenance and administration: system shutdown" chapter, "View/Modify Meridian MAX Options" section, for more information.

System performance

Meridian MAX is a message-driven system. Messages received from the Meridian 1 proliferate into many inter-task messages which are used to drive the Meridian MAX.

The real-time performance of the system depends largely on two factors: the Message Arrival Rate (MAR) and the Message Service Rate (MSR). The MAR and MSR are affected by several operational factors.

See Appendix 2 of *Automatic Call Distribution with an Auxiliary Data System—System Performance and Engineering Information* (NTP 553-2671-151) for a discussion of MAR and MSR. Refer to the "Site preparation" chapter of this document for a detailed discussion of Meridian MAX performance capacities.

System reliability

Meridian MAX 8 provides automatic backup and protection against the loss of data due to a power failure.

Automatic backup

Data used by the Meridian MAX's displays and reports is stored for historical purposes. This historical data is backed up through the Meridian MAX automatic backup facility to minimize the loss of recent changes to the system's database in the event of a disk failure.

Database files are automatically backed up to tape every midnight. Consequently, a tape must always be loaded in the tape drive. Avoid using the same tape through two consecutive backups, as the new backup overwrites the previous one. For this reason, several backup tapes should be used and rotated daily.

For more information on the Meridian MAX's capacity to store data, refer to the "Meridian MAX system configuration" chapter.

Power failure

If a power failure occurs, Meridian MAX automatically reboots and initializes the application software as soon as power is reapplied.

If you have the DC version of the Meridian MAX, you may have also acquired the battery backup option. This option allows you to connect your Meridian MAX to a battery. In the event of a power failure, such a system can be brought down safely before the battery has discharged beyond its operable limit. The AC version of the Meridian MAX does not have this option.

If an Uninterrupted Power Supply (UPS) is being used, in the event of a power failure, such a system should be backed up manually, then brought down safely before the battery has discharged beyond its operable limit. If the system is not backed up before the battery has discharged beyond its operable limit, your data for that day is lost.

Mean Time Between Failures

The Mean Time Between Failures (MTBF) value calculated for a 16-port Meridian MAX Application Module is 10 500 hours at 40°C (104°F).

Table 1-2 lists the major components of the Meridian MAX Application Module and their MTBF values.

Table 1-2 Mean Time Between Failures (MTBF) for Meridian MAX Application Module (at 40°C)	
Hardware	**MTBF (hours)**
Motorola MVME167 single board computer (SNN only) Motorola MVME177 single board computer (SNN-E only)	83 500 > 83 500
Motorola MVME712M transition board	300 000
Motorola MVME332XTS Intelligent Serial Interface card	83 500
Motorola MVME332XT Intelligent Serial Interface card	83 500
Farnell NF350 (AC) power supply	72 000
Farnell ND300 (DC) power supply	72 000
Motorola MVME867B Seagate ST31230N 1 Gbyte hard disk drive (SNN only)	800 000
Motorola MVME867 Seagate ST11200N 1 Gbyte hard disk drive (SNN only)	200 000
Motorola MVME868KA-002 Seagate ST32430N 2 Gbyte hard disk drive (SNN-E only)	800 000
Motorola MVME868KB-002 Seagate ST32171N 2 Gbyte hard disk drive (SNN-E only)	800 000
Motorola NTAM-TK600 TEAC MT-2ST/F50B-000 600 Mbyte cassette drive (at 15 minutes per 8-hour period)	75 000

The MTBF value calculated for the Meridian MAX IPE/IPE-E module is 35 800 hours. Table 1-3 lists the major components of the Meridian MAX IPE/IPE-E module and their MTBF values.

Table 1-3
Mean Time Between Failures (MTBF) for Meridian MAX IPE/IPE-E module

Hardware	MTBF (hours)
Meridian MAX IPE/IPE-E system	35 800
Motorola SMM167 single-board computer	83 500
Motorola 01-W1512BO2I Seagate ST31055N 1 Gbyte hard disk drive (Option 11) Motorola 01-W1512B1OI Seagate ST31055N 1 Gbyte hard disk drive (Option 21-81)	800 000
Motorola MVME867B Seagate ST31230N 1 Gbyte hard disk drive	800 000
Motorola NTAM-DK240 Fujitsu M2614 M2637S 240 Mbyte hard disk drive	130 000
Motorola NTAM-DK180 Seagate ST1201N 180 Mbyte hard disk drive	130 000
Motorola NTAM-TK600 TEAC MT-2ST/F50B-000 600 Mbyte cassette drive (at 15 minutes per 8-hour period)	75 000
Motorola MVME855 TEAC MT-2ST/N50 155 Mbyte cassette drive (at 19 minutes per 8-hour period)	75 000
Power converter circuit board	146 000
CPU adapter circuit board	146 000

Chapter 2: Site preparation

Power requirements

Table 2-1 lists the power requirements for all of the hardware components used by the Meridian MAX system. Ensure that your site can provide the needed power to run all of the equipment you require.

Table 2-1
Meridian MAX power requirements

Equipment	Voltage	Frequency	Power
Meridian MAX Application Module - single (AC)	220–240 VAC	50–60 Hz	142 W
Meridian MAX Application Module - single (DC)	–48 V	n/a	142 W
Meridian MAX IPE/ IPE-E (DC)	+5 and –48 V	N/A	142 W
DEC VT520 or 100% compatible terminal	100–240 VAC	47–63 Hz	15 W
—continued—			

Table 2-1 (continued)
Meridian MAX power requirements

Equipment	Voltage	Frequency	Power
DEC VT420 or 100%-compatible terminal (North American or Worldwide models)	100–240 VAC	50–60 Hz	35 W
DEC VT220 or 100%-compatible terminal	100–240 VAC	50–60 Hz	35 W
Gandalf LDS 120E	110–120 VAC	60 Hz	5 W
Develcon DS511A	115 VAC	60 Hz	2 W
NetComm SmartModem M7F	15 VAC	50-60 Hz	5 W
UDS 2440 modem	115 VAC	60 Hz	14 W
U.S. Robotics Sportster 28,800 Data/Fax modem	120 VAC	60 Hz	17 W
Ven-Tel 2400 Plus II and 9600 Plus II modems	90–130 VAC	50–60 Hz	10 W
Racal-Vadic VI2422PA modem	240, 220, or 115 V	47–63 Hz	7 W
Rugged Writer printer	100, 120, 220, 240 VAC (+/–10%) (user-selectable)	47.5–63 Hz	20 W Idle max. 80 W Printing max.
LaserJet II, LaserJet III, LaserJet 4, and LaserJet 5Si MX printers	100, 115, 220, 240 VAC (+/–10%) (user-selectable)	48–62 Hz	170 W (115 V) Idle max. 870 W (115 V) Printing max.
LaserJet 4 Plus	100–127 VAC or 220–240 VAC	48–62 Hz	300 W
—continued—			

Table 2-1 (continued)
Meridian MAX power requirements

Equipment	Voltage	Frequency	Power
PaintJet 3630 printer	100, 120, 220, 240 VAC (+/–10%) (user-selectable)	48–66 Hz	20 W
DeskJet printer	100, 120, 220, 240 VAC (+/–10%) (user-selectable)	47.5–63 Hz	8 W (120 V) Idle max. 25 W (120 V) Printing max.
DeskJet 500 printer	120 VAC	50–60 Hz	25 W
DeskJet 560C printer	100, 120, 220, 240 VAC (+/–10%) (user-selectable)	50–60 Hz	25 W
DeskJet 660C printer	100, 120, 127, 220, 230, 240 VAC (+/–10%) (user-selectable)	50–60 Hz	12 W
DEC LA195 (Epson-mode only)	95–132 VAC	47–63 Hz	33 W
—end—			

Environmental requirements

Ensure that your site can maintain the required environmental conditions for the Meridian MAX hardware before beginning the installation.

> *Note:* At all times, the front and back panels of the Application Equipment Module (AEM) and the Meridian 1 should be closed and latched. This ensures that the temperature within the Meridian column remains reasonably constant and within the operating temperatures of the equipment.

Meridian MAX Application Module

The following list details the environmental requirements for your Meridian MAX hardware:

- operating temperature between 10°C–35°C (50°F–104°F)
- non-operating temperature between –10°C–60°C (14°F–140°F)
- changes in temperature less than 20°C/hour (68°F/hour)
- operating humidity between 20%–80% (noncondensing)
- nonoperating humidity between 20%–80% (noncondensing)
- operating altitude between 0–3.24 km (0–10 000 ft)

Meridian MAX IPE/IPE-E module

The environmental requirements for the Meridian MAX IPE/IPE-E hardware are

- operating temperature between 10°C–35°C (50°F–95°F)
- non-operating temperature between –20°C–70°C (–4°F–158°F)
- changes in temperature less than 20°C/hour (68°F/hour)
- operating humidity between 20%–80% (noncondensing)
- nonoperating humidity between 20%–90% (noncondensing)
- operating altitude between 0–3.24 km (0–10 000 ft)
- nonoperating altitude between 0–9.14 km (0–30 000 ft)

To use the HP LaserJet II printer, the environmental range must be between 10°C–32.5°C (50°F–90.5°F) with a maximum altitude of 2.6 km (8200 ft).

X11 software packaging requirements

The following options are required for use with Meridian MAX software:

- Basic ACD Features (Package A)   Options 40, 45, 83
- Advanced ACD Features (Package B)   Options 41, 98, 116
- ACD Reports (Package C1)   Option 42
- ACD Load Management (Package C2)   Option 43
- ACD Link (MAX/ACD-D)   Options 50, 51
- ACD Activity Code Entry   Option 155
- AUXS Security   Option 114
- ACD Timed Overflow   Option 111
- DN Expansion   Option 150

MQA is required if the following options are on your Meridian 1:

- Multiple Queue Assignment (MQA)   Option 297
- Meridian Modular Sets   Option 170
- Digital Sets   Option 88
- Agent Priority   Option 116
  (if agents are allowed to enter their priorities at the set)
- Phantom TNs   Option 254
  (if automatic forwarding of Agent IDN numbers)

NACD MIS is required if the following options are equipped on your Meridian 1:

- Enhanced ACD Overflow   Option 178
- Network ACD (NACD)   Option 207

CCR/EAR is required if the following options are equipped on your Meridian 1:

- Enhanced ACD Routing (EAR)   Option 214
- Customer Controlled Routing (CCR)   Option 215

Site layout

Each site has different restrictions and requirements for the layout of the hardware. This section identifies some of the factors to take into account when laying out the Meridian MAX site.

Consider the following factors when planning your site. The exact details for your site's layout depend entirely on your specific requirements and restrictions. You may choose to discuss these and other factors with your distributor or Nortel representative before installing the hardware.

ATTENTION

RS-232 cables that directly connect peripherals to the Meridian MAX must not exceed 15 meters (50 feet). This length is based on an EIA RS-232C standard. Peripherals can be farther away if self-powered limited-distance (own power supply), or dial-up modems are used.

ATTENTION

Cable connections between the LAN and the Meridian MAX must not exceed 50 meters (164 feet).

This connection is an IEEE standard 802.3.

Supervisor location

Supervisors who must use common resources (such as catalogues or inventory listings) should be placed close to the resources they require.

If the Meridian MAX system console is being used as a Supervisor Display Access (SDA) console, ensure that the workstation is located less than 15 meters (50 feet) from the Meridian MAX IPE/IPE-E system. The SDA console cannot be supported through regular or limited-distance modems. SDA is only available on the IPE/IPE-E hardware platform.

Printer location

Locate the printers in conveniently accessible areas so the supervisors can obtain their reports. Placing one printer near the Meridian MAX allows access to printed reports while performing system maintenance functions. Remember that the maximum range for the printer cable is 15 meters (50 feet). Use self-powering, limited-distance modems to extend this range if necessary. Refer to the "Modems" chapter, "Limited distance modems" section, for more information.

Static electricity precautions

Ensure that the appropriate precautions are taken against the discharge of static electricity. Static electricity can seriously affect any computerized system.

These are factors to be considered. The exact details for your site's layout depend entirely on your specific requirements and restrictions. You may choose to discuss these and other factors with your Nortel representative before installing the hardware.

Multiple Queue Assignment

There are several requirements to using Multiple Queue Assignment (MQA) with Meridian MAX. These requirements include the following:

- The minimum system requirements to use MQA are Meridian MAX 7 and X11 Release 21.23 or higher.

- You must have one of the following Meridian Modular telephone sets: M2008, M2216, or M2616 with Special Application Display modules. Other sets are supported in MQA environments, but they are restricted to single-queue operation as assigned through the administration interface or through Meridian MAX Configuration Control. The supported displays are NT2K25YL, NT2K28AA, NT2K26XJ, NT2K27XJ, NT2K25VH, and NT2K24SA.

For more information on MQA, refer to the *Meridian MAX 8 Supervisor's User Guide* (P0853407), "Using Multiple Queue Assignment" chapter.

Capacities

The Meridian MAX system capacity is controlled by two factors—software and hardware. The software controls the amount of detailed historical information collected by the system. The hardware sets an absolute limit to the amount of information that can be processed or stored. The following subsections discuss these capacities and guide the user in choosing the best software and hardware configuration to meet specific needs.

Platform capacities

Table 2-2 outlines the maximum capacities for the Meridian MAX running on different platforms.

Table 2-2
Meridian MAX hardware platform maximums

Platform	Number of ports	Supervisor/ agent positions	Supervisor workstations	Number of queues	Number of routes/ trunks
SNN/SNN-E	8/16/24/ 32/40	1200	60	240	256/ 2000
IPE/IPE-E	8	200	20	100	128/ 180

Note 1: Not all maximums can be achieved at the same time, and not all maximums are available on all hardware platforms.

Note 2: The route numbers on the SNN/SNN-E platforms must be between 0 and 511. The route numbers on the IPE/IPE-E platforms must be between 0 and 127.

Note 3: Position Sizing allows the number of supervisor positions to be increased to the system maximum described in Table 2-2. To change the number of positions, a new keycode is required. For more information, refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Keycode Options Update" subsection.

Hardware-dependent capacities

Not all ports need to be assigned on your Meridian MAX, but there are several ports that are preconfigured for a specific device and cannot be changed by the user. Table 2-3 lists the predefined ports for the different platforms.

Table 2-3
Meridian MAX 8 hardware-dependent ports

Platform	Predefined ports
SNN/SNN-E	Card 2, Conn 1A is permanently assigned to the High-Speed Link and cannot be changed by the user. The LAN connection is located at the Ethernet port on the I/O panel.
IPE/IPE-E	Ports 1, 2, and 8 are permanently assigned to the maintenance console, remote diagnostic modem, and High-Speed Link respectively, and cannot be changed by the user. The maintenance console and remote diagnostics modem may also be used as a supervisor display through Supervisor Display Access (SDA). The LAN connection is located at the Ethernet port on the NT1R03AA four-port I/O cable.

At least one workstation (if there are no LAN sessions) and one printer must be assigned per configuration.

A connection for local printing can be configured. A local printer is the Windows default printer for a PC. The PC must be

- running Meridian Terminal Emulator (MTE) to receive reports and other data from the Meridian MAX

- either directly connected or connected through a LAN

For the SNN/SNN-E hardware platforms, the connections for the maintenance console and remote diagnostic modem are not included in the total number of ports available on a Meridian MAX. For the IPE/IPE-E hardware platforms, these device connections are included in the total number of ports available on a system.

Meridian MAX Application Module

Table 2-4 lists the theoretical maximum number of peripheral devices that can be configured in the Meridian MAX Application Module when the Configuration Control and NAC connectivity options are enabled or disabled. (The SNN/SNN-E platforms are part of the application module.)

Local printers

Your Meridian MAX 8 can support a number of local printers in addition to the maximum number of direct connect printers described in the following tables. An SNN/SNN-E system can support up to 20 local printers. This number is a combination of direct connect supervisor workstations running MTE and supervisor workstations running MTE connected to the LAN.

SNN/SNN-E peripheral limits

The SNN/SNN-E platforms use the AM Generic I/O Panel for attaching the Meridian MAX peripherals. The AM Generic I/O panels provide up to 40 RS-232C ports. The number of active connections is dependent upon the number of MVME332XTS/MVME332XT cards installed.

Note 1: Not all maximums can be achieved simultaneously.

Note 2: The Load Management Link must be configured to enable Configuration Control. Load Management Link is also called Configuration Control Link. The Load Management Link and the NAC Network Link each occupy one port. The NAC network link is a prerequisite if the system has NAC connectivity.

Table 2-4
SNN/SNN-E peripheral limits

Hardware device	8 I/O ports	16 I/O ports	24 I/O ports	32 I/O ports	40 I/O ports
Configuration Control and NAC					
Maximum number of workstations connected directly or through a modem	4	12	20	28	36
Maximum number of directly connected printers	4*	8	8	8	8
Maximum number of workstations (connected directly or through a modem) and printers (connected directly)	5	13	21	29	37
High-Speed Link	1	1	1	1	1
Load Management Link	1	1	1	1	1
NAC Network Link	1	1	1	1	1
Configuration Control without NAC					
Maximum number of workstations connected directly or through a modem	5	13	21	29	37
Maximum number of directly connected printers	5*	8	8	8	8
Maximum number of workstations (connected directly or through a modem) and printers (connected directly)	6	14	22	30	38
High-Speed Link	1	1	1	1	1
Load Management Link	1	1	1	1	1
—continued—					

Table 2-4 (continued) SNN/SNN-E peripheral limits					
Hardware device	**8 I/O ports**	**16 I/O ports**	**24 I/O ports**	**32 I/O ports**	**40 I/O ports**
Neither Configuration Control nor NAC					
Maximum number of workstations connected directly or through a modem	6	14	22	30	38
Maximum number of directly connected printers	6*	8	8	8	8
Maximum number of workstations (connected directly or through a modem) and printers (connected directly)	7	15	23	31	39
High-Speed Link	1	1	1	1	1
—end—					

* One more printer is allowed if there is at least one active LAN session.

Meridian MAX IPE/IPE-E module

Table 2-5 lists the theoretical maximum number of each peripheral device that can be configured on the Meridian MAX IPE/IPE-E.

Local printers

Your Meridian MAX 8 can support a number of local printers in addition to the maximum number of directly connect printers described in the following tables. An IPE/IPE-E system can support up to 10 local printers. This number is a combination of direct connect supervisor workstations running MTE and supervisor workstations running MTE connected to the LAN.

IPE/IPE-E peripheral limits

The IPE/IPE-E platforms have eight RS-232C ports for attaching Meridian MAX peripherals.

> *Note 1:* Not all maximums can be achieved simultaneously.

> *Note 2:* "System console" and "maintenance console" are interchangeable terms. "Remote diagnostics modem" is also referred to as "diagnostics modem" and "external modem."

> *Note 3:* The Load Management Link must be configured to enable Configuration Control. "Load Management Link" is also called "Configuration Control Link." The Load Management Link and the NAC Network Link each occupy one port. The NAC network link is a prerequisite if the system has NAC connectivity.

Table 2-5
Meridian MAX IPE/IPE-E hardware-dependent capacities

Hardware device	Maximum
Maintenance console	1
Remote diagnostics modem	1
High-Speed Link	1
Load Management Link	1
Printer	2
Supervisor workstation	4
NAC network link	1

Table 2-6 lists the maximum number of each peripheral device allowed when the Meridian MAX IPE/IPE-E has Configuration Control or NAC connectivity, or both, enabled or disabled.

Table 2-6
IPE/IPE-E peripheral limits

Hardware device	Maximum number with 1 printer	Maximum number with 2 printers
Configuration Control and NAC		
Maximum number of workstations connected directly or through a modem	2	1
Maintenance console	1	1
Diagnostics modem	1	1
High-Speed Link	1	1
Load Management Link	1	1
NAC Network Link	1	1
—continued—		

Table 2-6 (continued)
IPE/IPE-E peripheral limits

Hardware device	Maximum number with 1 printer	Maximum number with 2 printers
Configuration Control without NAC		
Maximum number of workstations connected directly or through a modem	3	2
Maintenance console	1	1
Diagnostics modem	1	1
High-Speed Link	1	1
Load Management Link	1	1
Neither Configuration Control nor NAC		
Maximum number of workstations connected directly or through a modem	4	3
Maintenance console	1	1
Diagnostics modem	1	1
High-Speed Link	1	1
—end—		

Calculating calls per hour

This section describes how to calculate the number of calls which can be supported by your Meridian MAX in a variety of scenarios.

Describing calls per hour

The maximum number of calls per hour (cph or call rate) for a Meridian MAX is calculated as simple calls per hour.

A simple call per hour is an external call which enters an ACD-DN, answered by an agent servicing that ACD-DN, and released. This scenario generates five HSL messages. A simple abandoned call generates two HSL messages. There are more HSL messages when the call is routed through CCR, IVR, NACD, and so on.

In Meridian MAX 8, the maximum call rates (when using most of the features) have been reduced to accommodate new features which require a significant amount of disk space and memory.

The maximum sustainable call rate varies depending on the load on the Meridian MAX, which depends on the features being used at the time. The peak call rate (a rate greater than the maximum sustainable call rate) is difficult to determine since it will adversely affect the performance of the various features.

The effects are different depending on the set of features. One guideline is that the peak call rate can only be sustained for a maximum of 30 seconds.

The call rates stated are the rates that the Meridian MAX can support. The Meridian 1 may support maximum/peak call rates higher or lower than the Meridian MAX can support.

Call rates at full load

A fully loaded Meridian MAX has almost every feature in use to its maximum capacity with certain events occurring during peak day service. This causes the system to use more CPU and I/O resources.

This is a list of the most common features and events which consume a large amount of CPU and I/O resources.

- These options, which can be purchased, must be enabled: MTE, CCR, NACD, CC, NAC, MQA, and MSI.

- These options, which can also be purchased, are set to their maximum: number of queues, positions, LAN supervisor sessions, MEI-Network links, and MEI-Observe links.

- Trunk-level reporting and the agent activity code feature are enabled.

- Interval data is being stored from RAM to disk.

- Midnight routines are not running.

- Meridian MAX supervisors have their display refresh rate set at 10 seconds.

- Maximum number of Meridian MAX supervisors are logged in.

- Shifts change with about one third of the agents logging on and off.

- Supervisors are using the Spare Position Handling feature.

- Three simultaneous historical reports are being generated.

- Historical database is one third its maximum size.

- There are no active MSI connections, NAC connections, or Configuration Control commands.

- There is one active MEI-Network connection.

- There are three active MEI-Observe connections.

Table 2-7 provides the maximum sustainable call rate which can be supported by a fully loaded Meridian MAX. On the Meridian 1, all the agents are servicing five queues with talk times of 30, 60, 90, and 120 seconds, randomly selected.

Table 2-7
Maximum sustainable call rate at full load (with shift change)

Platform	HSL baud rate	Meridian MAX 8 simple calls per hour	Meridian MAX 8 HSL messages per hour
SNN-Enhanced	9600 or 19 200	22 000	110 000
SNN	9600 or 19 200	10 000	50 000
IPE-Enhanced	9600 or 19 200	3500	17 500
IPE	9600 or 19 200	4000	20 000

Call rates without shift change

Table 2-8 shows the maximum sustainable call rates based on a scenario in which a system is fully loaded but not undergoing a shift change.

Table 2-8
Maximum sustainable call rate at full load (without shift change)

Platform	HSL baud rate	Meridian MAX 8 simple calls per hour	Meridian MAX 8 HSL messages per hour
SNN-Enhanced	9600 or 19 200	23 000	115 000
SNN	9600 or 19 200	11 000	55 000
IPE-Enhanced	9600 or 19 200	9000	45 000
IPE	9600 or 19 200	9000	45 000

Dialling plans

Network ACD is compatible with either a Coordinated Dialing Plan (CDP) or a Uniform Dialing Plan (UDP). UDP is supported by either Basic Alternate Route Selection (BARS Option #57), or Network Alternate Route Selection (NARS Option #58). When Meridian MAX is configured in a Network ACD application, a seven-digit dialing plan is required. A three-digit node identification and a four-digit ACD-DN comprise the seven digits.

The following is a guideline to programming the Meridian 1 X11 software for the NACD application using CDP and UDP dialing plans. This is not a complete set of programming instructions but is intended to be a guideline to the key inputs to implement the CDP or UDP Dialing plans in an NACD environment. This assumes the ISDN network is already programmed and operational.

For specific information regarding ISDN network configuration, CDP, or UDP, please refer to the following NTPs for those features:

- 553-2651-102   *Coordinated Dialing Plan Description*
- 553-2751-100   *Network/Basic Alternate Route Selection*
- 553-2901-100   *ISDN Primary Rate Interface Description and Administration*

Seven-digit CDP dialling plan

If there is no CDP dialing plan or if the existing CDP dialing plan is seven digits long, then the CDP dialing can be used for the NACD application.

Overlay 86 ESN data block must have the NCDP (number of digits in the CDP code) prompt equal to seven.

Overlay 87 defines the specific three-digit LSC (Local Steering Code). The LSC must have a DMI that deletes three digits. A three-digit DSC (Distant Steering Code) is required for each Network ACD node.

Overlay 15, Customer Data Block, must also define LSC as the already-defined LSC from Overlay 87. This programming must be done at all nodes in the network.

Note: When defining Route List Entries in Overlay 86 that are associated with either DSCs or LOCs used with the NACD applications

- the routes must be only ISDN routes (The ISDN routes cannot step to non-ISDN routes).
- the PNI defined for the routes must be equal to the PNI defined in Overlay 15, Customer Data Block, of the node to which it is directly connected

UDP dialling plan

Define AC1 or AC2 in Overlay 86, ESN Data Block.

Define Location Codes (LOC) and Home Location Code (HLOC) in Overlay 90, Network Translation Data Block, for each Network ACD node. The HLOC should have a DMI that deletes 3.

In Overlay 15, Customer Service Data Block, define HLOC as the already-defined HLOC in Overlay 90.

If AC2 is used within the NACD Routing tables, then put LOC after AC2.

If AC1 is used within the NACD Routing tables, then do not put LOC after AC2.

Either AC1 or AC2 can be used, but both cannot be used in the NACD Routing Tables per NACD node. That means node A can use AC1 in its NACD Routing Table, and node B can use AC2 in its NACD Routing Table, but node A cannot use AC1 and AC2 within its NACD Routing Table.

In Overlay 16, Route Data Block, define INAC as YES on all incoming ISDN routes in the network. This programming must be done at all nodes in the network.

The three-digit node identification is equivalent to the HLOC or LOC of the Network ACD node and is also required to be programmed in the Meridian MAX system. This programming is done in the Network Definition/Installation screen under Maintenance and Administration Programs.

CDP dialling plan and UDP just for NACD routing tables

There are cases in which it is preferable to use a CDP dialing plan other than seven digits. When this is the case, CDP can be used for non-NACD environments, and UDP can be configured for just the NACD application.

Define AC1 or AC2 in Overlay 86, ESN Data Block.

Define the Location Codes (LOC) and Home Location Code in Overlay 90, Network Translation Data Block. The HLOC should have a DMI that deletes 3.

In Overlay 15, Customer Data Block, define HLOC as the already-defined HLOC in Overlay 90.

If AC2 is used within the NACD tables, then put LOC after AC2.

If AC1 is used within the NACD tables, then do not put LOC after AC2. Either AC1 or AC2, but not both, can be used in the NACD tables per NACD node. That means that node A can use AC1 in its NACD Routing Table, and node B can use AC2 in its NACD Routing Table, but node A cannot use AC1 and AC2 within its NACD Routing Table.

In Overlay 16, Route Data Block, define INAC as YES on all incoming ISDN routes in the network. This programming must be done at all nodes in the network.

The three-digit node identification is equivalent to the HLOC or LOC, or the Network ACD node, and is also required to be programmed in the Meridian MAX system. This programming is done in the Network Definition/Installation screen under Maintenance and Administration Programs.

> *Note:* When assigning Route List Index (RLI) entries in Overlay 87 or Overlay 90 for DSCs and LOCs associated with NACD applications, there must be only ISDN route choices in the RLI.MAX 8.

Chapter 3: Hardware installation: Application Module (SNN/SNN-E)

A word about warranties

You must read and understand the warranties issued for your Meridian MAX peripheral devices. Each warranty details what can be done with the warranted item. While the utmost care has been taken to ensure that the procedures described in this NTP do not void any of the warranties, it is still possible for an instruction to be in conflict with a warranty when a warranty changes after the publication of this NTP. If you find such a condition, inform your dealer or Nortel service representative of the problem.

ATTENTION

Under no circumstances should you void your warranty for the sake of following any instruction given in this (or any other) document. Be sure to register your warranties with the appropriate companies (usually the manufacturers) where required.

Overview

Meridian MAX is an ACD-MIS product that addresses the needs of the call center market. It is designed to function within the Application Equipment Module (AEM) environment. The Application Module (AM), which is installed in the AEM, contains the components to run the Meridian MAX on an SNN or SNN-E platform.

Note: The SNN platform is not available as a new system. It is only available as an upgrade system (for example, call centres with existing SNN systems upgrading to Meridian MAX 8).

Table 3-1 lists the equipment and materials required for a Meridian MAX installation. For part order numbers, refer to the "Field replaceable parts" chapter.

Table 3-1
Meridian MAX Application Module installation equipment and material list

Equipment	Contents

Meridian MAX 8 SNN/SNN-E	Motorola MVME712M transition card
	Motorola P2 adapter board
	1 Gbyte Seagate ST31230N hard disk drive (SNN only)
	1 Gbyte Seagate ST11200N hard disk drive (SNN only)
	2 Gbyte Seagate ST32171N hard disk drive (SNN-E only)
	2 Gbyte Seagate ST32430N hard disk drive (SNN-E only)
	600 Mbyte TEAC MT-2ST/F5OB-413 cassette drive
	Motorola MVME167-34 single board computer with
	    33 MHz M68040 CPU (SNN only)
	Motorola MVME177-005 single board computer with
	    50 MHz MC68060 CPU (SNN-E only)
	Motorola NT6D51AA transition card (maximum of 5)
	Motorola MVME332XTS eight-channel asynchronous I/O
	    board (maximum of 5)
	Motorola MVME332XT eight-channel asynchronous I/O board
	    (maximum of 5)
	Mass storage unit (MSU) containing disk and tape drives
	AC or DC power supply
	External single-port 50-position active SCSI terminator
	(SNN-E only)
	External single-port 50-position passive SCSI terminator (SNN only)

Cables	Meridian MAX High-Speed Link (HSL) cable
	    (NT8D93Ax for XSDI on the Meridian 1,
	    and NT7D58Ax for SDI, QSDI, and MSDL
	    on the Meridian SL-1)
	Meridian MAX Load Management Link (LML) cable
	    (NT8D93Ax for XSDI on the Meridian 1, and NT7D58Ax
	    for SDI, QSDI, and MSDL on the Meridian SL-1)
	3 Multiport assemblies (NT8D96AE) for each
	    MVME332XTS/XT Asynchronous
	    Communication controller

—continued—	

Table 3-1 (continued) Meridian MAX Application Module installation equipment and material list	
Equipment	**Contents**
Workstations (any combination)	VDT-type (DEC VT520, DEC VT420, DEC VT320, DEC VT220, or HP700/32 or terminals which are 100% compatible)
	PC connected to the Meridian MAX (either directly or through a modem) and running Reflection 4+ for DOS terminal emulator. All PCs supported by Reflection are supported by Meridian MAX.
	PC connected to the Meridian MAX (either directly or through a LAN connection) and running Meridian Terminal Emulator (MTE)
Modems	NetComm SmartModem M7F
	Gandalf LDS 120E
	Develcon DS 511A
	Ven-Tel 2400 Plus II
	Ven-Tel 9600 Plus
	Racal-Vadic VI2422PA
	UDS EC224A/D
	UDS 2440
	U.S. Robotics Sportster 28,800 Data/Fax
Reports printer (any combination)	HP RuggedWriter printer
	HP LaserJet series II printer
	HP LaserJet series III printer
	HP LaserJet series 4 printer
	HP LaserJet series 4 Plus printer
	HP LaserJet 5Si MX
	HP PaintJet 3630 printer
	HP DeskJet printer
	HP DeskJet 500 printer
	HP DeskJet 560C printer (with serial-parallel converter)
	HP DeskJet 660C printer (with serial-parallel converter)
	DEC LA195 (Epson-mode only) printer
—continued—	

Table 3-1 (continued)
Meridian MAX Application Module installation equipment and material list

Equipment	Contents
Software	Meridian MAX Operating System tape cassette including the Motorola UNIX System V/68 R3V8 Operating System and Standalone System Interactive Diagnostics (SSID) package Meridian MAX Application Software tape cassette including the Motorola Network Services Extension (NSE) package for the V/68 R3V8 OS UNIFY Version 5, Version UNI5.0.5.2.0 RDBMS Grafsman 3.10 Z-Modem protocol software Meridian Terminal Emulator (MTE) 5.32 or lower for DOS if using personal computers as workstations (optional) Meridian Terminal Emulator (MTE) for Windows if using personal computers as workstations (optional). This may be Version 6, 7, or 8 (optional) Reflection 4+ version 3.0 for DOS (or higher) if using personal computers as workstations (customer provided)
Documentation	P0853407 *Meridian MAX 8 Supervisor's User Guide* P0853414 *Meridian MAX 8 MSI/MEI Protocol Reference Guide* P0853413 *MTE 8 User Guide* 553-4001-210 *Meridian MAX 8 Upgrade Guide* (P0853412) A0662798 (includes the following set of NTPs): 553-4001-111 *Meridian MAX 8 Installation Guide* 553-4001-811 *Meridian MAX 8 Maintenance and Diagnostics Guide* 553-3201-200 *Application Equipment Module Installation Guide*
Miscellaneous equipment	Serial-parallel converter for printers
Supplies	Minimum of three blank 600 Mbyte data cassette tapes
—end—	

Figure 3-1 shows a front view of Meridian MAX Application Module configured for the SNN/SNN-E hardware platform. The label on the CPU card appears as "MVME 167-34A" or "MVME 167-34B" on an SNN system and "MVME 177-005" on an SNN-E system.

Figure 3-2 shows a simplified overview of the hardware layout for a Meridian MAX installation. These figures are intended to show how the equipment is interconnected. The actual layout of your site may differ. See the "Site Layout" section of the "Site preparation" chapter for details.

Figure 3-1
Meridian MAX Application Module (SNN system)

Note: The card configuration of your system may differ.
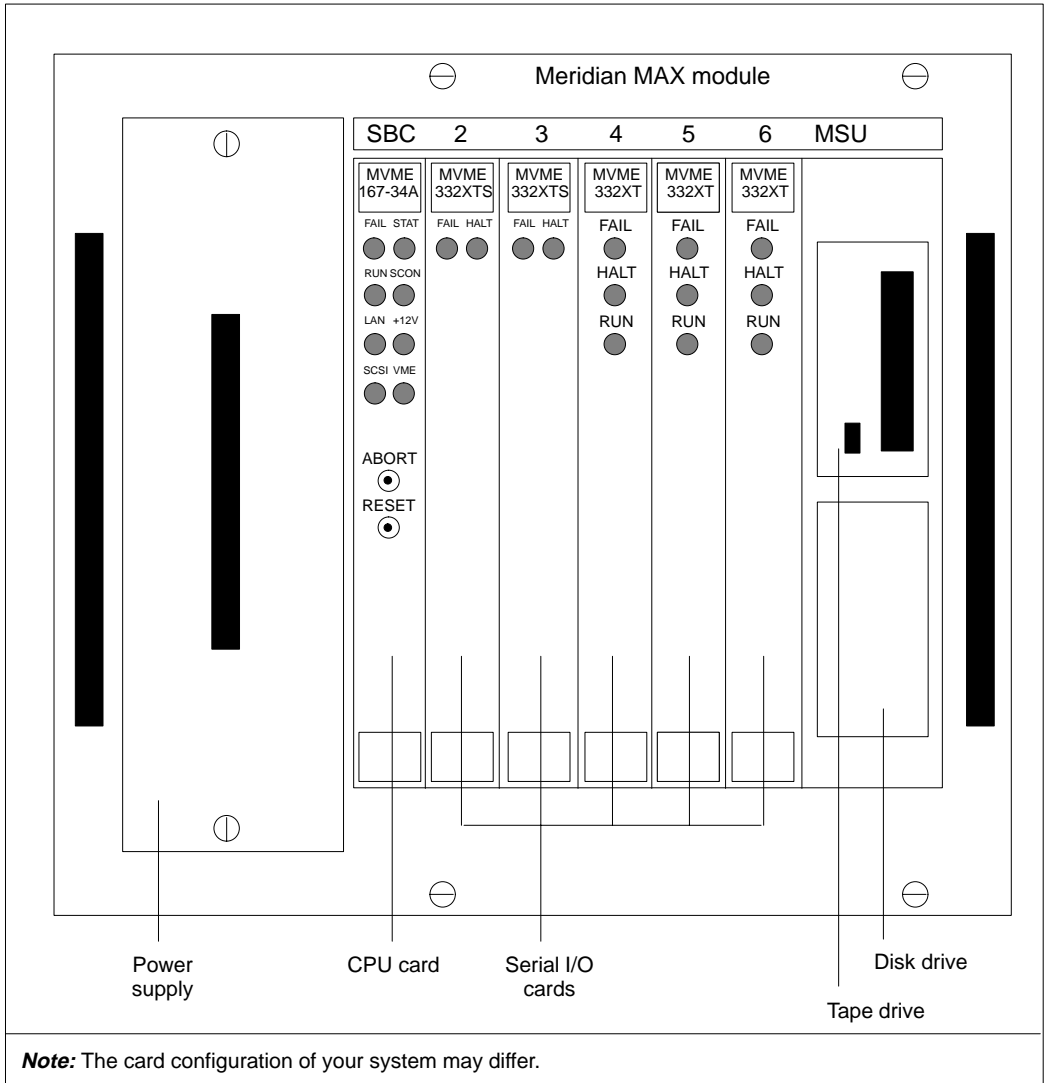
Figure 3-2
Meridian MAX Application Module installation

Remote
diagnostics

Modem

NAC
Network link

Supervisor
dial-up

Modem

Modem

MERIDIAN 1

High-Speed
Link

Load
Management
Link

Reports
printer

Octopus cables

Octopus cables

PC using
MTE

Supervisor
workstation

Maintenance
console

LAN

PC using
MTE

Local
printer

This column contains a Meridian 1 switch on
the top shelf and a Meridian MAX single
module on the first shelf.

For more information on the configurations available, refer
to the "Capacities" section in the "Site preparation" chapter.

Note: The High-Speed Link is connected to Card 2, Conn 1A for an SNN/SNN-E system.

Single board computer cards
MVME167-34 and MVME177-005

The 32 Mbyte, 33 MHz MVME167-34 single board computer (SBC) card is the central processing unit of the Meridian MAX SNN system, based on the MC68040 microprocessor.

The 64 Mbyte, 50 MHz MVME177-005 SBC card is the central processing unit of the Meridian MAX SNN-E system, based on the MC68060 CPU.

Eight light-emitting diodes (LEDs) and two buttons appear on the front of the MVME167-34 card or MVME177-005 card. The label on the card, however, appears as "MVME 167-34A" or "MVME 167-34B" on an SNN system, and "MVME 177-005" on an SNN-E system.

The types of LEDs and their locations are shown in Figure 3-3. The LEDs show the following conditions:

- *FAIL*   This red LED lights when a hardware failure has occurred on the CPU card. The LED also lights for a 7- to 10-minute duration when the card's on-board diagnostics is enabled during bootup.

- *STAT/STATUS*   This yellow LED lights continuously, indicating a halt condition from the card processor.

- *RUN*   This green LED lights almost continuously but flickers when the system processor has stopped.

- *SCON*   This green LED lights continuously when the card is the VMEbus system controller.

- *LAN*   This green LED flickers continuously when there is an active LAN communication.

- *+12V*   This green LED lights continuously when the card is supplying +12V LAN power to the transceiver interface.

- *SCSI (Small Computer System Interface)*   Heavy communication between devices is indicated by a solid light, while a flickering light indicates less data movement.

- *VME*   This green LED lights when the card is accessing or being accessed by the VMEbus.

CAUTION
Risk of system interruption
Do not press the abort or reset button while
applications are running. Shut down the system
software before pressing the abort or reset buttons.
This information is provided in the "Meridian
MAX power-down procedure" chapter.

The following buttons produce the following conditions and should not be
pressed unless under the direction of Nortel support personnel:

- *ABORT*   This button halts the Meridian MAX.
- *RESET*   This button reinitializes the Meridian MAX. The system
  performs a self test and then reboots.

Figure 3-3
LED locations for the MVME167-34 card and MVME177-005

MVME167-34A
FACEPLATE VIEW

MVME177-005
FACEPLATE VIEW
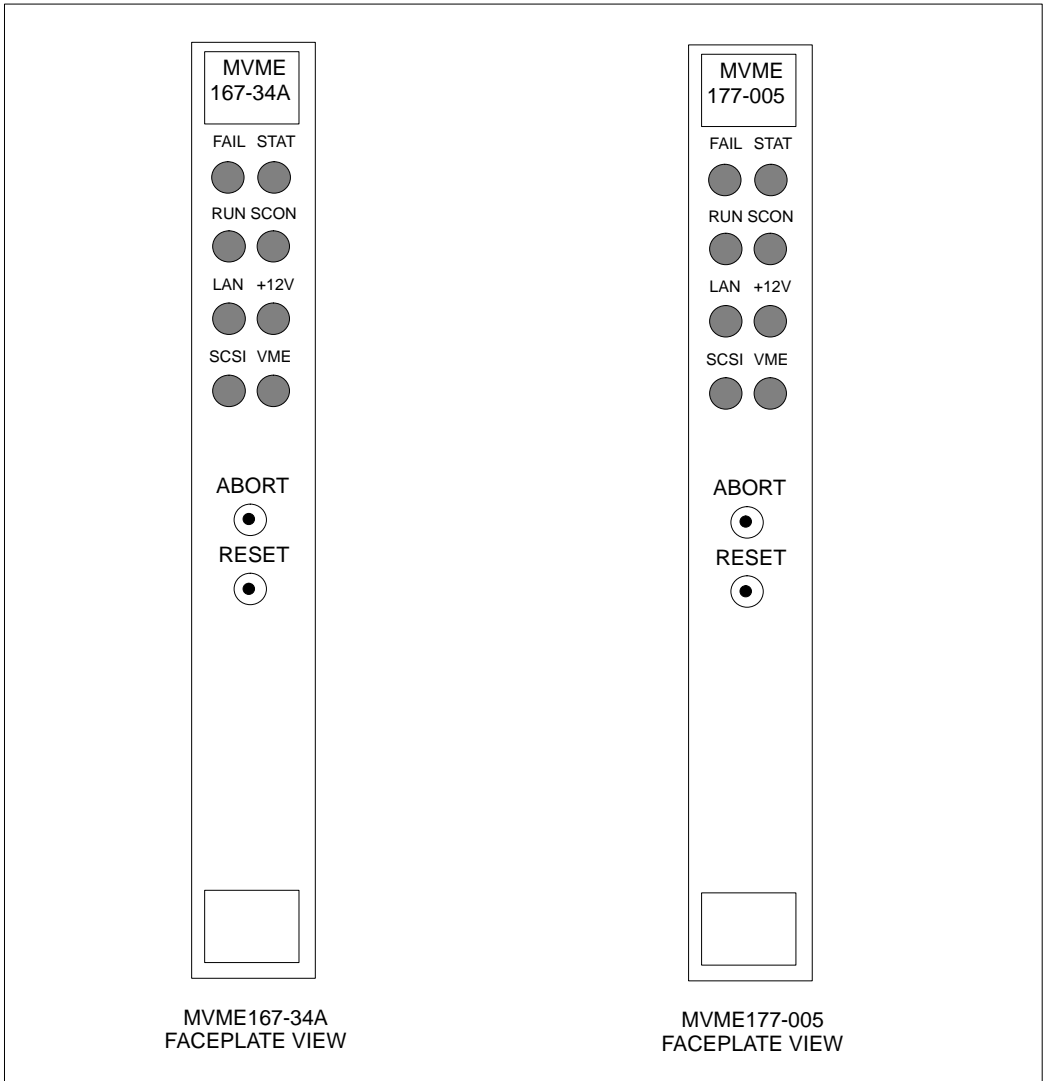
Transition cards

MVME712M

The MVME712M transition card is used as the interface between MVME167 family modules or the MVME177 family modules, and the interconnect cables that attach to the I/O panel of the Meridian MAX. The features of the MVME712M card are one independent printer port and four 25-pin multi-protocol RS-232 serial ports. These four serial ports can be configured as asynchronous, but two of the ports can also be configured as synchronous ports as well. Figure 3-4 shows the default switch settings for this card.

This transition card also provides a LAN connection through an Ethernet port supplied by a 15-pin connector that is connected to a customer supplied transceiver (MAU). The Ethernet pinouts are detailed in Figure 3-11. A SCSI port is also provided to interface with external SCSI devices. However, the SCSI terminator is connected to this port.

NT6D51AA

The NT6D51AA transition card is used as the interface between the MVME332XTS/XT serial I/O cards and the interconnect cables that attach to the I/O panel of the Meridian MAX. The features of the NT6D51AA card are three 25-pin connectors that provide eight ports for connection to peripheral devices.

Figure 3-4
MVME712M transition card showing jumper switch settings
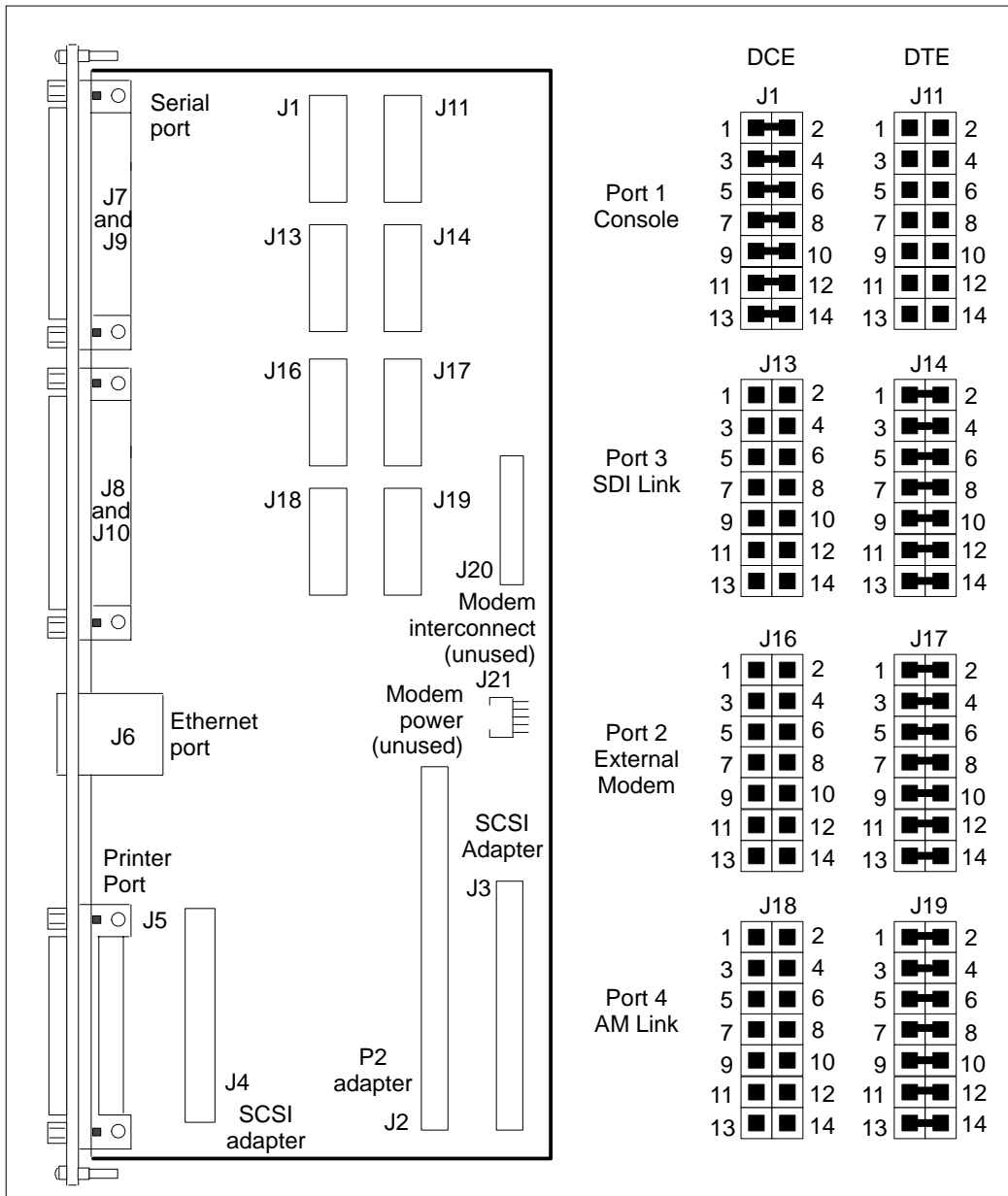
MVME332XTS and MVME332XT eight-channel asynchronous boards

Both the MVME332XTS and MVME332XT eight-channel asynchronous boards connect the Meridian MAX module with all external devices through the NT6D51AA transition card, interconnect, and external cables. Each MVME332XTS/XT eight-channel asynchronous board can communicate with a maximum of eight devices.

There are five different Meridian MAX configurations for the MVME332XTS/XT card:

- single module with one MVME332XTS/XT card (8 ports)

- single module with two MVME332XTS/XT cards (16 ports)

- single module with three MVME332XTS/XT cards (24 ports)

- single module with four MVME332XTS/XT cards (32 ports)

- single module with five MVME332XTS/XT cards (40 ports)

Each board in a Meridian MAX module has two banks of switches—a bank of eight and a bank of four. The set of eight switches has a unique setting for each card. Table 3-2 shows the settings for this bank of switches.

Table 3-2
MVME332XTS/XT eight-channel asynchronous board's eight-switch bank settings

AM Card	Switch Setting							
Slot	1	2	3	4	5	6	7	8
2	ON	OFF	OFF	OFF	OFF	ON	ON	ON
3	ON	OFF	OFF	OFF	OFF	ON	ON	OFF
4	ON	OFF	OFF	OFF	OFF	ON	OFF	ON
5	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
6	ON	OFF	OFF	OFF	OFF	OFF	ON	ON

Use jumpers to connect the following pins:

- On J1: 1 to 2, 5 to 6, 7 to 9, 8 to 10, 11 to 12, and 15 to 17

- On J4: jumper 1 to 2

For the bank of four switches, the settings on all cards are the same: 1 and 2 are off, and 3 and 4 are on.

Refer to Figure 3-5 for the switch locations on the MVME332XTS/XT card.

Figure 3-5
MVME332XTS/XT eight-channel asynchronous board switch locations
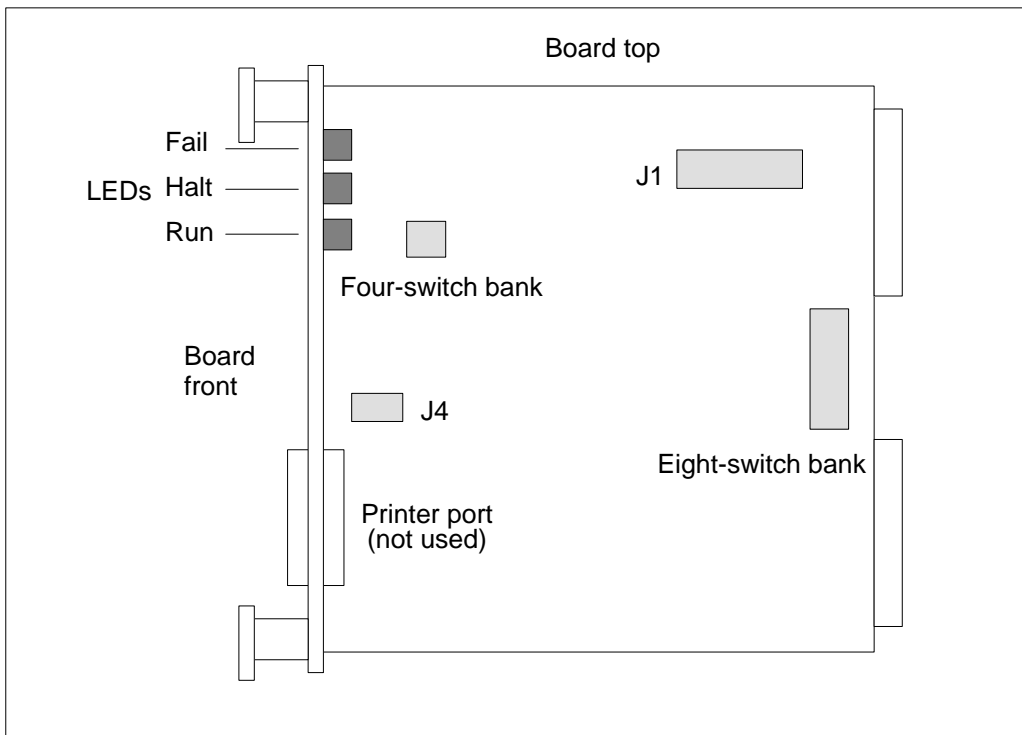
Figure 3-6 shows that there are two light-emitting diodes (LEDs) on the faceplate of the MVME332XTS card and three LEDs on the faceplate of the MVME332XT card.

The LEDs show the following conditions:

- *FAIL*   This red LED lights when a hardware failure has occurred on the card.

- *HALT*   This red LED lights steadily when the processor has stopped.

- *RUN*   This green LED lights almost continuously but flickers every few seconds when applications are running normally. This indicator only appears on the MVME332XT card.

Figure 3-6
LED locations for MVME332XTS and MVME332XT cards

MVME332XTS
FACEPLATE VIEW

MVME332XT
FACEPLATE VIEW
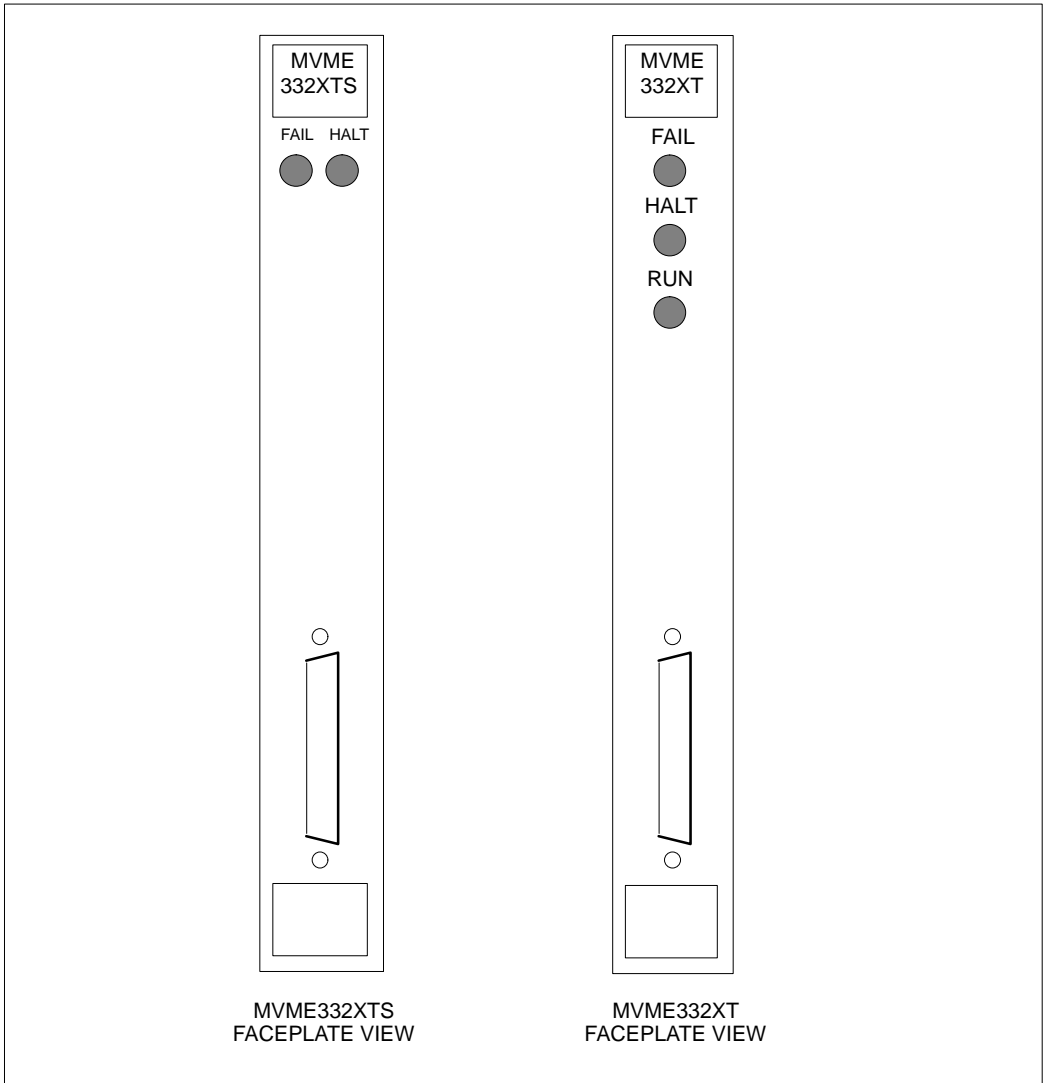
Meridian MAX Application Module

Once you have obtained your Meridian MAX, you must install the Application Module (AM) into your Application Equipment Module (AEM). The MVME167-34 card or MVME177-005 card is already installed in the AM with the MVME332XTS/XT card. The power supply and mass storage unit (MSU) must then be installed in the AM.

If your Meridian MAX was shipped already installed in the AEM, most of the AM is already assembled. The MVME167-34 card or the MVME177-005 card needs to be installed along with the MVME332XTS/XT cards, power supply, and mass storage unit (MSU).

Make sure the internal, interconnect, and external input/output cables are connected as described in the "Cables" section of this chapter.

CAUTION
Risk of data corruption

If installing or upgrading an Application Module (AM) in an existing Application Equipment Module (AEM), ensure that each AM is powered down before beginning an installation or upgrade. Failure to power down each AM may cause unpredictable results.

If your upgrade is performed on an existing system, follow the instructions contained in the "Meridian MAX power-down procedure" chapter.

Installing the Application Module

Procedure 3-1 details instructions on installing the Meridian MAX Application Module as well as the MVME332XTS/XT and MVME167-34 or MVME 177-005 cards.

Procedure 3-1
To install the Application Module

1   Ensure the circuit breaker (CB) of the module in which you are installing the power supply is in the off position.

2   Remove the front panel covering the AM cage.

Loosen the four screws at the front panel of the AM cage, and pull the panel and attached cage away from the AEM.

3   Install the new Meridian MAX SNN/SNN-E Application Module into the AEM.

Align the AM with the guides at the top and bottom of the AM cage of the AEM, and slowly slide the AM into the AEM. Be careful to make sure the cables and I/O panel are drawn through to the rear of the AEM as the AM is being inserted. Tighten the four screws at the front of the AM.

4   Connect the I/O panel to the I/O panel section at the rear of the AEM.

Line up the eight screw holes of the I/O panel with the eight screw holes on the frame of the AEM. Connect the I/O panel to the AEM using the eight screws.

5   Connect the NT7D55AD power cable at the rear of the AEM.

At the back of the column, locate the power cable running from socket J8. Connect this cable to the P3 or P4 socket, which can be found behind a metal plate behind the shelf's main power circuit breakers. The first module's power cable connects to the P3 socket, and the second module's power cable connects to the P4 socket.

6   Connect the NT7D52AA Power Sensor Cable at the rear of the AEM.

Locate the Power Sensor Cable (two thin wires, yellow and grey, with a small plug at the end). Connect it to the power monitor located at the base of the AEM, between the two Application Modules.

Note: It may be necessary to temporarily disconnect the cable NT8D46AC and the PDU cable to make it easier to locate the correct socket for connecting the Power Sensor Cable. Make sure that you restore these cables to their original sockets after you have plugged in the Power Sensor Cable.

7   Connect the ground wire to the terminal block.

The orange ground wire connects to the terminal block, located at the base of the AEM between the two Application Modules, using a lug connector.

8   Install the Application Module power supply.

Refer to the "Installing the power supply" subsection for instructions.

9   Install the Meridian MAX 8 SNN/SNN-E mass storage unit (MSU).

Refer to the "Installing the mass storage unit (MSU)" subsection for instructions.

10   Your MVME332XTS/XT cards may come already installed in the system. You should verify the switch settings of each MVME332XTS/XT card.

Refer to the "Hardware upgrades and replacements" section, "Adding MVME332XTS/XT cards to an SNN/SNN-E system" subsection, for more information on the removal and installation of MVME332XTS/XT cards.

Refer to the "MVME332XTS and MVME332XT eight-channel asynchronous boards" section of this chapter for switch setting information.

11   You may install additional MVME332XTS/XT cards into your Meridian MAX 8 SNN/SNN-E.

Refer to the "Hardware upgrades and replacements" section, "Adding MVME332XTS/XT cards to an SNN/SNN-E" subsection, for more information on the installation of MVME332XTS/XT cards.

12   Connect your system console to the Meridian MAX using an NT7D61Ax cable.

The DB-25 end connects to the workstation, and the DB-9 end connects to the SYS CONS port on the I/O panel located at the rear of the Application Equipment module (AEM).

13   Configure the system console.

Refer to the "Workstation, HSL, and LML configuration" chapter, "Workstation configuration" section, for more information on configuring the system console.

14   Configure the MVME167-34 or MVME177-005 card.

Refer to the "Configuring the CPU card" section for instructions.

15   Install the Meridian MAX 8 SNN/SNN-E system software.

Refer to the "New software installations" chapter for information on software installation.

16   Connect all external cables to the new I/O panel.

Refer to the "Cables" section of this chapter for information on external cable connections.

Installing the power supply

The power for your Meridian MAX Application Module is supplied by either an AC or DC power supply unit. Procedure 3-2 details instructions on installing the power supply.

Procedure 3-2
To install the power supply

1   Ensure the circuit breaker (CB) of the module in which you are installing the power supply is in the off position.

2   Install the Application Module power supply. (If you have replaced a previous system, use the power supply from that system.)

3   Gripping the handle at the front of the power supply faceplate, line up the power supply with the guides at the top and bottom of the power supply slot of the AM.

4   Slowly slide the power supply into the AM until the faceplate is flush with the front of the AM.

5   Tighten the two screws located at the top and bottom of the power supply faceplate.

Installing the mass storage unit

Your Meridian MAX mass storage unit (MSU) contains the system disk and tape drives. Procedure 3-3 details instructions on installing the MSU.

Procedure 3-3
To install the MSU

1   Ensure the circuit breaker (CB) of the module in which you are installing the power supply is in the off position.

2   Install the Meridian MAX 8 SNN/SNN-E mass storage unit (MSU).

3   Carefully align the unit with the guides at the top and bottom of the AM.

4   Slide the unit into the card cage until the faceplate is flush with the front of the AM.

Note: If you are uncertain as to whether the MSU is in as far as it can go, simultaneously press up on the top latch and down on the bottom latch. If the card pops forward slightly, then the card was in as far as it could go.

5   Tighten the two screws at the top and bottom of the MSU faceplate.

Meridian MAX Application Module label

Your Meridian MAX is supplied with an Application Module label (P0844934) that contains a Meridian MAX sticker.

The Meridian MAX sticker should be adhered to the application module front panel above the NT7D19SA label.

Input/output panels

The Generic I/O panel is used with the SNN/SNN-E hardware platform, and it is to this panel that all I/O cable connections are made. This I/O panel is removable.

The Generic I/O panel has 20 connectors as shown in Figure 3-7. The serial I/O ports (labeled from Card 2, Conn 1 to Card 6, Conn 3) are 25-pin (DB-25) connectors, and the Ethernet port provides a 15-pin connector. The Central Processing Unit (CPU) ports labeled Card 1, Conn 1 to Card 1, Conn 3 are 9-pin (DB-9) connectors. The port labeled Card 1, Conn 4 is a 15-pin high density connection.

Figure 3-7
Generic input/output connector panel (SNN/SNN-E system)
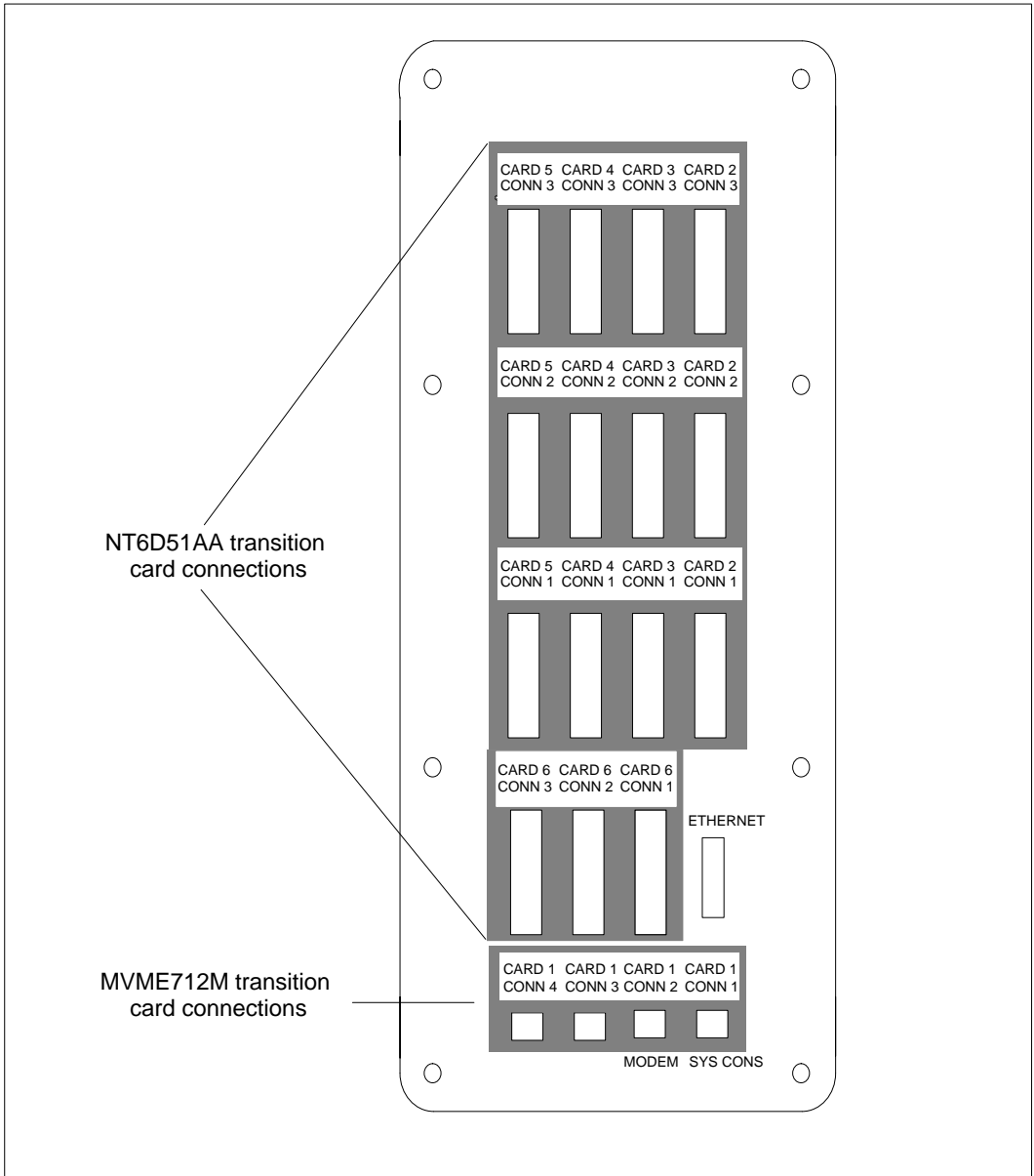
Input/output port assignments

There are five versions of the SNN/SNN-E hardware platform based on the number of MVME332XTS/XT cards configured on the system. An SNN/SNN-E system can be configured with anywhere from one to five MVME332XTS/XT cards.

> *Note:* Card 1, Conn 1 on the generic I/O panel connects to the system console.

Each MVME332XTS/XT, or I/O card, has a maximum of three ports that can be connected to multiport cables as seen in the "VME multiport cable" subsection. Each multiport cable has three RS-232 serial port connectors labeled A, B, and C. The ports in the multiport cable can be connected to peripherals or a limited choice of other devices, except where noted below.

- Cable A of the multiport cable connected to Card 2, Conn 1 must be connected to the Meridian 1 for use with the High-Speed Link.

- Cable C of the multiport cable connected to Conn 3C of each card cannot be used, and should not be connected to any type of device. This is caused because each I/O card has only eight serial ports while the three multiport cables provide nine port connectors.

- If your system is equipped with the Configuration Control feature, you must use one of the cables to connect to the Meridian 1.

- If your system has NAC connectivity, you require a port for the Network Link. Bear in mind that the Network Link can only be assigned to a single port and reduces the number of printers or supervisor workstations by one.

- At least one supervisor workstation and one printer must be connected to any I/O card through the multiport cable.

Aside from these restrictions, you can attach the remainder of the cables to supervisor workstations, printers, or modems.

> *Note:* The Configuration Control feature uses a Load Management Link that is also referred to as a Configuration Control Link.

Table 3-3 lists the assignable ports for the SNN/SNN-E hardware platform as they appear on the Meridian MAX Communication Port Assignment screen, and shows the type of device which can be connected to each port.

As you decide upon the device to connect to each port, enter the device name in the space provided. If you are assigning a supervisor workstation, remote login, or network link, you must specify the type of connection such as direct, dial-up at 2400 baud, and so on. This information is requested during the software installation.

Figure 3-7 shows the Generic Input/Output connector panel for the SNN/SNN-E hardware platform. It identifies the ports which are connected to the multiport cables. The other end of the cables are connected to the peripherals identified by you in Table 3-3.

Please note the following abbreviations:

- HSL (High-Speed Link)
- LML (Load Management Link)
- NL [Network Link (NetLink)]
- PRT (printer)
- SW (supervisor workstation)

Please note the following abbreviations for connection type:

- DC (direct connection)
- 24 (dial-up connection at 2400 baud)
- 96 (dial-up connection at 9600 baud)
- 96S (serial connection at 9600 baud)
- 192S (serial connection at 19 200 baud)

Note: The "Connection type" column in the following table lists all of the possible connections. Some connection types cannot be applied to some devices available. For example, the only connection type possible for a printer is direct connection.

Table 3-3
Communication port assignment sheet

Card slot	Port	Cable	Devices available	Device selected	Connection type
2	CARD 2, CONN 1	A	HIGH-SPEED LINK (The HSL has a serial connection in which the user can select either 9600 baud or 19 200 baud.)	HSL	96S/192S
2	CARD 2, CONN 1	B	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 1	C	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 2	A	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 2	B	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 2	C	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 3	A	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 3	B	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 1	A	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 1	B	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 1	C	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 2	A	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 2	B	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 2	C	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 3	A	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 3	B	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 1	A	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 1	B	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 1	C	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 2	A	SW / PRT / LML / NL		DC / 24 / 96
—continued—					

Table 3-3 (continued)
Communication port assignment sheet

Card slot	Port	Cable	Devices available	Device selected	Connection type
4	CARD 4, CONN 2	B	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 2	C	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 3	A	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 3	B	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 1	A	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 1	B	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 1	C	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 2	A	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 2	B	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 2	C	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 3	A	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 3	B	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 1	A	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 1	B	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 1	C	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 2	A	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 2	B	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 2	C	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 3	A	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 3	B	SW / PRT / LML / NL		DC / 24 / 96

—end—

Cables

Internal input/output cables

Meridian MAX internal cables are used to interconnect all devices which are not connected through the VME bus backplane, but still require input/output capability. Table 3-4 lists all of the internal I/O cables available. Figure 3-8 shows a cabling schematic for the SNN hardware platform. These figures identify the cables and devices which must be connected for the Meridian MAX Application Module.

Table 3-4
Internal input/output cables

ENG code	Application	Cable and connector style	From	To
NT7D52AA	VME XSM cable carries the PSTAT signals from the power sense PCB to the power monitor PCB	3-pin connectors (twisted wire)	Power Sense Board (P1)	Power Monitor Board (P1 if module is on left, P2 if module is on right)
NT7D53AA	VME SCSI cable extends the SCSI from the floating connectors to the MSU	50 Telco at floating panel, 2 x 25 connectors at the drives	Floating plate (J3)	Tape Drive (J1) and Disk Drive (J1)
NT7D56AB	VME SCSI extension cable extends SCSI from P2 adapter to the external SCSI port through 712AM and to connector at MSU	2 x 25 connector at P2 and MVME712AM/M 50 Telco at MSU	P2 adapter (J3)	External SCSI port MSU (P3)
—continued—				

Table 3-4 (continued)
Internal input/output cables

ENG code	Application	Cable and connector style	From	To
NT7D56AC	VME SCSI extension cable extends SCSI from P2 adapter to the external SCSI port through 712M and to connector at MSU	2 x 25 connector at P2 and MVME712AM/M50 Telco at MSU	P2 adapter (J3)	External SCSI port MSU (P3)
NT7D57AA	Carries I/O from ISI and ICC circuit cards to their transition modules	64-pin DIN connectors (flat ribbon)	MVME332XTS/XT (P2)	NT6D51AA (P2)
NT8D46AA	XSM Cable. Carries signals to the XSM from the power monitor PCB	40 pin	Power Monitor Board (J1, J2)	Backplane of module below, or XSM or AEM below
—end—				

Figure 3-8
Internal input/output cabling—SNN/SNN-E hardware platform

* This cable connects to P1 if the module is on the left side of the shelf, and to P2 if the module is on the right side of the shelf.
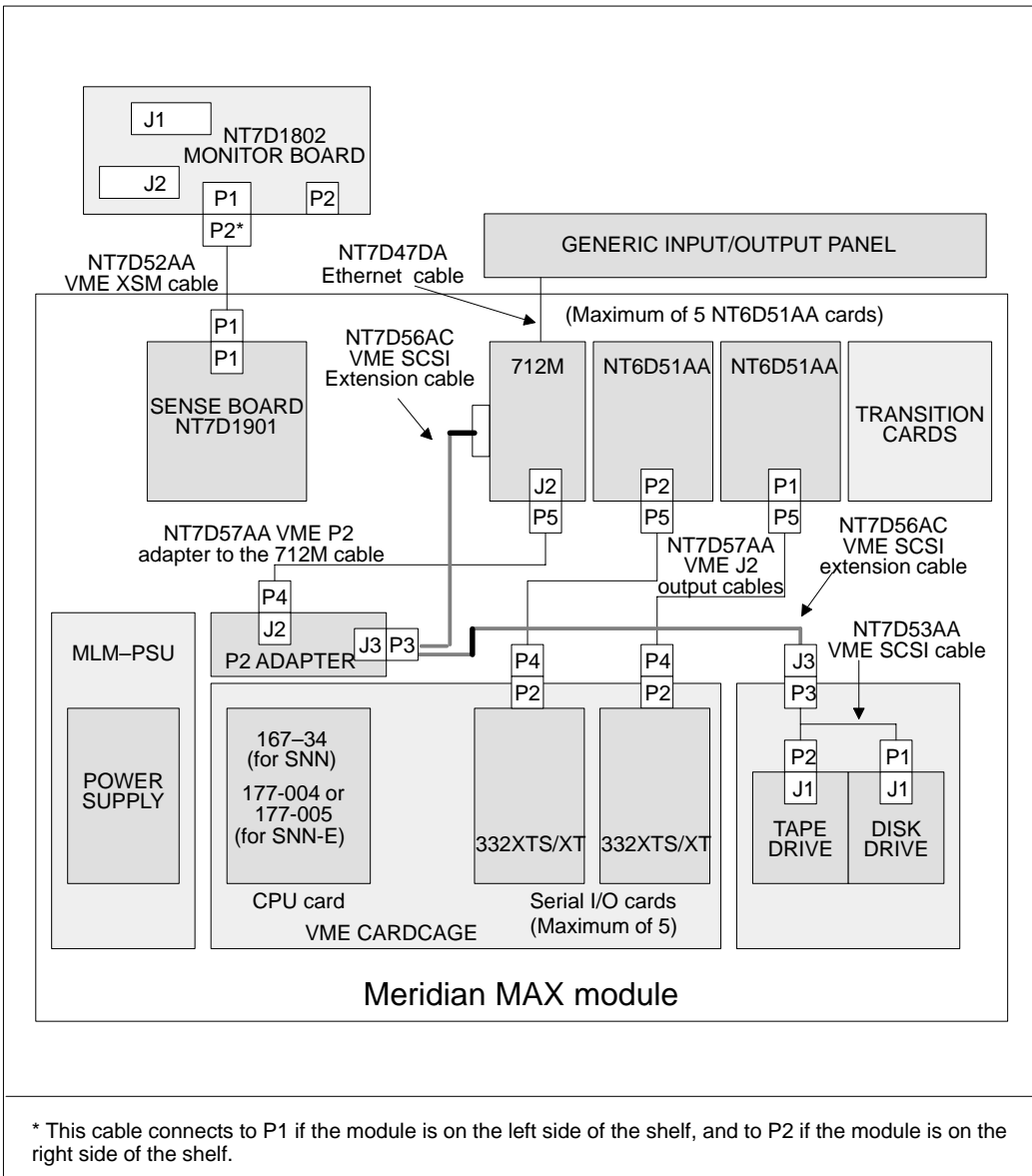
Interconnect input/output cables

Meridian MAX interconnect cables exit from the rear of the transition modules/cards and terminate on the Application Equipment Module's die-cast input/output panel through a custom input/output panel and radio-filtered connectors.

Table 3-5 lists all of the interconnect I/O cables. Figure 3-16 shows the cabling schematics for the SNN hardware platform, which identifies the cables and devices which must be connected for a system.

The term "input/output connector panel" refers to the "Generic I/O panel."

Table 3-5
Interconnect input/output cables

ENG code	Application	Cable and connector style	Length
NT7D47DA	Carries input/output between the MVME712M transition card and the Input/Output connector panel (Ethernet)	15-pin (male) Ethernet to 15-pin (female) Ethernet	35.5 cm (14 inches)
NT7D58CA	Carries input/output between the Input/Output connector panel (Card 1, Conn 4) and the MVME712M transition board (Serial Port 4)	15-pin (female) high density D-sub to 25-pin (male) round subminiature D-style	35.5 cm (14 inches)
NT7D79BA	Carries input/output between the Input/Output connector panel (Card 1, Conn 1-3, modem and SDI Link) and the MVME712M transition board (Serial Ports 1, 2, and 3)	9-pin (male) to 25-pin (male) subminiature D-style	35.5 cm (14 inches)
NT7D95AA	Carries input/output between the Input/Output connector panel (Card 2-6, Conn 1-3) and the NT6D51AA transition board	25-pin (male) subminiature D-style to 25-pin (male) subminiature D-style	35.5 cm (14 inches)

External input/output cables

Meridian MAX external cables exit from the rear of the Application Module and terminate on the Universal Equipment Module's die-cast input/output panel through a custom input/output panel and radio-filtered connectors.

Table 3-6 lists all of the external I/O cables. Figure 3-16 shows the cabling schematic for the SNN/SNN-E hardware platform. It identifies the cables and devices that must be connected for a system.

Table 3-6
External input/output cables

ENG code	Application	Cable and connector style	Length
NT1R03DB NT1R03DC NT1R03DF NT1R03DP NT1R03DV	Connects as input/output between modems and peripheral devices	DB-25 (male) connector to DB-25 (male) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT1R03EB NT1R03EC NT1R03EF NT1R03EP NT1R03EV	Connects as input/output between modems and peripheral devices	DB-25 (male) connector to DB-25 (female) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT7D47EA	Carries input/output between the Input/Output connector panel (Ethernet) and the customer-supplied transceiver	15-pin (male) connector with thumb screws to 15-pin (female) connector with sliding latch	3 m (10 ft)
—continued—			

Table 3-6 (continued)
External input/output cables

ENG code	Application	Cable and connector style	Length
NT7D58AB NT7D58AD NT7D58AF NT7D58AL NT7D58AT NT7D58AV	Carries input/output between the Input/Output connector panel and the SDI port. Used for SDI cards, QPC139, QPC841, and for terminals and printers (with A0351509 gender changer). This cable is also used to connect a Meridian MAX system to Option 11.	25-pin (male) subminiature D-style connector to 25-pin (male) subminiature D-style connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT7D58BB NT7D58BD NT7D58BF NT7D58BL NT7D58BT NT7D58BV	Carries input/output between the Input/Output connector panel (Card 1, Conn 4) and the Meridian 1/SL-1	15-pin (male) high-density connector to 25-pin (female) connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT7D61AB NT7D61AD NT7D61AF NT7D61AL NT7D61AT NT7D61AV	Carries input/output between the Input/Output connector panel and the Meridian MAX system console (with A0351509 gender changer)	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT8D93AJ NT8D93AW	Carries input/output between the Input/Output connector panel and the XSDI port. Used for the XSDI card, NT8D41.	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	4.9 m (16 ft) 14.6 m (48 ft)
NT8D96AE	Carries input/output between the Input/Output connector panel and the peripheral devices connected to the Meridian MAX	Single DB-25 (male) at the I/O panel's end to three DB-25 (female) connectors	2.4 m (8 ft)
—continued—			

Table 3-6 (continued) External input/output cables			
ENG code	**Application**	**Cable and connector style**	**Length**
NT7D99AA	Connects as input/output between Meridian MAX and dial-up modem, as well as between Meridian MAX and LDS modem	25-pin (male) subminiature D-style DB-25 connector to 25-pin (male) subminiature D-style DB-25 connector	3 m (10 ft)
—end—			

Figure 3-9 shows the cable arrangement for NT1R03Dx when supplying a connection between a modem and a peripheral device.

Figure 3-9
Cabling arrangement—modem connection cable NT1R03Dx

Note: Pins 1, 9–14, 16, 18, 19, 21–23, and 25 carry no signal and are not used with this cable.
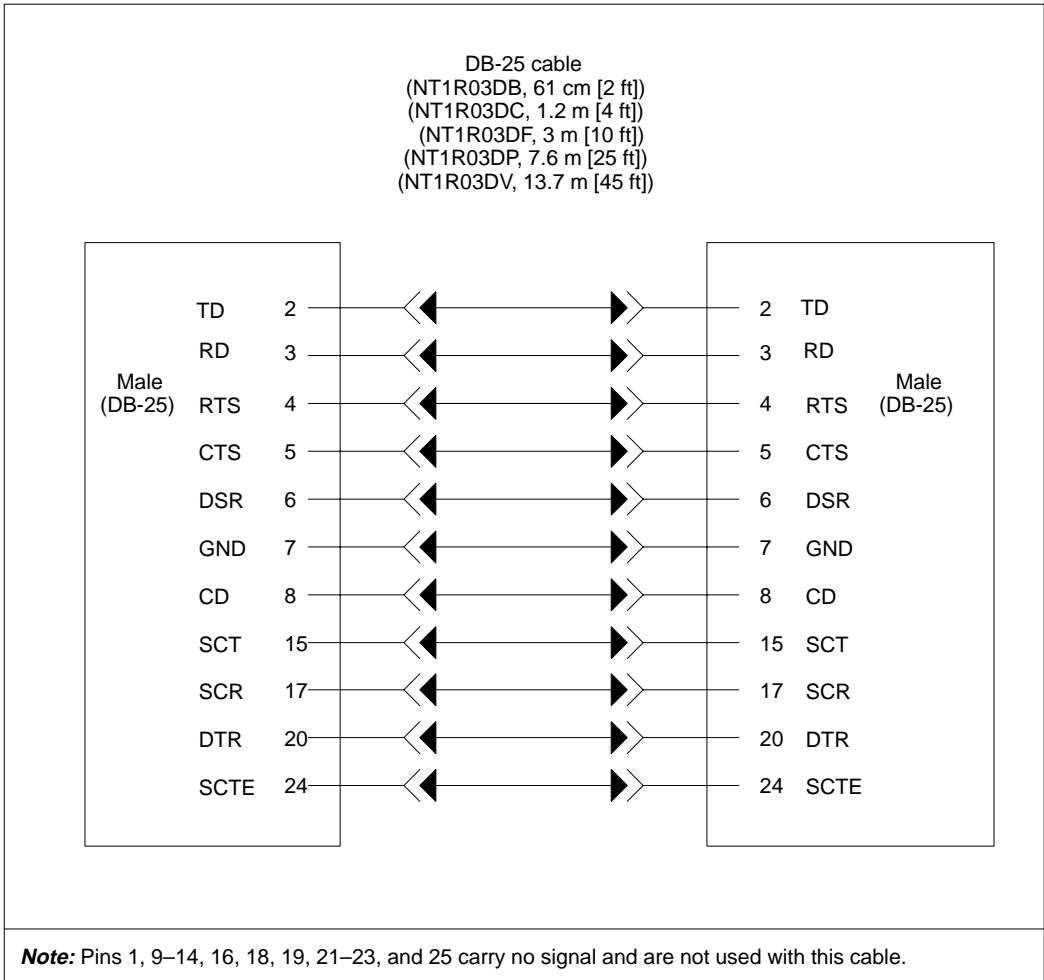
Figure 3-10 shows the cable arrangement for NT1R03Ex when supplying a connection between a modem and a peripheral device.

Figure 3-10
Cabling arrangement—modem connection cable NT1R03Ex

DB-25 cable
(NT1R03EB, 62 cm [2 ft])
(NT1R03EC, 1.2 m [4 ft])
(NT1R03EF, 3 m [10 ft])
(NT1R03EP, 7.6 m [25 ft])
(NT1R03EV, 13.7 m [45 ft])

Male (DB-25)

Signal	Pin		Pin	Signal
TD	2		2	TD
RD	3		3	RD
RTS	4		4	RTS
CTS	5		5	CTS
DSR	6		6	DSR
GND	7		7	GND
CD	8		8	CD
SCT	15		15	SCT
SCR	17		17	SCR
DTR	20		20	DTR
SCTE	24		24	SCTE

Female (DB-25)

Note: Pins 1, 9–14, 16, 18, 19, 21–23, and 25 carry no signal and are not used with this cable.
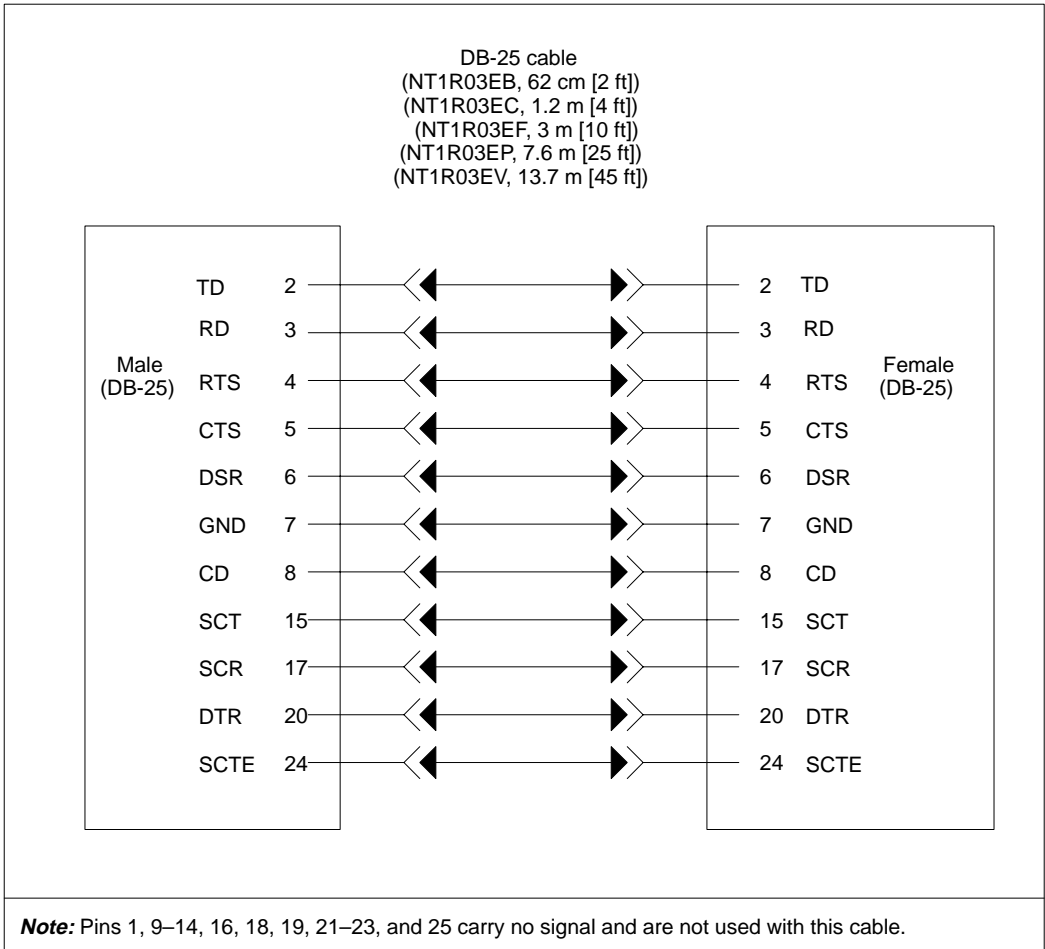
Figure 3-11 shows the cable arrangement for NT7D47EA when supplying an Ethernet connection for a LAN.

Figure 3-11

Cabling arrangement—Meridian MAX cable NT7D47EA used for LAN through Ethernet connection
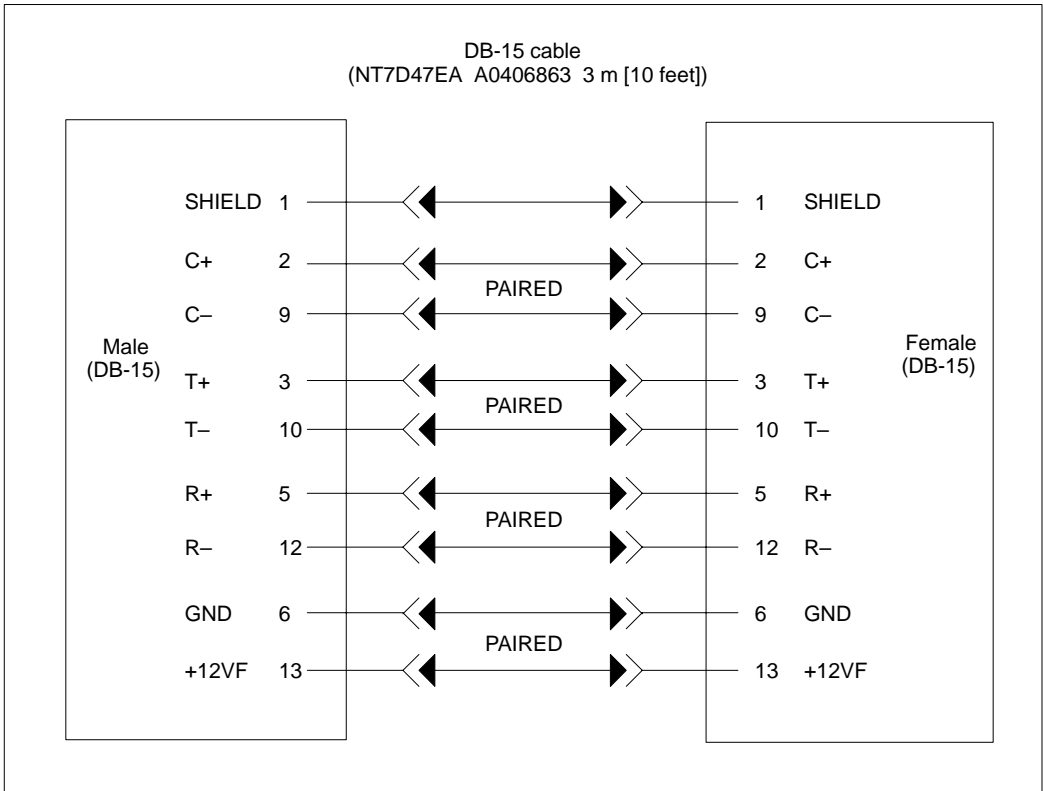
Figure 3-12 shows the cable arrangement for NT7D58Ax when supplying an HSL or LML connection between Meridian MAX and the Meridian 1 or Option 11. It can also be used for printer connections and terminal connections (with A0351509 gender changer).

Figure 3-12

Cabling arrangement—Meridian MAX cable NT7D58Ax used for High-Speed Link (HSL), and Load Management Link (LML) connections to Meridian 1; to Option 11; and for terminals (with the A0351509 gender changer) and printer connections

DB-25 cable
(NT7D58AB   A0373938   61 cm [2 feet])
(NT7D58AD   A0373939   1.8 m [6 feet])
(NT7D58AF   A0373940   3 m [10 feet])
(NT7D58AL   A0373941   6.1 m [20 feet])
(NT7D58AT   A0373942   10.7 m [35 feet])
(NT7D58AV   A0373943   13.7 m [45 feet])

Male (DB-25)			Male (DB-25)
SHIELD	1	1	SHIELD
TD	2	2	TD
RD	3	3	RD
RTS	4	4	RTS
CTS	5	5	CTS
DSR	6	6	DSR
LRTN	7	7	LRTN
CD	8	8	CD
SCT	15	15	SCT
SCR	17	17	SCR
DTR	20	20	DTR
SCTE	24	24	SCTE
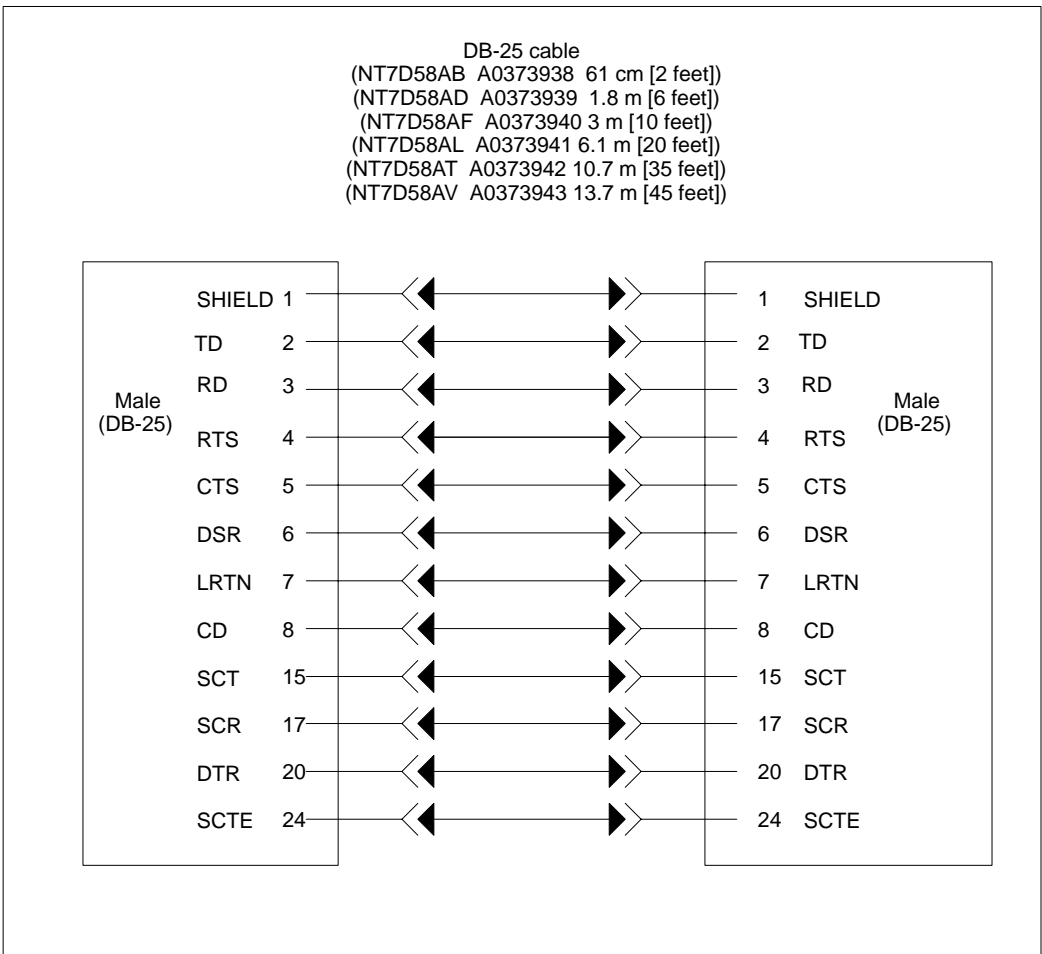
Figure 3-13 shows the cable arrangement for NT7D61Ax when it is used for the system console or system external modem.

Figure 3-13

Cabling arrangement—Meridian MAX cable NT7D61Ax used for the system console, or an SNN system external modem
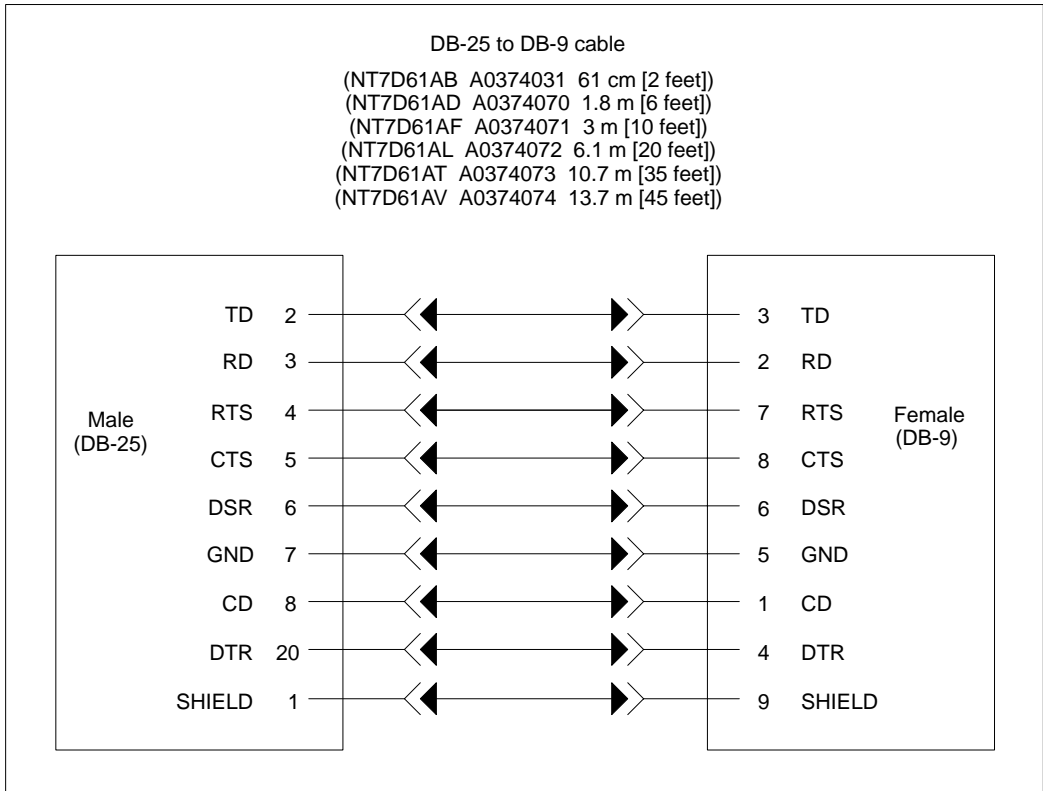
Figure 3-14 shows the cable arrangement for NT8D93Ax when supplying an HSL or LML connection between Meridian MAX and the Meridian 1.

Figure 3-14

Cabling arrangement—Meridian MAX cable NT8D93Ax used for High-Speed Link (HSL) and Load Management Link (LML) connections to Meridian 1

DB-25 to DB-9 cable
(NT8D93AJ A0357270 4.9 m [16 feet])
(NT8D93AW A0357271 14.6 m [48 feet])

Male (DB-25)			Male (DB-9)
TD	2	2	TD
RD	3	6	RD
RTS	4	4	RTS
CTS	5	9	CTS
DSR	6	8	DSR
GND	7	3	GND
CD	8	1	CD
DTR	20	7	DTR
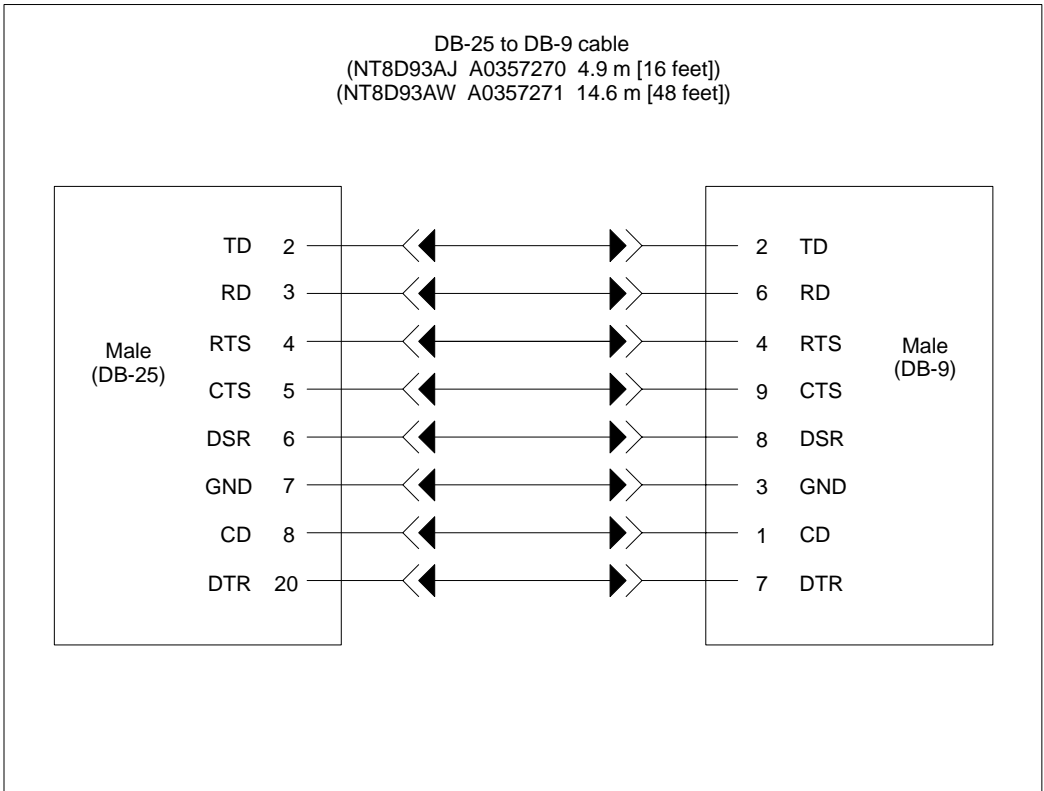
Figure 3-15 shows the cable NT7D99AA when it is used for a dial-up modem or a limited-distance modem.

Figure 3-15

Cabling arrangement—modem connection cable NT7D99AA to dial-up modem or limited-distance modem
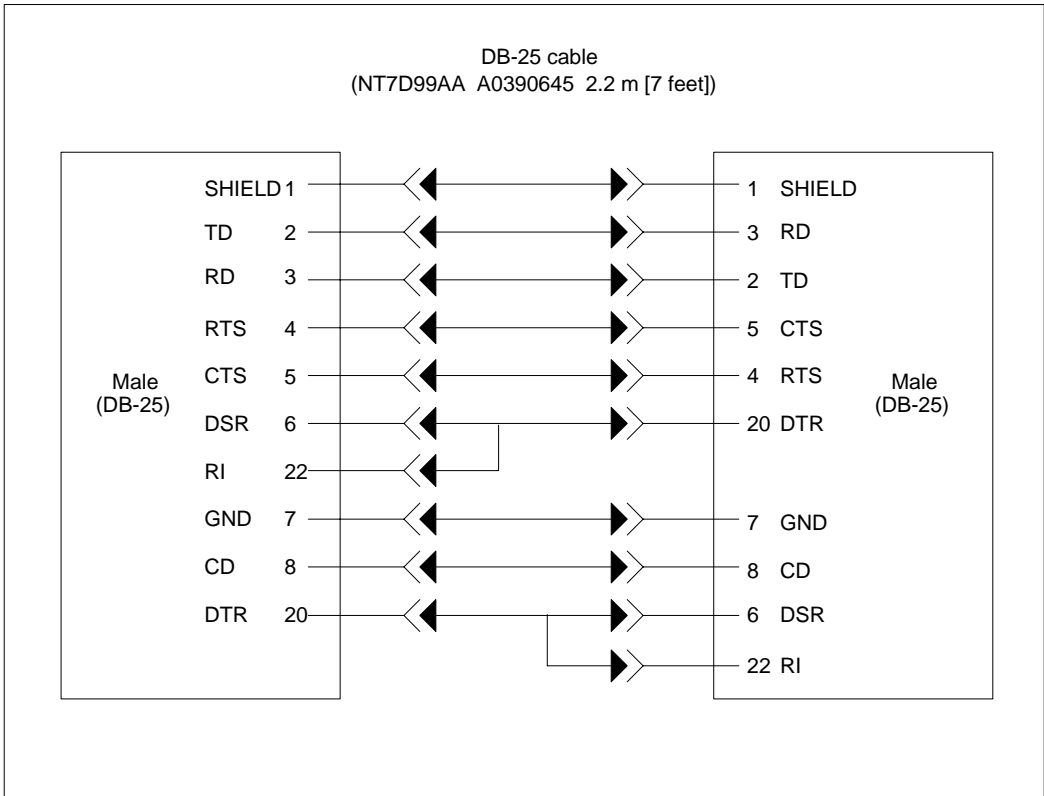
Figure 3-16
External input/output cabling—SNN/SNN-E hardware platform
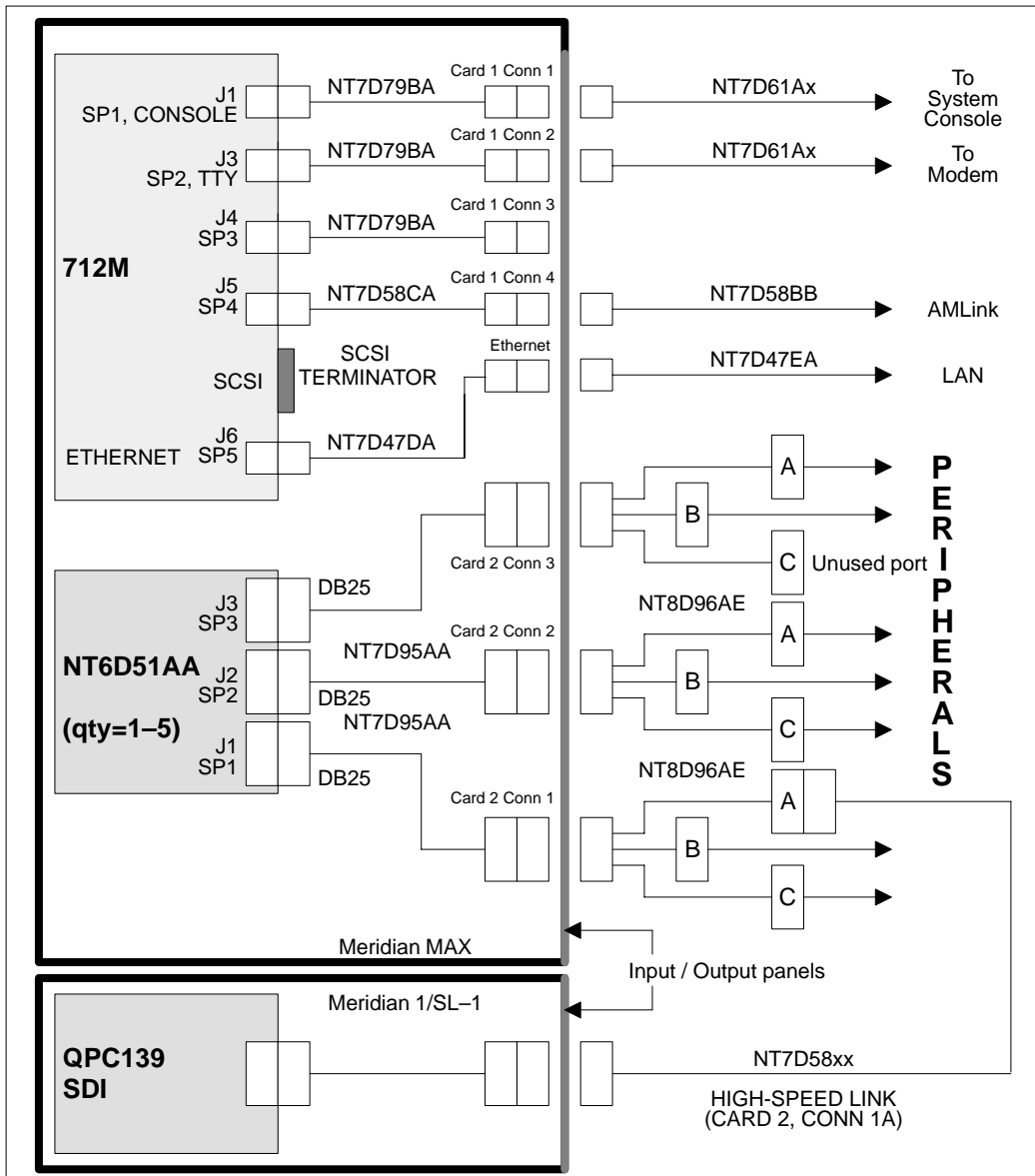
VME multiport cable

This cable, seen in Figure 3-17, connects the Meridian MAX module with each peripheral in the system. Each cable has a single male DB-25 plug at one end, and three female DB-25 plugs at the other end. The single DB-25 plug connects to a DB-25 socket on the Generic I/O panel. Each of the three DB-25 plugs at the other end are connected to a peripheral device. Refer to the correct port assignment chart when connecting peripherals to cables.

An RS-232 straight-through cable with male DB-25 connectors can extend the range between a Meridian MAX and a peripheral device. The RS-232 must be less than 13 meters (42 feet) long, and must use all 25 pins. For greater distances, refer to the "Modems" chapter. The cables from ACD-MAX 3.0 cannot be used by Meridian MAX.

Table 3-7 is the wiring table for the multiport cable. Note that all of the pins listed in the "From" column represent pins in the plug which connect to the Generic I/O panel. Pins listed in the "To" column are pins in the DB-25 sockets for the cables listed in the "Cable" column.

Table 3-7
VME multiport cable wiring

From	To	Cable	Signal name	From	To	Cable	Signal name
2	2	A	TD	25	7	B	GND
3	3	A	RD	24	8	B	CD
4	4	A	RTS	23	20	B	DTR
5	5	A	CTS	14	2	C	TD
6	6	A	DSR	15	3	C	RD
7	7	A	GND	16	4	C	RTS
8	8	A	CD	17	5	C	CTS
20	20	A	DTR	18	6	C	DSR
9	2	B	TD	19	7	C	GND
10	3	B	RD	21	8	C	CD
11	4	B	RTS	22	20	C	DTR
12	5	B	CTS	1	1	A	SHIELD
13	6	B	DSR	1	1	B	SHIELD

Figure 3-17
VME multiport cable

Note: Cable A, Cable B, and Cable C are DB-25 female connectors.
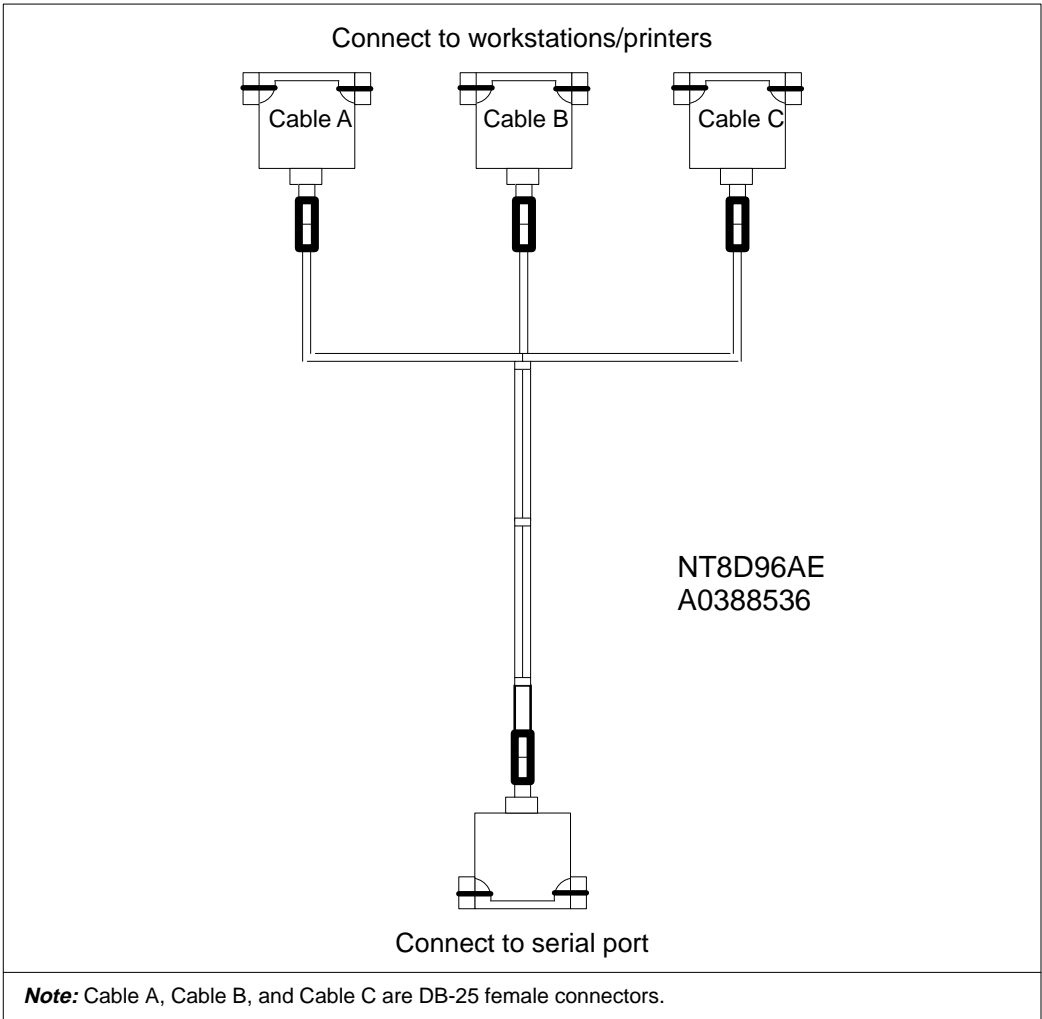
Hardware upgrades and replacements

As your operation and needs grow, so may your need to expand the system.

You can add MVME332XTS/XT eight-channel asynchronous boards to the Meridian MAX, provided that the maximum capacity for the system is not exceeded. With each additional MVME332XTS/XT card, the number of available ports increases by increments of eight.

The SNN/SNN-E hardware platform can support between 8 and 40 ports.

It is less likely that you may need to replace a component of the system. If this is required, the upgrade instructions given in this section permit you to make the replacement.

Note: All upgrades and replacements must be performed by qualified technicians.

CAUTION
Risk of equipment damage
Use an antistatic wrist strap before you remove components from an antistatic bag. Failure to do so can result in damage to components.

CAUTION
Risk of data corruption
Shut down the system from the maintenance menu, then secure the system before powering down the module.

If you are adding a module to your system, power down the column. Once the appropriate equipment is powered down, remove the column's faceplate and back plate for the appropriate shelf.
See the "Meridian MAX power-down procedure" chapter for more information.

Adding MVME332XTS/XT cards to an SNN/SNN-E system

Before inserting any additional cards into the Meridian MAX, ensure that each card's switch settings match those given in Table 3-2. Procedure 3-4 details instructions on adding MVME332XTS/XT cards.

Procedure 3-4
To add MVME332XTS/XT cards to an SNN/SNN-E system

1   Perform a courtesy shutdown of the Meridian MAX software. Ensure that the I/O Port Reconfiguration on System Restart is enabled.

   Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Shut down the system" section, for instructions on shutting down your Meridian MAX system.

   Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter, "Restart and Power Down Utilities" section, for instructions to enable the I/O Reconfiguration on System Restart feature.

2   Secure the Meridian MAX system for power down.

   Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and Administration programs: system shut down" chapter, "Restart and Power Down Utilities" section, "Secure the System for Power Down" subsection, for more information.

3   Remove the front and rear panels of the Application Equipment Module (AEM).

4   Power down the Application Module (AM). The circuit breaker (CB) is located at the left of the AEM.

5   To remove an existing MVME332XTS/XT card, locate the existing card that needs switch settings verified or that needs to be replaced. Use a Phillips screwdriver to remove the top and bottom retaining screws which keep the card in place. Press up on the card's top release lever while pressing down on the bottom card release lever. When enough pressure is applied, the card pushes itself out about a quarter of an inch. Carefully pull the card out of the slot and set it aside.

6   To add additional MVME332XTS/XT eight-channel asynchronous boards to Meridian MAX, remove the faceplates covering the empty card slots specified in Table 3-8.

Table 3-8
MVME332XTS/XT card slot placement

Number of cards	Number of ports	Slot placement
1	8	2
2	16	2, 3
3	24	2, 3, 4
4	32	2, 3, 4, 5
5	40	2, 3, 4, 5, 6

7 Take each new MVME332XTS/XT card from its packaging and check the switch settings. Refer to the "MVME332XTS and MVME332XTS/XT eight-channel asynchronous board" section of this chapter for this information. Carefully align the card with the black plastic guides found along the top and bottom of the VME card cage. Keeping the new card level, slide the card into the card cage until the new card is flush with the faceplate of the AM. Press firmly on the screw at the center of the faceplate to ensure proper seating.

Note: If you are uncertain as to whether the card is in as far as it can go, simultaneously press up on the top latch and down on the bottom latch. If the card pops forward slightly, then the card was in as far as it could go.

8 Once the card is inserted into the card cage, use a screwdriver to tighten the top and bottom retaining screws to keep the card in place.

Note: Tightening the screws while the card is not in as far as it can go could result in stripping the screws.

9 At the back of the AEM, connect the three multiport cables to the I/O connector panel. Use the appropriate port assignment table to determine which peripherals to connect to the new cables.

10 If there are no further hardware upgrades to be performed, replace the AEM's back and front panels. Power up the AEM. The hardware upgrade is complete.

11 Perform an application upgrade to add the card.

To perform an application upgrade, refer to the *Meridian MAX 8 Upgrade Guide* (NTP 553-4001-210), "Software upgrades and reinstallations" chapter.

Replacing the CPU card

Use this procedure to replace the MVME167-34 card in the SNN hardware platform or the MVME177-005 card in the SNN-E hardware platform.

Note: If you change the CPU card, you must make the LAN aware of the card's Media Access Control address. This is done by "pinging" a known device on your LAN while the Meridian MAX is in product mode. LAN connections to the Meridian MAX may not work properly if this address is not known to the LAN. For more information on the ping process, refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "LAN link diagnostic tools" chapter, "Ping" section.

Procedure 3-5
To replace the CPU card

1   Shut down the Meridian MAX software. Ensure that the I/O Port Reconfiguration on System Restart is enabled.

Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and Administration programs: system running" chapter, "Shut down the system" section, for instructions on shutting down your Meridian MAX system.

Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and Administration programs: system shutdown" chapter, "Restart and Power Down Utilities" section, for instructions to enable the System Restart feature.

2   Power down the Application Module (AM). The circuit breaker (CB) is located at the left of the AEM.

3   Locate the existing CPU card that needs to be replaced. Use a Phillips screwdriver to remove the top and bottom retaining screws which keep the card in place. Press up on the card's top release lever while pressing down on the bottom card release lever. When enough pressure is applied, the card pushes itself out about a quarter of an inch. Carefully pull the card out of the slot and set it aside.

4   Take the replacement card from its packaging. Since jumpers are set and tested in the factory, it is not necessary to change the jumper settings on the cards.

5   Carefully align the card with the black plastic guides found along the top and bottom of the VME card cage. Keeping the card level, slide the card into the card cage until the card is flush with the faceplate of the AM. Press firmly on the screw at the center of the faceplate to ensure proper seating.

> ***Note:*** If you are uncertain as to whether the card is in as far as it can go, simultaneously press up on the top latch and down on the bottom latch. If the card pops forward slightly, then the card was in as far as it could go.

6 Once the card is inserted into the card cage, use a screwdriver to tighten the top and bottom retaining screws to keep the card in place.

Tightening the screws while the card is not fully inserted could result in stripping the screws.

Figure 3-18
MVME167-34 single-board computer card
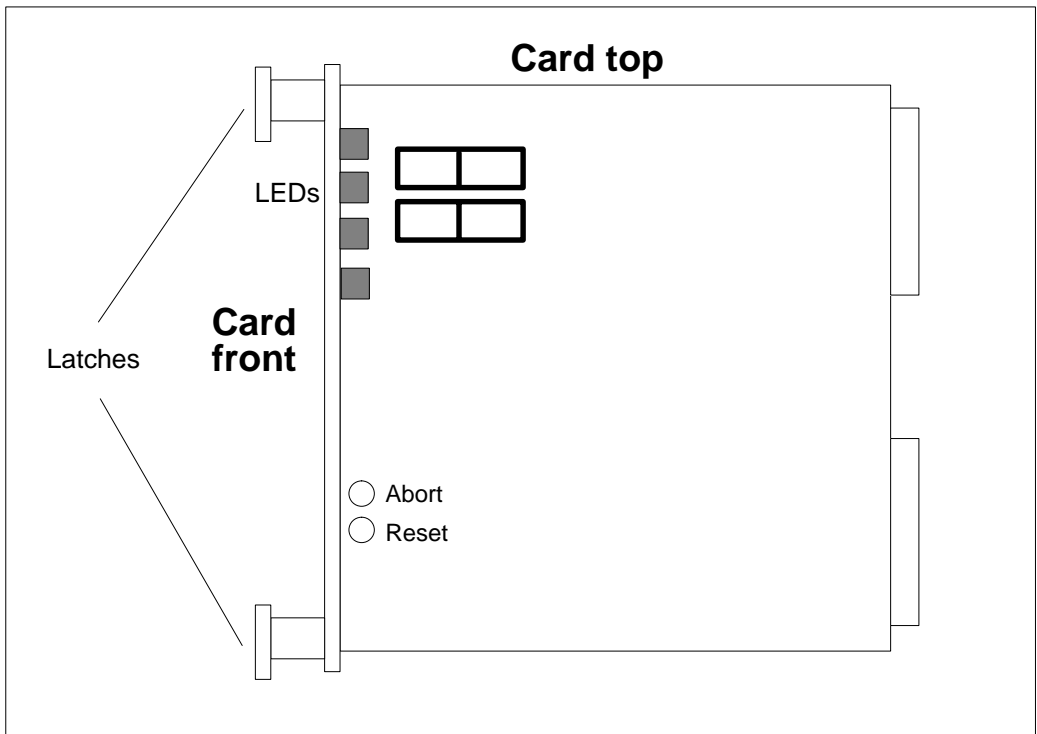
Figure 3-19
MVME177-005 single-board computer card
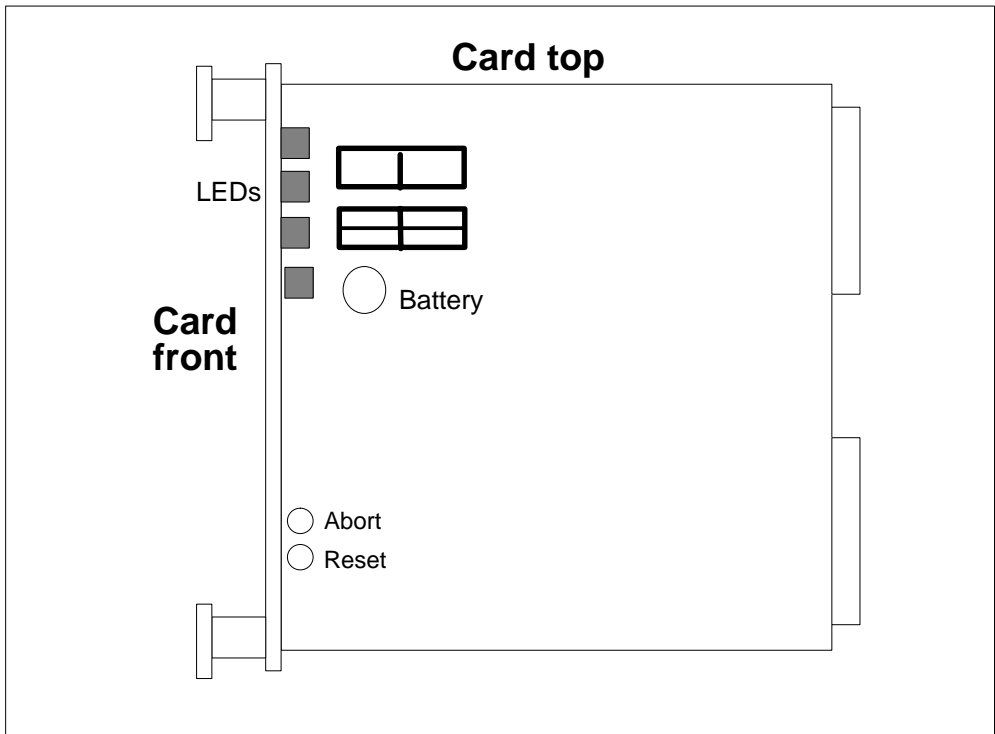
Configuring the CPU card

Once the upgrade or replacement is completed, follow Procedure 3-6 to configure the CPU card.

Procedure 3-6
To replace the CPU card

1   If the Meridian MAX is already powered down, go to Step 4.

   If the Meridian MAX is not powered down, shut down the Meridian MAX software.

   Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Shut down the system" section, for instructions on shutting down your Meridian MAX system.

2 Secure the Meridian MAX 8 for power down.

Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and Administration programs: system shut down" chapter, "Restart and Power Down Utilities" section, "Secure the System for Power Down" subsection, for more information.

3 Power down your system by flipping the power switch located to the left of the AEM to the OFF position. Wait approximately 20 seconds.

4 Flip the power switch to the ON position.

The system displays the following at the maintenance console. (The CPU card being configured [MVME167 or MVME177] appears in the message instead of "xxx".) Your system messages may differ.

```
Copyright Motorola Inc. 1988 — 1994, All Rights Reserved

MVMExxx Debugger/Diagnostics Release Version 2.2 — 01/14/94

COLD Start

Local Memory Found =xxxxxxx (&xxxxxxxx)
```

Note: (The "xxxxxxx (&xxxxxxxx)" will be 04000000 (&67108864) for SNN-E, 02000000 (&33554432) for SNN, and 01000000 (&16777216) for IPE/IPE-E.)

5 If your card was preset in the factory, go to Step 8.

If your card was not preset in the factory, the following message appears:

```
Autoboot in progress... To abort hit <BREAK>
```

6 Press the **{BREAK}** key.

Note: {F5} on the VT520 and VT420 is equivalent to the {BREAK} key.

```
——Break Detected——
```

The following menu may be shown. If it does not appear, go to Step 8.

```
1) Continue System Start Up

2) Select Alternate Boot Device

3) Go to System Debugger

4) Initiate Service Call

5) Display System Test Errors

6) Dump Memory to Tape

Enter Menu #:
```

7   Enter **3** to select the "Go to System Debugger" option.

8   The system displays one of the following prompts:

    `167–Bug>`

    `177–Bug>`

9   Enter **env** to configure the system environment.

    The default values that appear when the system is powered on are in effect at this moment. They may differ if the card was configured at the factory or at the site. Regardless, only the following recommended values should be entered.

    `Bug or System environment [B/S] = ?`

10   Enter **b** for bug.

    The system displays the following prompt:

    `Field Service Menu Enable [Y/N] = ?`

11   Enter **n** to reject the Field Service Menu.

    The system displays the following prompt:

    `Remote Start Method Switch [G/M/B/N] = ?`

12   Enter **b**.

    The system displays the following prompt:

    `Probe System for Supported I/O controllers [Y/N] = ?`

13   Enter **y** to probe the system for supported I/O controllers.

    The system displays the following prompt:

    `Negate VMEbus SYSFAIL* Always [Y/N] ?`

14   Enter **n** to reject the Negate VMEbus SYSFAIL* Always prompt.

    The system displays the following prompt:

    `Local SCSI Bus Reset on Debugger Startup [Y/N] = ?`

15   Enter **y** to start up the local SCSI bus reset on the debugger.

    The system displays the following prompt:

    `Local SCSI Bus Negotiations Type [A/S/N]    = ?`

16   Enter **a** to set the local SCSI bus negotiations type.

    The system displays the following prompt:

    `Ignore CFGA Block on a Hard Disk Boot [Y/N]   = ?`

17 Enter **y** to ignore the CFGA block on a hard disk boot.

The system displays the following prompt:

`Auto Boot Enable [Y/N]  = ?`

18 Enter **y** to enable the auto boot.

The system displays the following prompt:

`Auto Boot at power-up only [Y/N] = ?`

19 Enter **n** to disable auto boot at power-up only.

The system displays the following prompt:

`Auto Boot Controller LUN = ?`

20 To skip the following default prompts, go to Step 24.

To continue, using the following default prompts, enter **00**.

The system displays the following prompt:

`Auto Boot Device LUN      = ?`

21 Enter **00**.

The system displays the following prompt:

`Auto Boot Abort Delay = ?`

22 Enter **15**.

The system displays the following prompt:

`Auto Boot Default String [NULL for an empty string] = ?`

23 Press **{RETURN}**.

The system displays the following prompt:

`ROM Boot Enable [Y/N] = ?`

24 Enter a period (.).

The system displays the following prompt:

`Update Non-Volatile RAM (Y/N) = ?`

25 Enter **y**.

The system displays the following prompt:

`Reset local System (CPU) (Y/N) = ?`

26 Power down your system by flipping the power switch located to the left of the AEM to the OFF position. Wait about 20 seconds, then power on the system and install your Meridian MAX 8 software.

Chapter 4: Hardware installation: Intelligent Peripheral Equipment module

A word about warranties

It is extremely important that you read and understand the warranties issued for your Meridian MAX peripheral devices. Each warranty details what you can and cannot do with the warranted item.

While the utmost care has been taken to ensure that the procedures described in this NTP do not void any of the warranties, it is still possible for an instruction to be in conflict with a warranty when a warranty changes after the publication of this NTP. If you find such a condition, inform your dealer or Nortel service representative of the problem.

ATTENTION

Under no circumstances should you void your warranty for the sake of following any instruction given in this (or any other) document. Be sure to register your warranties with the appropriate companies (usually the manufacturers) where required.

Overview

The Meridian MAX Intelligent Peripheral Equipment (IPE) and Intelligent Peripheral Equipment-Enhanced (IPE-E) are ACD-MIS products that address the needs of the small call center market. They are designed to function within the Meridian 1 environment. The IPE and IPE-E have so many similarities that they are referred in this document as IPE/IPE-E.

The IPE platform is not available as a new system. It is only supported as an upgrade system (for example, call centres with existing IPE systems upgrading to Meridian MAX 8).

For an IPE platform with a 1 Gbyte hard drive to be recognized as an IPE-E platform, an appropriate keycode must be used. There are two versions of the Meridian MAX IPE/IPE-E—one for the Option 11 and one for the Option 21–81.

Table 4-1 lists the equipment and materials required for a Meridian MAX IPE/IPE-E installation.

Table 4-1
Meridian MAX IPE/IPE-E installation equipment and material list

Equipment	Contents
Meridian MAX IPE-E Option 11	Meridian IPE-E Module (A0669467) Containing: SMM167 CPU card 1 Gbyte Seagate ST31255N hard disk drive 600 Mbyte TEAC MT-2ST/F50B-000 cassette drive
—continued—	

Table 4-1 (continued) Meridian MAX IPE/IPE-E installation equipment and material list	
Equipment	**Contents**

Meridian MAX IPE
Option 11
	Meridian IPE Module (A0617009)
	    Containing:
	    SMM167 CPU card
	    240 Mbyte Fujitsu M2614 M2637S hard disk drive
	    600 Mbyte TEAC MT-2ST/F50B-000 cassette drive
	* New Meridian IPE Modules (A0617009) shipped after November 1995 contain a 1 Gbyte Seagate ST31230 hard disk drive and supports 250 Mbyte database sizes.
	
	Meridian MAX IPE Module (NT1R02AA)
	    Containing:
	    SMM167 CPU card
	    180 Mbyte Seagate ST1201N hard disk drive
	    155 Mbyte TEAC MT-2ST/N50 cassette

Meridian IPE-E
Option 21−81
	Meridian IPE Module (A0669468)
	    Containing:
	    SMM167 CPU card
	    1 Gbyte Seagate ST31055N hard disk drive
	    600 Mbyte TEAC MT-2ST/F50B-000 cassette drive

Meridian MAX IPE
Option 21−81
	Meridian IPE Module (A0617010)
	    Containing:
	    SMM167 CPU card
	    240 Mbyte Fujitsu M2614 M2637S hard disk drive
	    600 Mbyte TEAC MT-2ST/F50B-000 cassette drive
	* New Meridian IPE Modules (A0617010) shipped after November 1995 contain a 1 Gbyte Seagate ST31230 hard disk drive and supports 250 Mbyte database sizes.
	
	Meridian MAX IPE Module (NT1R02BA)
	    Containing:
	    SMM167 CPU card
	    180 Mbyte Seagate ST1201N hard disk drive
	    155 Mbyte TEAC MT-2ST/N50 cassette drive

—continued—	

Table 4-1 (continued)
Meridian MAX IPE/IPE-E installation equipment and material list

Equipment	Contents
Cables	Meridian MAX IPE/IPE-E shielded four-port cable with Ethernet (NT1R03AA) Meridian MAX IPE/IPE-E shielded four-port cable (NT1R03BA) Meridian MAX IPE/IPE-E extension cable for Option 11 (NT1R03CA) (For other extension cables, refer to the "Cables" section of this chapter.)
Workstations (any combination)	VDT-type (DEC VT520, DEC VT420, DEC VT320, DEC VT220, or HP700/32 or terminals which are 100% compatible) PC (connected directly or through a modem) to the Meridian MAX and running Reflection 4+ for DOS terminal emulator. All PCs supported by Reflection are supported by Meridian MAX. PC directly connected or connected through a LAN to the Meridian MAX and running Meridian Terminal Emulator (MTE)
Reports printer (any combination)	HP RuggedWriter printer HP LaserJet series II printer HP LaserJet series III printer HP LaserJet series 4 printer HP LaserJet series 4 Plus printer HP LaserJet series 5Si MX HP PaintJet 3630 printer HP DeskJet printer HP DeskJet 500 printer HP DeskJet 560C printer (with serial-parallel converter) HP DeskJet 660C printer (with serial-parallel converter) DEC LA195 (Epson-mode only) printer
—continued—	

Table 4-1 (continued)	
Meridian MAX IPE/IPE-E installation equipment and material list	
Equipment	**Contents**
Modems	NetComm SmartModem M7F Gandalf LDS 120E Develcon DS511A Ven-Tel 2400 Plus II Ven-Tel 9600 Plus Racal VI2422PA UDS EC224A/D UDS 2440 US Robotics Sportster 28,800 Data/Fax
Software	Meridian MAX Operating System tape cassette including the Motorola UNIX System V/68 R3V8 Operating System and a Standalone System Interactive Diagnostics (SSID) package Meridian MAX Application Software tape cassette including the Motorola Network Services Extension (NSE) package for the V/68 R3V8 OS UNIFY Version 5, Version UNI5.0.5.2.0 RDBMS Grafsman 3.10 Z-Modem protocol software Meridian Terminal Emulator (MTE) 5.32 or lower for DOS if using personal computers as workstations (optional) Meridian Terminal Emulator (MTE) for Windows if using personal computers as workstations (optional). This may be Version 6, 7, or 8 (optional). Reflection 4+ version 3.0 for DOS (or higher) if using personal computers as workstations (customer provided)
—continued—	

Table 4-1 (continued)
Meridian MAX IPE/IPE-E installation equipment and material list

Equipment	Contents
Documentation	P0853407 *Meridian MAX 8 Supervisor's User Guide* P0853414 *Meridian MAX 8 MSI/MEI Protocol Reference Guide* P0853413 *MTE 8 User Guide* 553-4001-210 *Meridian MAX 8 Upgrade Guide* (P0853412) A0662798 (includes the following set of NTPs): 553-4001-111 *Meridian MAX 8 Installation Guide* 553-4001-811 *Meridian MAX 8 Maintenance and Diagnostics Guide* 553-3201-200 *Application Equipment Module Installation Guide*
Miscellaneous equipment	Serial-parallel converter for printers (A0621070)
Miscellaneous supplies	*Use Order Code A0352271 to order a blank 150 Mybte data cassette tape for the Meridian MAX IPE Module (NT1R02AA/BA) *Use Order Code A0605411 to order a blank 600 Mybte data cassette tape for the Meridian IPE-E Option 11 (A0669467), Meridian IPE Option 11 (A0617009), Meridian IPE-E Option 21-81 (A0669467), or Meridian IPE Option 21-81 (A0617010) * A minimum of three blank data cassette tapes is required.
—end—	

Faceplate components

There are four light-emitting diodes (LEDs) and two buttons on the Meridian MAX IPE/IPE-E module faceplate shown in Figure 4-1 and Figure 4-2. These diagrams also show the front of the Meridian MAX IPE/IPE-E module containing a 600 Mbyte cassette tape drive.

Figure 4-2 shows an illustration of the front of the Meridian MAX IPE module containing a 155 Mbyte cassette tape drive.

> *Note 1:* The 600 Mbyte tape drive in the IPE/IPE-E has been rotated 180 degrees in the Meridian MAX 8 compared to the tape drive released with earlier versions of Meridian MAX IPE. This is shown in Figure 4-1.

> *Note 2:* A Meridian MAX IPE/IPE-E containing a 600 Mbyte cassette tape drive uses a tape ejector button. A Meridian MAX IPE containing a 155 Mbyte cassette tape drive uses a tape latch.

The LEDs show the following conditions:

- *PWR* This green LED lights continuously, indicating power is running to the Meridian MAX IPE/IPE-E.

- *RUN* This yellow LED lights almost continuously but flickers when the system processor has stopped.

- *SCSI (Small Computer System Interface)* The intensity of this yellow LED varies depending on system use. Heavy communication between devices is indicated by a solid bright light, while a dimmer flickering light indicates less data movement.

- *FAIL* This red LED lights when a hardware failure has occurred on the CPU card. The LED also lights for a 7- to 10-minute duration when the SMM167 card on-board diagnostics is enabled during bootup.

> **CAUTION**
> **Risk of system interruption**
> *Do not press* the abort or reset button while
> applications are running. Shut down the system
> software before pressing the abort or reset buttons.
> This information is provided in the "Meridian
> MAX power-down procedure" chapter.

The buttons produce the following conditions and should not be pressed
unless under the direction of Nortel support personnel:

- *ABORT*   This button halts the Meridian MAX IPE/IPE-E system.
- *RESET*   This button reinitializes the Meridian MAX IPE/IPE-E
  system. The system performs a self test and then reboots.

> **CAUTION**
> **Risk of equipment damage**
> Use an antistatic wrist strap before you remove
> components from an antistatic bag. Failure to do
> so results in damage to components.

Figure 4-1
Meridian MAX IPE/IPE-E module containing a 600 Mbyte tape drive—front view
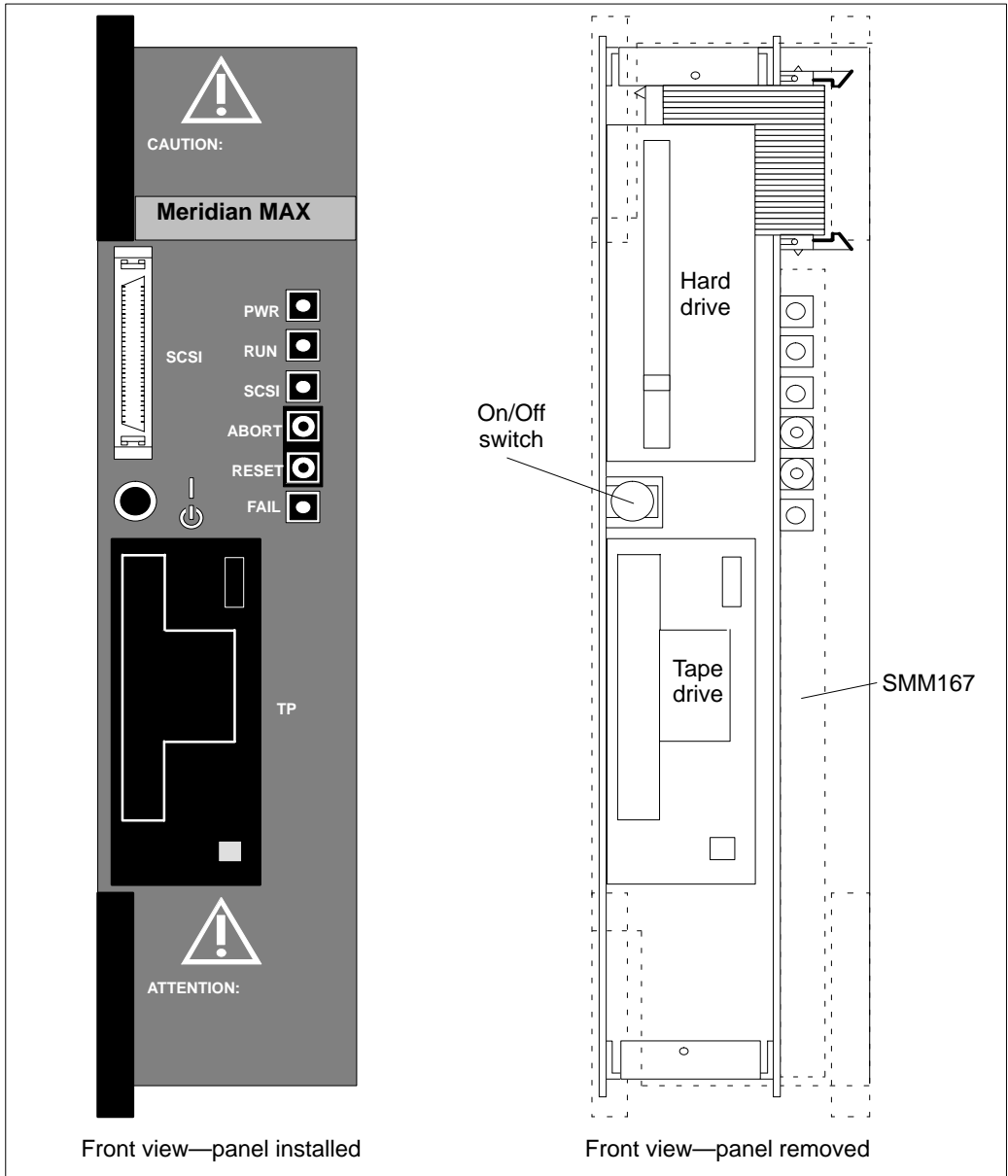
Figure 4-2
Meridian MAX IPE module containing a 155 Mbyte cassette tape drive—front view

Front view—panel installed

Front view—panel removed
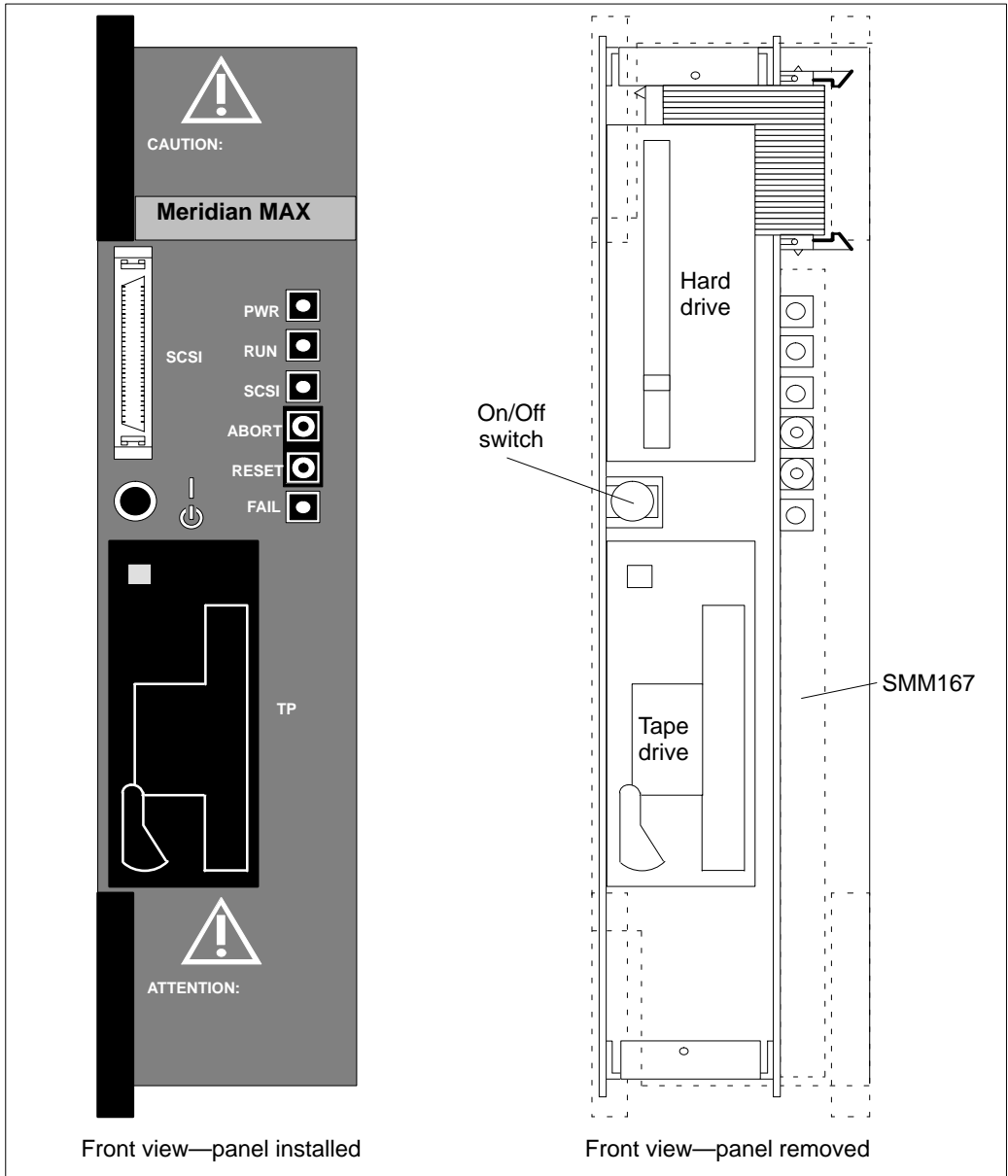
Hardware layout

Figure 4-3 shows a simplified overview of the hardware layout for the Meridian MAX IPE/IPE-E Option 11 module installation. For more information on the configurations available, refer to the "Capacities" section in the "Site preparation" chapter.

Figure 4-4 shows a simplified overview of the hardware layout for the Meridian MAX IPE/IPE-E Option 21–81 module installation. These figures are intended to show how the equipment is interconnected. The actual layout of your site may be quite different (see the "Site layout" section of the "Site preparation" chapter).

Figure 4-3
Meridian MAX IPE/IPE-E installation overview—Option 11

Note: The system console is connected to Port 1, remote diagnostics is connected to Port 2, and the High-Speed Link is connected to Port 8.
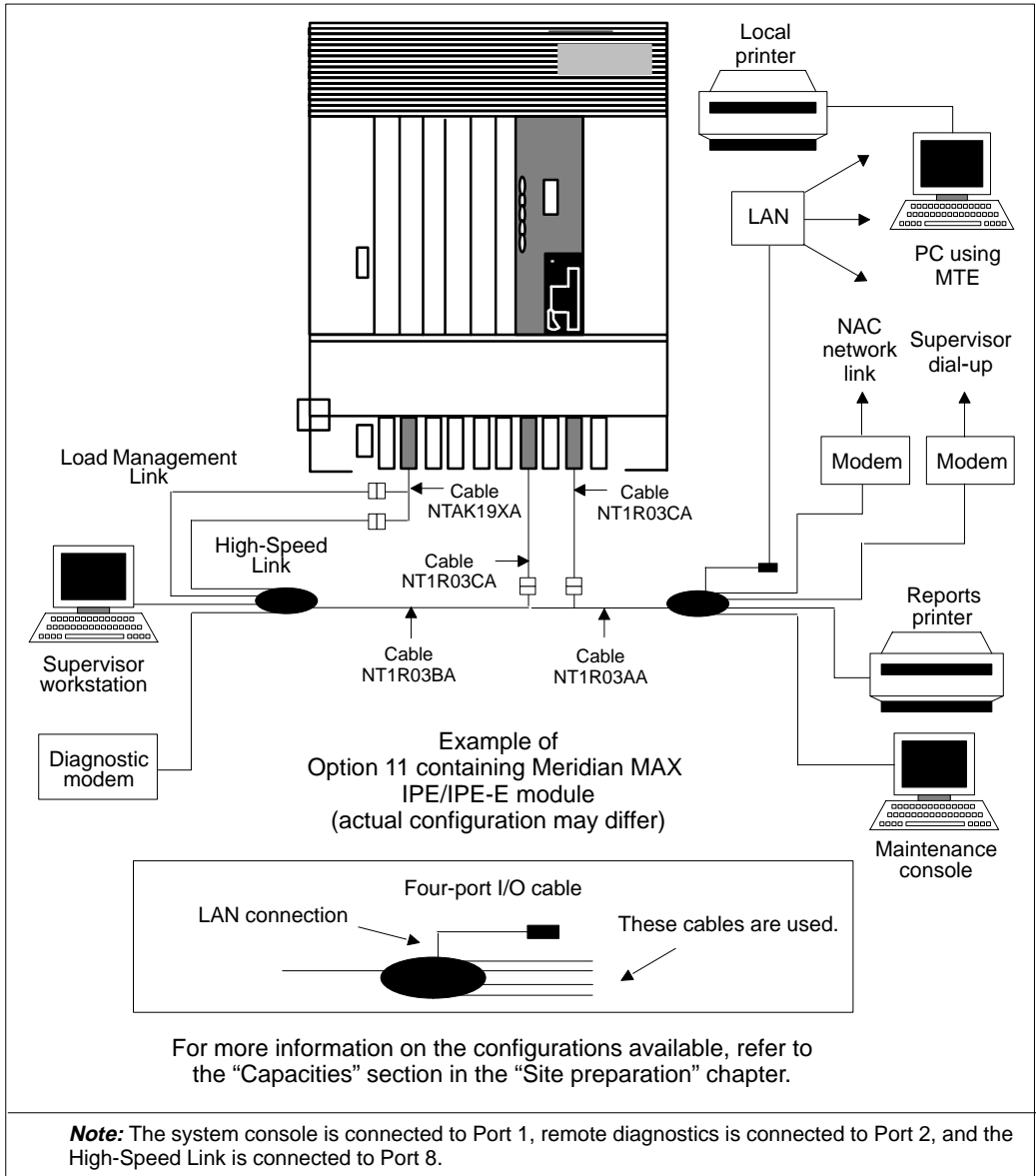
Figure 4-4
Meridian MAX IPE/IPE-E installation overview—Option 21−81

Example of
Option 21−81 containing
Meridian MAX IPE/IPE-E module
(actual configuration may differ)

For more information on the configurations available, refer to
the "Capacities" section in the "Site preparation" chapter.

Note: The system console is connected to Port 1, remote diagnostics is connected to Port 2, and the High-Speed Link is connected to Port 8.
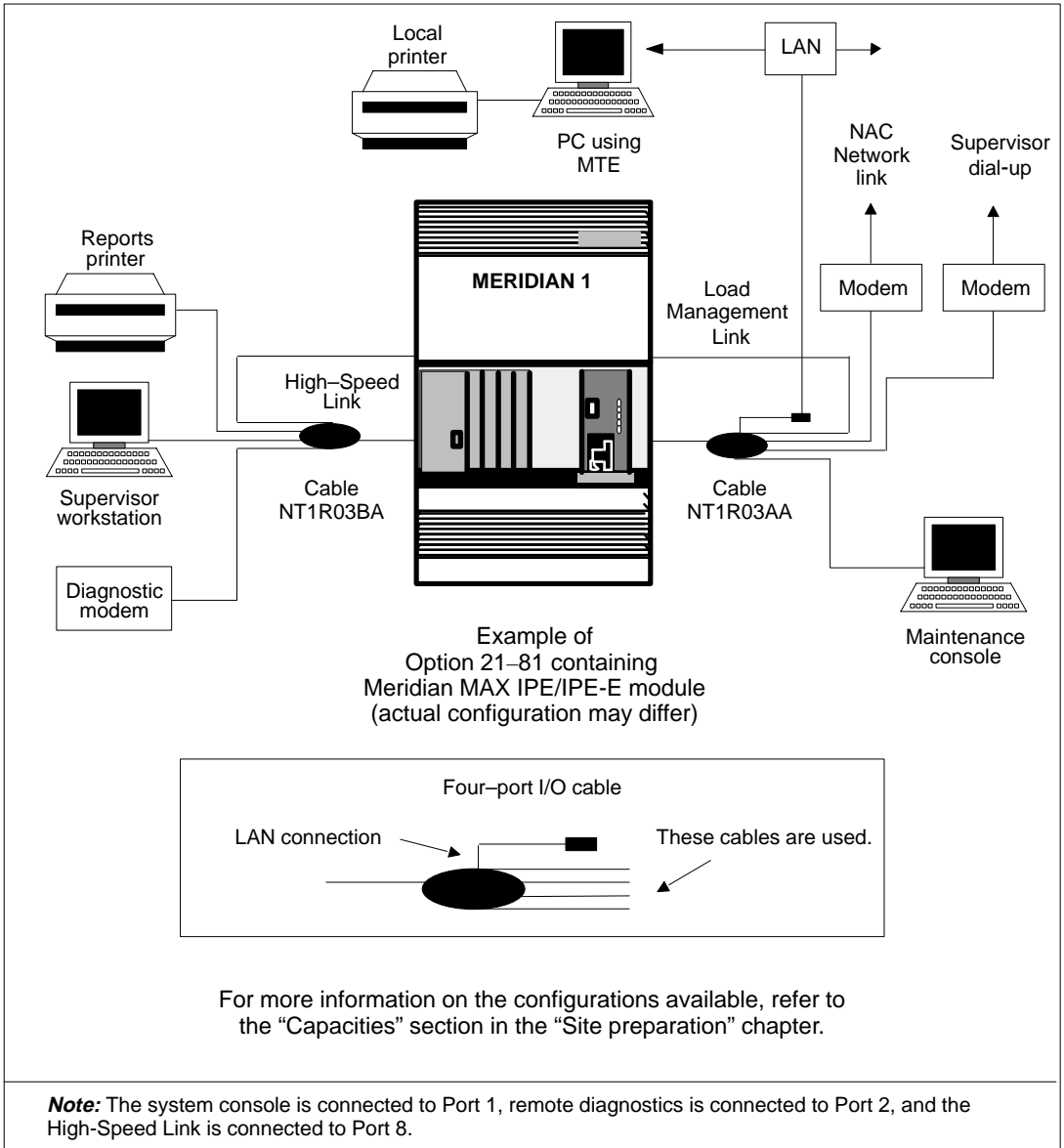
Meridian MAX IPE/IPE-E module—Option 11

If you have obtained a new Meridian MAX IPE/IPE-E system, the module is already assembled. It is necessary for you to insert the module into the Option 11.

When you remove the front panel of the main cabinet of the Option 11 or the front panel of an expansion cabinet, there are a number of slots, numbered 2 to 9 in the main cabinet and 11 to 20 in the expansion cabinet, where the Meridian MAX IPE/IPE-E module can be inserted. Slots 10–12 in the main cabinet are reserved for Meridian Mail and cannot be used for Meridian MAX IPE/IPE-E. The Meridian MAX IPE/IPE-E module occupies any three consecutive slots. Its slot placement is determined by the slot positions of existing applications already installed in either of the Option 11 cabinets. The slot placements of future applications for your system are also a consideration when deciding the slot placement for your Meridian MAX IPE/IPE-E.

When the slot placement has been determined, slowly slide the module along the slots into the cabinet, making sure the latches at the top and bottom of the module are in an unlatched position, until it is firmly in place. Make sure the latches at the top and bottom of the module are secured.

Input/output cables

Main cabinet

Two shielded four-port cables are used to connect the Meridian MAX IPE/IPE-E to its supervisor workstation, printers, and other peripheral devices. Cable A (NT1R03AA) has a 50-pin key telephone connector on one end and four DB-25 female connectors on the other, as well as an additional Ethernet port, shown in Figure 4-14. Cable B (NT1R03BA) is identical to Cable A except that it has no additional Ethernet port, shown in Figure 4-14. Each of the eight female DB-25 connectors can connect to a peripheral device. Cable A services Ports 1, 3, 5, and 7. Cable B services Ports 2, 4, 6, and 8. Refer to the Communication Port Assignment Sheet (Table 4-4) when connecting peripherals to cables.

Underneath the main cabinet of the Option 11 is a connector panel with 10 numbered connector ports. Each connector port connects to the corresponding numbered slot directly above, inside the main cabinet. The key telephone connectors of each four-port cable are connected here. These connectors are held in place by a removable connector panel bar.

The connector panel assignment for Cable A (NT1R03AA) and Cable B (NT1R03BA) in the Option 11 is shown in Table 4-2. The connector panel assignment depends on the desired slot placement of the Meridian MAX IPE/IPE-E module.

Before connecting the four-port cables, connect one extension cable (NT1R03CA) to each connector, then connect each four-port cable. Make sure the connectors are secure. This allows the front panel on the Option 11 to be closed without interference from too many dangling cables. For example, if your Meridian MAX IPE/IPE-E module occupies slots 7, 8, and 9, connect one end of an NT1R03CA extension cable to connector J9 while connecting Cable A to the other end of the extension cable. Connect a second NT1R03CA extension cable to connector J7, attaching Cable B to the other end of the second extension cable. Connector J8 is not used.

Replace the connector panel bar making sure the padded side is placed against the back of the connectors.

Table 4-2
Option 11 peripheral cable connector assignment sheet (main cabinet)

Module slot combinations	Cable	
	A	B
2-4	J4	J2
3-5	J5	J3
4-6	J6	J4
5-7	J7	J5
6-8	J8	J6
7-9	J9	J7

Expansion cabinet

If you are installing your Meridian MAX IPE/IPE-E module into an Option 11 expansion cabinet, the process is very similar to an installation in the main cabinet.

Two shielded four-port cables are used to connect the Meridian MAX IPE/IPE-E to its supervisor workstation, printers, and other peripheral devices. Cable A (NT1R03AA) has a 50-pin key telephone connector on one end and four DB-25 female connectors on the other, as well as an additional Ethernet port, shown in Figure 4-14. Cable B (NT1R03BA) is identical to Cable A except that it has no additional Ethernet port, shown in Figure 4-14. Each of the eight DB-25 connectors can connect to a peripheral device. Cable A services Ports 1, 3, 5, and 7. Cable B services Ports 2, 4, 6, and 8. Refer to the Communication Port Assignment Sheet (Table 4-4) when connecting peripherals to cables.

Underneath the expansion cabinet of the Option 11 is a connector panel with 10 numbered connector ports. Each connector port connects to the corresponding numbered slot directly above, inside the expansion cabinet. The key telephone connectors of each four-port cable are connected here. These connectors are held in place by a removable connector panel bar.

The connector panel assignment for Cable A (NT1R03AA) and Cable B (NT1R03BA) in the Option 11 is shown in Table 4-3. The connector panel assignment depends on the desired slot placement of the Meridian MAX IPE/IPE-E module.

Before connecting the four-port cables, connect one extension cable (NT1R03CA) to each connector, then connect each four-port cable. Make sure the connectors are secure. This allows the front panel on the Option 11 to be closed without interference from too many dangling cables. For example, if your Meridian MAX IPE/IPE-E module occupied slots 14, 15, and 16, connect one end of an NT1R03CA extension cable to connector J16 while connecting Cable A to the other end of the extension cable. Connect a second NT1R03CA extension cable to connector J14, attaching Cable B to the other end of the second extension cable. Connector J15 is not used.

Replace the connector panel bar making sure the padded side is placed against the back of the connectors.

Note: Because the Option 11 expansion cabinet can be placed above, below, beside, or even in another room from the main cabinet, Port 8 on Cable B may not reach the port on the NTAK19BA cable configured for the High-Speed Link. If that is the case, Port 8 can be extended using NT1R03Dx or NT1R03Ex extension cables, where x indicates the length of the cable.

Table 4-3
Option 11 peripheral cable connector assignment sheet (expansion cabinet)

Module slot combinations	Cable	
	A	**B**
11-13	J13	J11
12-14	J14	J12
13-15	J15	J13
14-16	J16	J14
15-17	J17	J15
16-18	J18	J16
17-19	J19	J17
18-20	J20	J18

Input/output port assignments

There are eight ports available for various peripheral devices, but three of them are configured for a specific peripheral. Port 1 is configured for the Console Port; Port 2 is configured for the Diagnostic Modem; and Port 8 is configured for the High-Speed Link. The remaining peripherals can be configured on any of Ports 3 to 7.

Note: The Configuration Control feature uses a Load Management Link that is also referred to as a Configuration Control Link.

Table 4-4 provides a chart which lists all of the assignable ports and shows the type of device which can be connected to each port. As you decide upon the device to connect to each port, enter the device name in the space provided. If you are assigning a Supervisor Workstation or Network Link, you must specify the type of connection: Direct, Dial-up at 2400 baud, or Dial-up at 9600 baud. This information will be requested during the software installation.

Please note the following abbreviations:

- LML (Load Management Link)
- NL [Network Link (NetLink)]
- PRT (Printer)
- SW (Supervisor Workstation)

Please note the following abbreviations for connection type:

- DC (Direct Connection)
- 24 (Dial-up connection at 2400 baud)
- 96 (Dial-up connection at 9600 baud)
- 96S (Serial connection at 9600 baud)
- 192S (Serial connection at 19 200 baud)

Note: The "Connection type" column in the following table lists all of the possible connections. Some connection types cannot be applied to some devices available. For example, the only connection type possible for a printer is direct connection. Ensure that you do not select an inappropriate connection type.

Table 4-4
Option 11 communication port assignment sheet

Port	Cable	Devices available	Device selected	Connection type
1	A	CONSOLE PORT	CONSOLE PORT	N/A
2	B	DIAGNOSTIC MODEM	DIAGNOSTIC MODEM	N/A
3	A	SW / PRT / LML / NL		DC / 24 / 96
4	B	SW / PRT / LML / NL		DC / 24 / 96
5	A	SW / PRT / LML / NL		DC / 24 / 96
6	B	SW / PRT / LML / NL		DC / 24 / 96
7	A	SW / PRT / LML / NL		DC / 24 / 96
8	B	HIGH-SPEED LINK	HIGH-SPEED LINK	96S/192S

Meridian MAX IPE/IPE-E module—Option 21–81

If you have obtained a new Meridian MAX IPE/IPE-E system for the Option 21-81, the module is already assembled. It is necessary for you to insert the module into the Peripheral Equipment (PE) slots of either the Common Equipment/Peripheral Equipment (CE/PE) cabinet or the Intelligent Peripheral Equipment (IPE) cabinet.

> *Note:* If your CE/PE or IPE cabinet is not properly configured for 24-port cards, rerouting of the backplane cabling is necessary. See the "Cable rerouting for Option 21–81 CE/PE and IPE/IPE-E modules" section for more information.

When you remove the front panel of the CE/PE or IPE cabinet of the Option 21–81, there are a number of slots, numbered 0 to 9 in the CE/PE cabinet and 0 to 15 in the IPE cabinet, where the Meridian MAX IPE/IPE-E module can be inserted. The Meridian MAX IPE/IPE-E module occupies any four consecutive slots. Its slot placement is determined by the slot positions of existing applications already installed in either the CE/PE or IPE cabinets. The slot placements of future applications for your system are also a consideration when deciding the slot placement for your Meridian MAX IPE/IPE-E.

When the slot placement has been determined and the internal backplane and I/O panel cables have been rerouted, slowly slide the module along the slots into the cabinet, making sure the latches at the top and bottom of the module are in an unlatched position, until it is firmly in place. Make sure the latches at the top and bottom of the module are secured.

Input/output cables

Common/Peripheral Equipment (CE/PE) cabinet

Two shielded four-port cables are used to connect the Meridian MAX IPE/IPE-E to its supervisor workstation, printers, and other peripheral devices. Cable A (NT1R03AA) has a 50-pin key telephone connector on one end and four DB-25 female connectors on the other, as well as one unused port reserved for future use, shown in Figure 4-14. Cable B (NT1R03BA) is identical to Cable A except that it has only four DB-25 female connectors, shown in Figure 4-14.

Each of the eight DB-25 connectors can connect to a peripheral device. Cable A services Ports 1, 3, 5, and 7. Cable B services Ports 2, 4, 6, and 8.

Refer to the Communication Port Assignment Sheet (Table 4-11) when connecting peripherals to cables.

Inside the back of the CE/PE cabinet, to the left of the backplane cover, is the NT8D11 CE/PE cabinet I/O panel, as shown in Figure 4-9. The key telephone connectors of each four-port cable are connected to this panel. The connectors on the panel are labeled with a letter between A and L. Each lettered connector is connected to a corresponding slot at the front of the Option 21–81.

Connect the four-port cables to the CE/PE cabinet connectors. Make sure the connectors are secure. Table 4-5 shows to which connectors on the I/O panel Cable A (NT1R03AA) and Cable B (NT1R03BA) connect depending on the slot placement of the Meridian MAX IPE/IPE-E in the Option 21–81. For example, if your Meridian MAX IPE/IPE-E module occupied slots 4, 5, 6, and 7, Cable A connects to connector H and Cable B connects to connector E.

Table 4-5
CE/PE cabinet peripheral cable connector assignment sheet

Module slot combinations	Cable	
	A	**B**
0-3	D	A
1-4	E	B
2-5	F	C
3-6	G	D
4-7	H	E
5-8	K	F
6-9	L	G

Intelligent Peripheral Equipment (IPE) cabinet

Two shielded four-port cables are used to connect the Meridian MAX IPE/IPE-E to its supervisor workstation, printers, and other peripheral devices. Cable A (NT1R03AA) has a 50-pin key telephone connector on one end and four DB-25 female connectors on the other, as well as one unused port reserved for future use, shown in Figure 4-14. Cable B (NT1R03BA) is identical to Cable A except that it has only four DB-25 female connectors, shown in Figure 4-14.

Each of the eight DB-25 connectors can connect to a peripheral device. Cable A services Ports 1, 3, 5, and 7. Cable B services Ports 2, 4, 6, and 8. Refer to the Communication Port Assignment Sheet (see Table 4-11) when connecting peripherals to cables.

Inside the back of the IPE cabinet, on the left and right of the backplane cover, are the NT8D37 IPE cabinet I/O panels, as shown in Figure 4-10. The key telephone connectors of each four-port cable are connected to these panels. The connectors on the panel are labeled with a letter between A and U. Each lettered connector is connected to a corresponding slot at the front of the Option 21–81.

Connect the four-port cables to the IPE cabinet connectors. Make sure the connectors are secure. Table 4-6 shows to which connectors on the I/O panel Cable A (NT1R03AA) and Cable B (NT1R03BA) connect depending on the slot placement of the Meridian MAX IPE/IPE-E in the Option 21–81. For example, if your Meridian MAX IPE/IPE-E module occupies slots 4, 5, 6, and 7, Cable A connects to connector H and Cable B connects to connector E.

Table 4-6
IPE cabinet peripheral cable connector assignment sheet

Module Slot Combinations	Cable	
	A	**B**
0-3	D	A
1-4	E	B
2-5	F	C
3-6	G	D
4-7	H	E
8-11	N	K
9-12	R	L
10-13	S	M
11-14	T	N
12-15	U	R

Cable rerouting for Option 21–81 CE/PE, IPE/IPE-E modules

In a standard configuration, the Meridian MAX IPE/IPE-E module can be placed in any peripheral slot on the Option 21–81 CE/PE or IPE modules. This is possible when the slots are fully cabled to accommodate 24 tip and ring pairs per slot. If your system is running a software release prior to Meridian 1 X11 Release 18, you need to reroute cables inside the CE/PE or IPE module.

In the standard backplane configuration of the NT8D11 CE/PE and NT8D37 IPE modules, using a software release prior to Meridian 1 X11 Release 18, some slots on the backplane are fully cabled to accommodate 24 tip and ring pairs (3 cable connectors). Most of the backplane slots, however, accommodate 16 pairs (2 cable connectors). By adding and reconfiguring cable ends in the backplane slots, 24 pairs can be connected to each backplane slot. Once the rerouting process is done, the CE/PE or IPE cabinet can support the Meridian MAX IPE/IPE-E module.

> *Note:* When backplane slots are reconfigured for expanded cabling, the labeling for NT8D11 CE/PE and NT8D37 IPE modules must be changed at the MDF to reflect the change in the backplane slots.

Cables are designated by the letter of the I/O panel (A, B, C, and so forth) where the 50-pin cable connector is attached. Each cable has three 20-pin connectors (16 positions are used) designated 1, 2, or 3, which attach to the backplane. Using the designations described, the backplane ends of the first cable are referred to as A-1, A-2, and A-3.

The location of the cable connectors on the backplane are designated by the slot number (L0 through L9 for NT8D11, L0 through L15 for NT8D37) and the shroud row (1, 2, 3). Using these designations, the slot positions in the first slot are referred to as L0-1, L0-2, and L0-3.

Cable rerouting for NT8D11 CE/PE module

In the standard seven-cable configuration for the backplane in the NT8D11 CE/PE module, cables D, G, and L are not used. Those cables are used in the 10-cable fully expanded configuration.

Cabling for the first four PE slots can be expanded using one NT8D81AA cable/filter assembly. Cabling for all of the PE slots can be expanded using three NT8D81AA cable/filter assemblies.

Note: The first PE slot is already fully cabled for 24 pairs, so no change is required for that slot.

Table 4-7 lists cable connections *before* cable expansion. Figure 4-5 shows the backplane slots *before* cable expansion.

Table 4-7
NT8D11 cable connections (standard configuration)

Backplane slots-shroud rows			I/O panel/cable designation
L0-1	L0-2	L0-3	A
L1-1	L1-2	L2-1	B
L2-2	L3-1	L3-2	C
L4-1	L4-2	L5-1	E
L5-2	L6-1	L6-2	F
L7-1	L7-2	L8-1	H
L8-2	L9-1	L9-2	K

Note: Cables D, G, and L are not used in this configuration.

Figure 4-5
NT8D11 backplane cable designations (standard configuration)
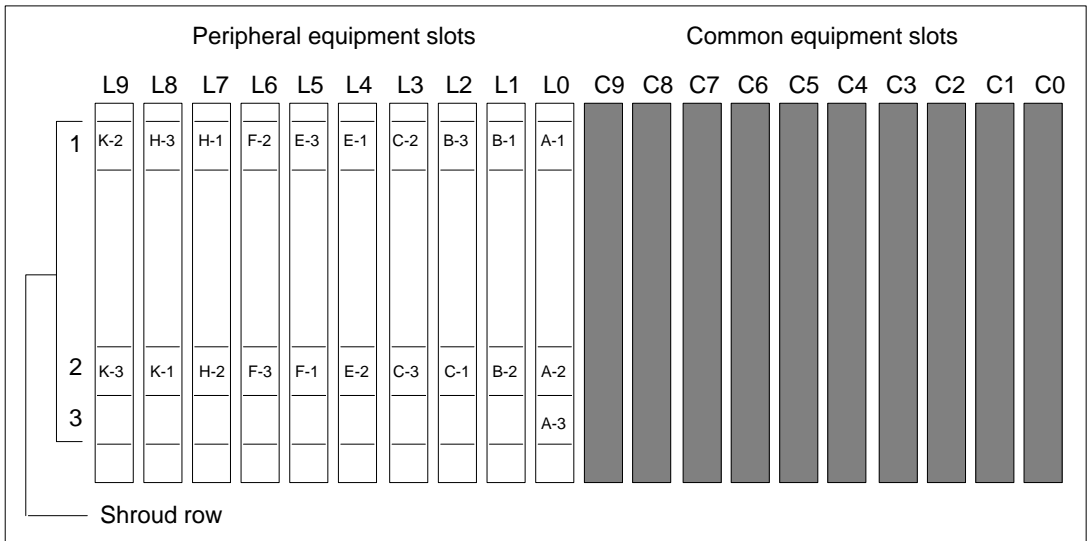
NT8D11 backplane cable expansion—first four PE slots only

1   Leave cable A as is in slot position L0.

2   Move cable end B-3 to slot position L1-3.

3   Remove cable C from the backplane, and connect cable ends C-1, C-2, and C-3 to slot positions L2-1, L2-2, and L2-3.

4   Add cable D to the I/O panel by connecting cable ends D-1, D-2, and D-3 to slot positions L2-1, L2-2, and L2-3.

    Cables E, F, H, and K remain the same. Cable positions G and L are open for further expansion.

5   If you are cabling peripheral devices to the Option 21-81 through an MDF, label the MDF to show one cable for the first and fourth PE slots (L0 and L3).

NT8D11 backplane cable expansion—all PE slots

1   Leave cable A as is in slot position L0.

2   Move cable end B-3 to slot position L1-3.

3   Remove cable C from the backplane, and connect cable ends C-1, C-2, and C-3 to slot positions L2-1, L2-2, and L2-3.

4   Add cable D to the I/O panel by connecting cable ends D-1, D-2, and D-3 to slot positions L3-1, L3-2, and L3-3.

5   Move cable end E-3 to slot position L4-3.

6   Remove cable F from the backplane and connect cable ends F-1, F-2, and F-3 to slot positions L5-1, L5-2 and L5-3.

7   Add cable G to the I/O panel by connecting cable ends G-1, G-2, and G-3 to slot positions L6-1, L6-2, and L6-3.

8   Move cable end H-3 to slot position L7-3.

9   Remove cable K from the backplane, and connect cable ends K-1, K-2, and K-3 to slot positions L8-1, L8-2 and L8-3.

10 Add cable L to the I/O panel by connecting cable ends L-1, L-2, and L-3 to slot positions L9-1, L9-2, and L9-3.

11 If you are cabling peripheral devices to the Option 21-81 through an MDF, label the MDF to show one cable for each PE slot.

Table 4-8 lists cable connections for a fully expanded configuration. Figure 4-6 shows the backplane slots in a fully expanded configuration.

Table 4-8
NT8D11 cable connections (fully expanded configuration)

From backplane slots—shroud rows	To I/O panel/cable designation
L0-1,2,3	A
L1-1,2,3	B
L2-1,2,3	C
L3-1,2,3	D (new cable)
L4-1,2,3	E
L5-1,2,3	F
L6-1,2,3	G (new cable)
L7-1,2,3	H
L8-1,2,3	K
L9-1,2,3	L (new cable)

Figure 4-6
NT8D11 backplane cable designations (fully expanded configuration)
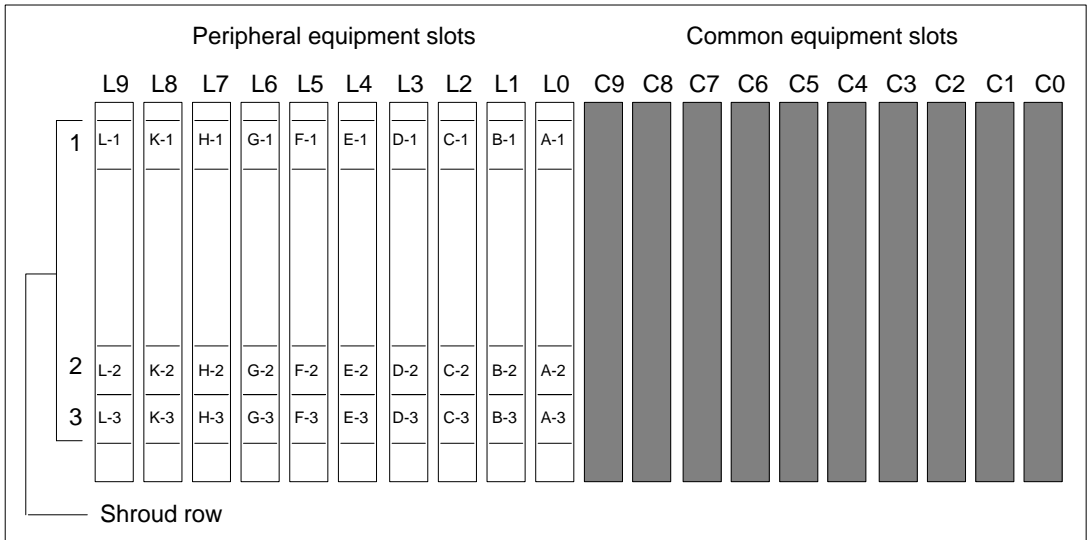
Cable rerouting for NT8D37 IPE module

In the standard 11-cable configuration for the backplane in the NT8D37 IPE/IPE-E module, cables D, H, N, and U are not used. Those cables are used in the 16-cable fully expanded configuration.

Cabling for each segment can be expanded using one NT8D81AA cable/filter assembly. Cabling for the entire backplane can be expanded using four NT8D81AA cable/filter assemblies.

> *Note:* Backplane slots 0, 4, 8, and 12 (for cables A, E, K, and R) are already fully cabled for 24 pairs, so no change is required for those slots.

Table 4-9 lists cable connections *before* cable expansion. Figure 4-7 shows the backplane slots *before* cable expansion.

Table 4-9
NT8D37 cable connections (standard configuration)

Backplane slots—shroud rows			I/O panel/cable designation
L0-1	L0-2	L0-3	A
L1-1	L1-2	L2-1	B
L2-2	L3-1	L3-2	C
L4-1	L4-2	L4-3	E
L5-1	L5-2	L6-1	F
L6-2	L7-1	L7-2	G
L8-1	L8-2	L8-3	K
L9-1	L9-2	L10-1	L
L10-2	L11-1	L11-2	M
L12-1	L12-2	L12-3	R
L13-1	L13-2	L14-1	S
L14-2	L15-1	L15-2	T

Note: Cables, D, H, N, and U are not used in this configuration.

Figure 4-7
NT8D37 backplane cable designations (standard configuration)
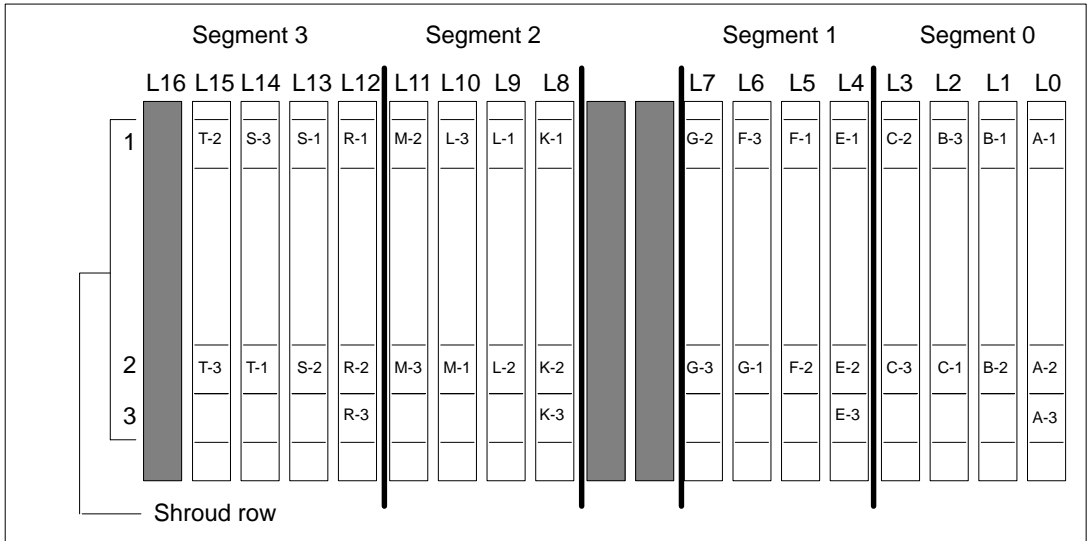
NT8D37 backplane cable expansion—segment 0

1   Leave cable A as is in slot position L0.

2   Move cable end B-3 to slot position L1-3.

3   Remove cable C from the backplane, and connect cable ends C-1, C-2, and C-3 to slot positions L2-1, L2-2, and L2-3.

4   Add cable D to the I/O panel by connecting cable ends D-1, D-2, and D-3 to slot positions L3-1, L3-2,, and L3-3.

NT8D37 backplane cable expansion—segment 1

1   Leave cable E as is in slot position L4.

2   Move cable end F-3 to slot position L5-3.

3   Remove cable G from the backplane, and connect cable ends G-1, G-2, and G-3 to slot positions L6-1, L6-2, and L6-3.

4   Add cable H to the I/O panel by connecting cable ends H-1, H-2, and H-3 to slot positions L7-1, L7-2, and L7-3.

NT8D37 backplane cable expansion—segment 2

1   Leave cable K as is in slot position L8.

2   Move cable end L-3 to slot position L9-3.

3   Remove cable M from the backplane, and connect cable ends M-1, M-2, and M-3 to slot positions L10-1, L10-2, and L10-3.

4   Add cable N to the I/O panel by connecting cable ends N-1, N-2, and N-3 to slot positions L11-1, L11-2, and L11-3.

NT8D37 backplane cable expansion—segment 3

1   Leave cable R as is in slot position L12.

2   Move cable end S-3 to slot position L13-3.

3   Remove cable T from the backplane, and connect cable ends T-1, T-2, and T-3 to slot positions L14-1, L14-2, and L14-3.

4   Add cable U to the I/O panel by connecting cable ends U-1, U-2, and U-3 to slot positions L15-1, L15-2, and L15-3.

Table 4-10 lists cable connections for a fully expanded configuration. Figure 4-8 shows the backplane slots in a fully expanded configuration.

Table 4-10
NT8D37 cable connections (fully expanded configuration)

From backplane slots—shroud rows	To I/O panel/cable designation
L0-1,2,3	A
L1-1,2,3	B
L2-1,2,3	C
L3-1,2,3	D (new cable)
L4-1,2,3	E
L5-1,2,3	F
L6-1,2,3	G
L7-1,2,3	H (new cable)
L8-1,2,3	K
L9-1,2,3	L
L10-1,2,3	M
L11-1,2,3	N (new cable)
L12-1,2,3	R
L13-1,2,3	S
L14-1,2,3	T
L15-1,2,3	U (new cable)

Figure 4-8
NT8D37 backplane cable designations (fully expanded configuration)
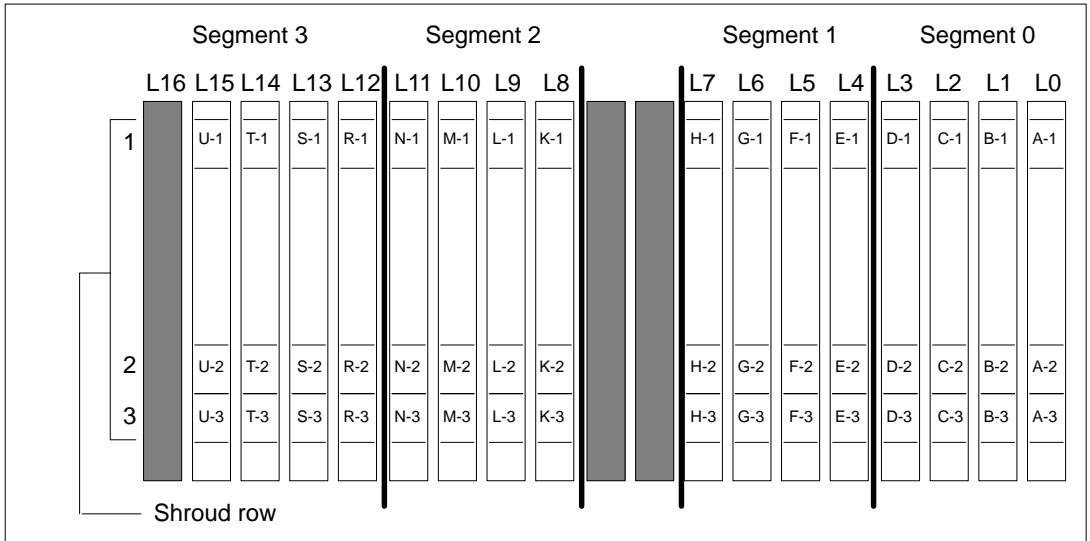
Input/output port assignments

There are eight ports available for various peripheral devices, but three of them are configured for a specific peripheral. Port 1 is configured for the Console Port; Port 2 is configured for the Diagnostic Modem; and Port 8 is configured for the High-Speed Link. The remaining peripherals can be configured on any of Ports 3 to 7.

> *Note:* The Configuration Control feature uses a Load Management Link that is also referred to as a Configuration Control Link.

Table 4-11 provides you with a chart which lists all of the assignable ports and shows the type of device which can be connected to each port. As you decide upon the device to connect to each port, enter the device name in the space provided. If you are assigning a Supervisor Workstation, Remote Login, or Network Link, you must specify the type of connection: Direct, Dial-up at 2400 baud, or Dial-up at 9600 baud. This information will be requested during the software installation.

Please note the following abbreviations:

- LML (Load Management Link)
- NL [Network Link (NetLink)]
- PRT (Printer)
- SW (Supervisor Workstation)

Please note the following abbreviations for Connection Type:

- DC (Direct Connection)
- 24 (Dial-up connection at 2400 baud)
- 96 (Dial-up connection at 9600 baud)
- 96S (Serial connection at 9600 baud)
- 192S (Serial connection at 19 200 baud)

> *Note:* The "Connection type" column in the following table lists all of the possible connections. Some connection types cannot be applied to some available devices. For example, the only connection type possible for a printer is direct connection. Ensure that you do not select an inappropriate connection type.

Table 4-11
Option 21–81 communication port assignment sheet

Port	Cable	Devices available	Device selected	Connection type
1	A	CONSOLE PORT	CONSOLE PORT	N/A
2	B	DIAGNOSTIC MODEM	DIAGNOSTIC MODEM	N/A
3	A	SW / PRT / LML / NL		DC / 24 / 96
4	B	SW / PRT / LML / NL		DC / 24 / 96
5	A	SW / PRT / LML / NL		DC / 24 / 96
6	B	SW / PRT / LML / NL		DC / 24 / 96
7	A	SW / PRT / LML / NL		DC / 24 / 96
8	B	HIGH-SPEED LINK	HIGH-SPEED LINK	96S/192S

Cabling Option 11 and Option 21–81 to peripherals through a main distribution frame

Peripheral devices do not always have to be connected directly to the Option 11 or Option 21–81. They can also be connected through a main distribution frame (MDF).

ATTENTION

RS-232 cables that directly connect peripherals to the Meridian MAX must not exceed 15 meters (50 feet).

This length is based on an EIA RS-232C standard. Peripherals can be farther away if self-powered limited-distance (own power supply), or dial-up modems are used.

ATTENTION

Cable connections between the LAN and the Meridian MAX must not exceed 50 meters (164 feet).

This connection is an IEEE standard 802.3.

To connect peripheral devices to an Option 11 or an Option 21-81 through an MDF, a 50-pin to 50-pin NT1R03Fx cable is used for ports 1, 3, 5, and 7, while a 50-pin to 50-pin NT1R03Gx cable is used for ports 2, 4, 6, and 8, where x denotes the length of the cable. Connect one end of each cable to the configured ports on the I/O connector panel of the Option 11 or the I/O panels on the Option 21–81.

Connect the other ends to the 50-pin connectors on the customer-provided shielded MDF.

The peripheral devices should be defined on the MDF at this point. The technician can use the NT1R03AA and NT1R03BA pin-out information in Tables 4-13 and 4-14 to wire the Option 11 or Option 21–81 to each peripheral device through the cross-connect panel.

The technician then connects each individual wire through the cross-connect panel directly to the correct peripheral device using the NT1R03AA and NT1R03BA pin-out information in Tables 4-13 and 4-14.

Figure 4-9
NT8D11 CE/PE cabinet input/output connector panel
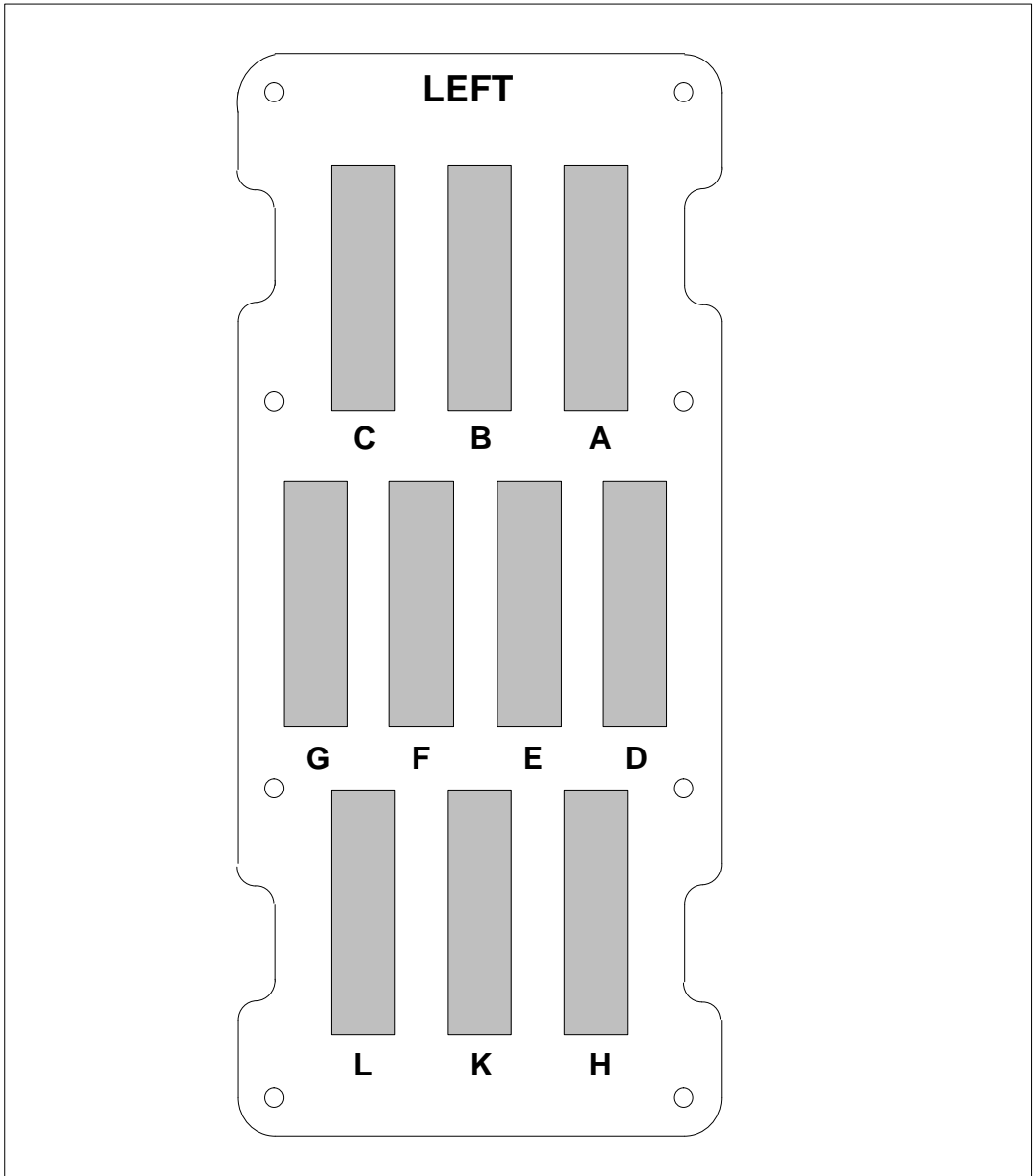
Figure 4-10
NT8D37 IPE cabinet I/O panels
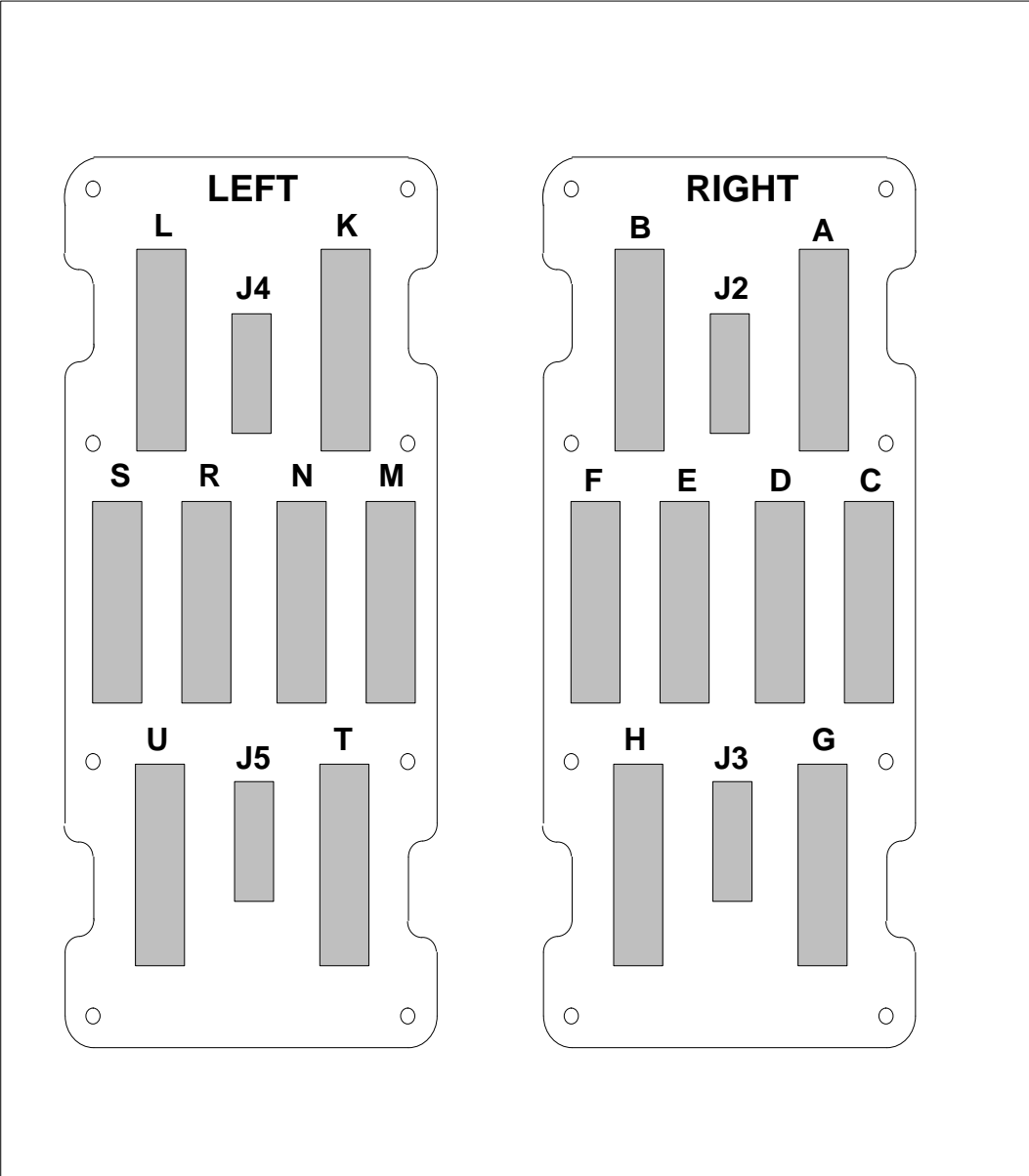
Cables

External input/output cables

Meridian MAX IPE/IPE-E external cables exit from the base of the Option 11 and the rear of the Option 21–81. Table 4-12 lists all of the external I/O cables and the devices to which they connect. For the gender of each peripheral device, see the individual section for each type of peripheral.

Note: The Configuration Control feature uses a Load Management Link that is also referred to as Configuration Control Link.

Table 4-12
External input/output cables

ENG code	Application	Cable and connector style	Length
NT1R03AA NT1R03BA	Carries input/output information between the Option 11 or Option 21-81 and its peripheral devices (The NT1R03AA also has Ethernet capabilities.)	50-pin (female) key telephone connector to four DB-25 (female) connectors (NT1R03AA also has an Ethernet connection.)	Four connectors 76 cm (30 in) 69 cm (27 in) 61 cm (24 in) 53 cm (21 in) in ladder shape
NT1R03CA	Extends the connection between the Option 11 and the NT1R03AA and NT1R03BA cables	50-pin (female) key telephone connector to 50-pin (male) key telephone connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT1R03DB NT1R03DC NT1R03DF NT1R03DP NT1R03DV	Extension cable from NT1R03AA and NT1R03BA cables to peripheral devices, HSL port, or LML port	DB-25 (male) connector to DB-25 (male) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
—continued—			

Table 4-12 (continued)
External input/output cables

ENG code	Application	Cable and connector style	Length
NT1R03EB NT1R03EC NT1R03EF NT1R03EP NT1R03EV	Extension cable from NT1R03AA and NT1R03BA cables to peripheral devices	DB-25 (male) connector to DB-25 (female) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT1R03HF	Modem cable from NT1R03AA and NT1R03BA cables to modem	DB-25 (male) connector to DB-25 (male) connector	3 m (10 ft)
NT1R03FP NT1R03FV	MDF extension cable between the Option 11 and Option 21−81 and the NT1R03AA cable	50-pin (female) key telephone connector to 50-pin (male) key telephone connector (with Ethernet tap)	7.6 m (25 ft) 13.7 m (45 ft)
NT1R03GP NT1R03GV	MDF extension cable between the Option 11 and Option 21−81 and the NT1R03BA cable	50-pin (female) key telephone connector to 50-pin (male) key telephone connector	7.6 m (25 ft) 13.7 m (45 ft)
NTAK19AA	Carries input/output information between the TDS/DTR card's HSL port on the Option 11 and Port 8 on the NT1R03BA cable	50-pin key telephone connector to two DB-25 (male) connectors	1.8 m (6 ft)
NTAK19BA	Carries input/output information between the SDI/DCH card's HSL port on the Option 11 and Port 8 on the NT1R03BA cable	50-pin key telephone connector to four DB-25 (male) connectors	1.8 m (6 ft)
NT8D93AJ NT8D93AW	Carries input/output information between the HSL port on the Option 21-81 and Port 8 on the NT1R03BA cable	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	4.9 m (16 ft) 14.6 m (48 ft)
—end—			

Figure 4-11
Cabling arrangement—Meridian MAX IPE/IPE-E NT1R03Dx straight through RS-232 extension cable used between NT1R03AA or NT1R03BA and peripheral devices, HSL port, or LML port

DB-25 cable
(NT1R03DB, 61 cm [2 ft])
(NT1R03DC, 1.2 m [4 ft])
(NT1R03DF, 3 m [10 ft])
(NT1R03DP, 7.6 m [25 ft])
(NT1R03DV, 13.7 m [45 ft])

TD	2	2	TD
RD	3	3	RD
Male (DB-25) RTS	4	4	RTS Male (DB-25)
CTS	5	5	CTS
DSR	6	6	DSR
GND	7	7	GND
CD	8	8	CD
SCT	15	15	SCT
SCR	17	17	SCR
DTR	20	20	DTR
SCTE	24	24	SCTE

Note: Pins 1, 9–14, 16, 18, 19, 21–23, and 25 carry no signal and are not used with this cable. Only used signals are shown.
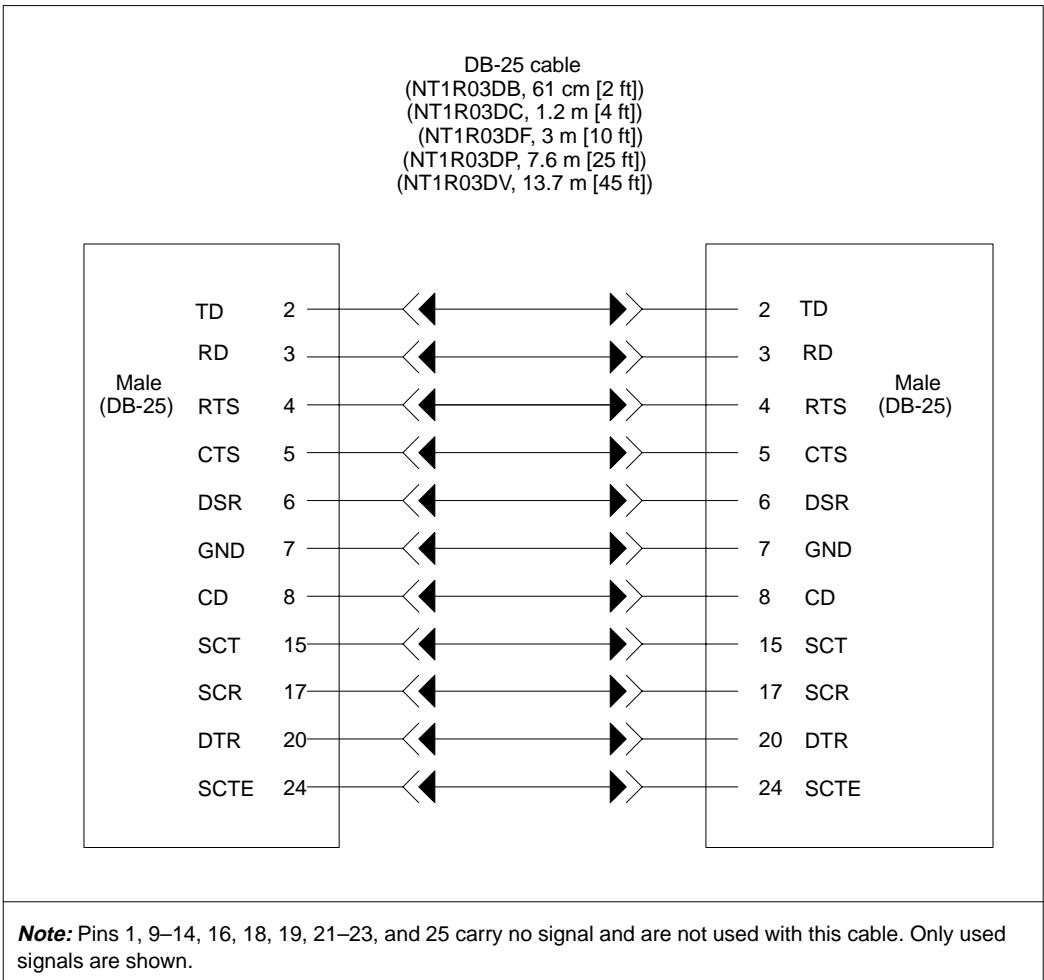
Figure 4-12
Cabling arrangement—Meridian MAX IPE/IPE-E NT1R03Ex straight through RS-232
extension cable used between NT1R03AA or NT1R03BA and peripheral devices

DB-25 cable
(NT1R03EB, 62 cm [2 ft])
(NT1R03EC, 1.2 m [4 ft])
(NT1R03EF, 3 m [10 ft])
(NT1R03EP, 7.6 m [25 ft])
(NT1R03EV, 13.7 m [45 ft])

Male (DB-25)					Female (DB-25)
TD	2		2	TD	
RD	3		3	RD	
RTS	4		4	RTS	
CTS	5		5	CTS	
DSR	6		6	DSR	
GND	7		7	GND	
CD	8		8	CD	
SCT	15		15	SCT	
SCR	17		17	SCR	
DTR	20		20	DTR	
SCTE	24		24	SCTE	

Note: Pins 1, 9–14, 16, 18, 19, 21–23, and 25 carry no signal and are not used with this cable.
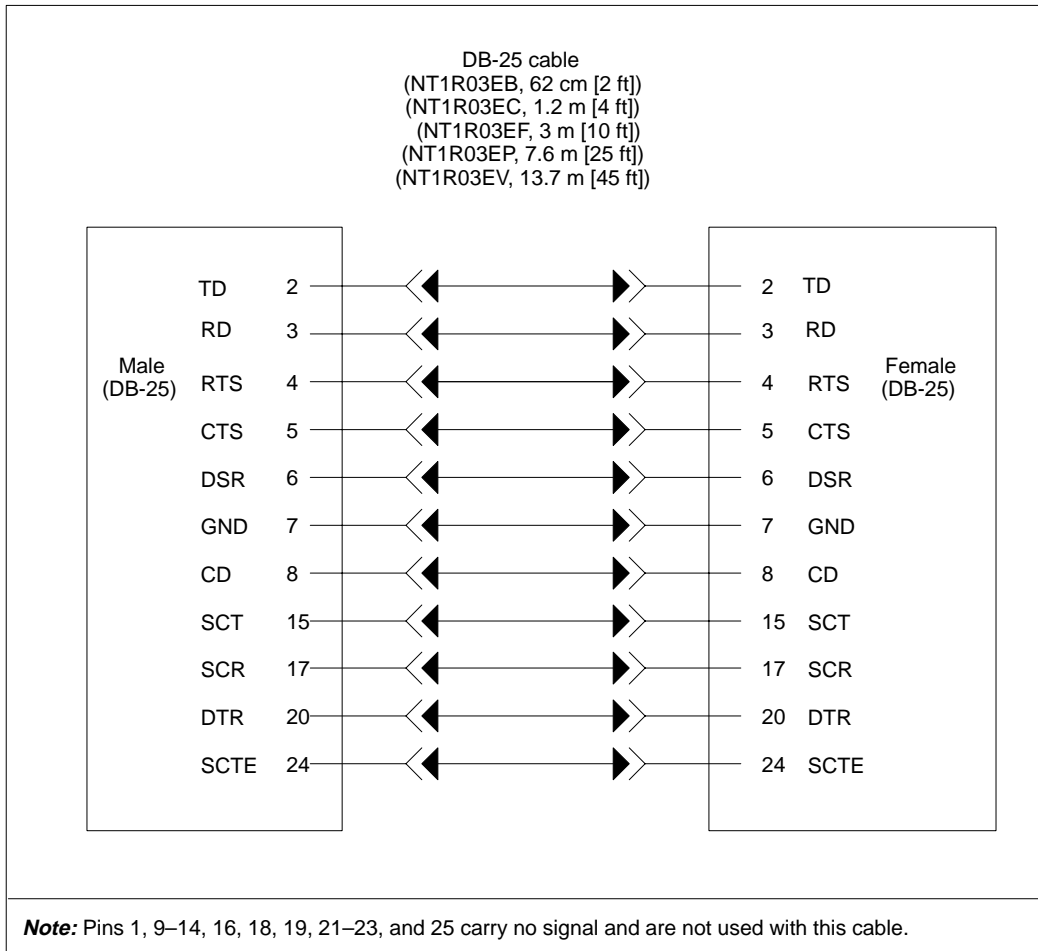
Figure 4-13
Cabling arrangement—Meridian MAX IPE/IPE-E NT1R03HF modem cable used between NT1R03AA or NT1R03BA and modems
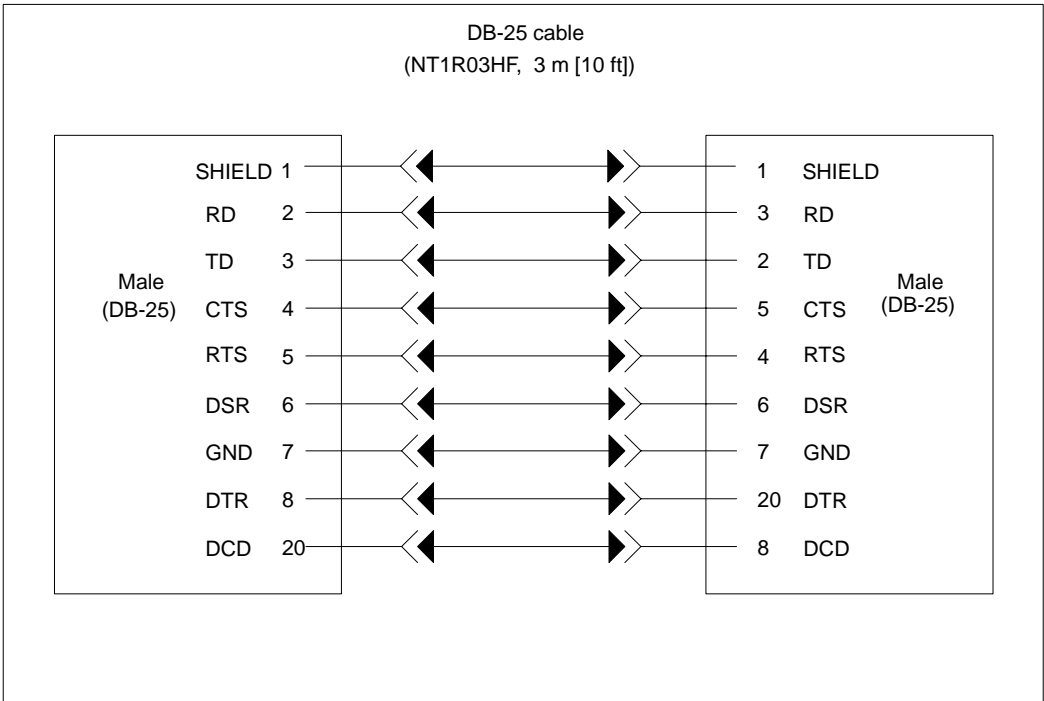
NT1R03AA/NT1R03BA four-port I/O cable

The NT1R03AA and NT1R03BA four-port I/O cables connect the Meridian MAX IPE/IPE-E module with each peripheral in the system. The NT1R03BA cable has a single 50-pin key telephone connector at one end, and four female DB-25 connectors at the other end, as shown in Figure 4-15. The NT1R03AA also has an additional port reserved for the LAN connection, as shown in Figure 4-14. The 50-pin key telephone connector connects to the DB-25 socket of an NT1R03CA extension cable that is connected at the base of the Option 11. The 50-pin key telephone connector can also connect to the Meridian MAX IPE/IPE-E module breakout panel at the rear of the Option 21–81 (see Figures 4-14 and 4-15). Each of the three DB-25 plugs at the other end are connected to a peripheral device. Refer to the correct port assignment chart when connecting peripherals to cables.

The RS-232 straight-through cable with male DB-25 connectors seen in Figures 4-11, 4-12, and 4-13 can extend the range between a Meridian MAX IPE/IPE-E and a peripheral device. The distance between a peripheral RS-232 device and an Option 11 or Option 21–81 must not exceed 15 meters (50 feet).

Table 4-13 is the wiring table for the NT1R03AA four-port I/O cable with the additional Ethernet connector. Table 4-14 is the wiring table for the NT1R03BA four-port I/O cable. Note that all of the pins listed in the FROM column represent pins in the 50-pin key telephone connector which connects to the Meridian MAX IPE/IPE-E module. Pins listed in the TO column are pins in the DB-25 sockets for the cables listed in the CABLE column.

Figure 4-14
NT1R03AA four-port I/O cable
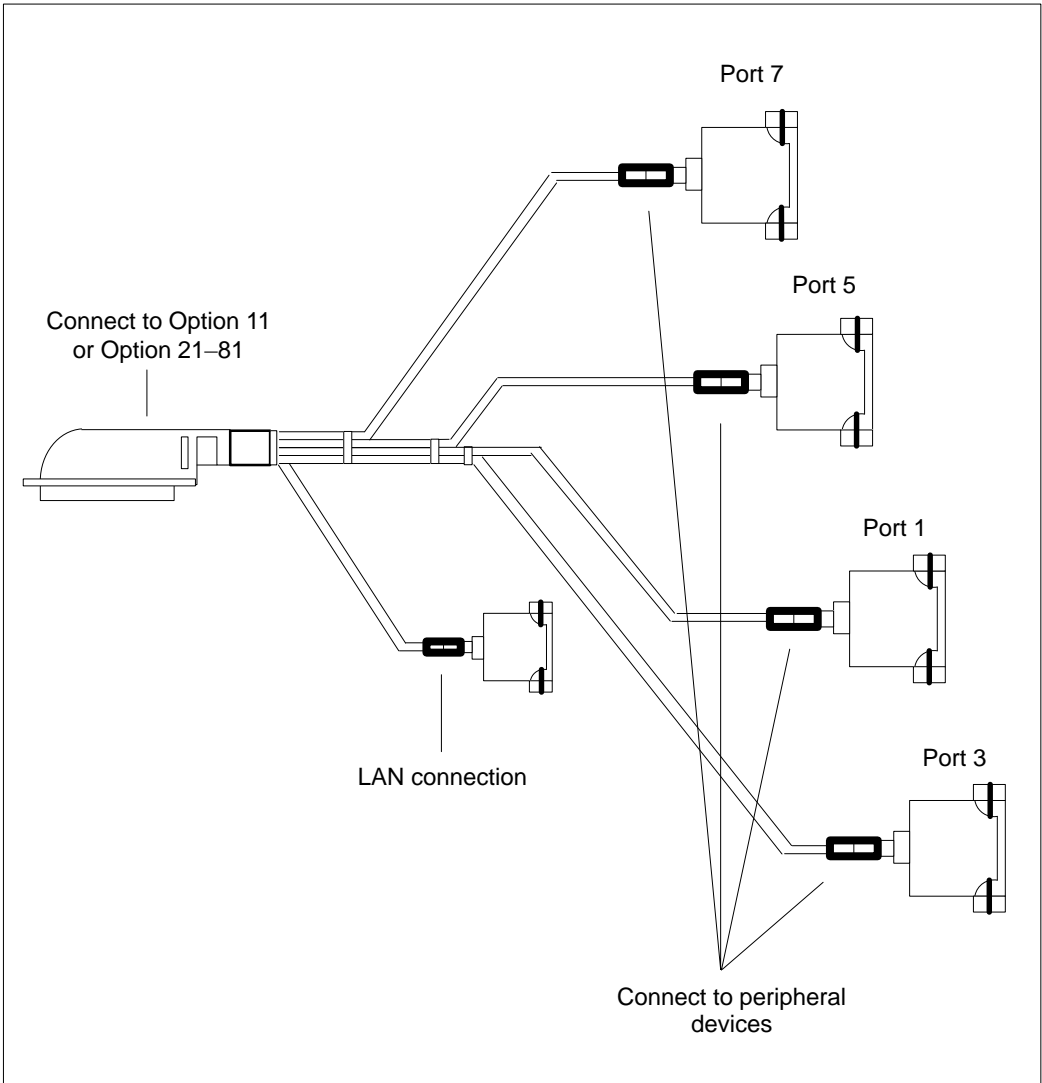
Table 4-13
NT1R03AA 50-pin four-port cable wiring

From DB-50	To DB-25	Port	Signal name	From DB-50	To DB-25	Port	Signal name
1	7	1	GND1	26	8	1	DCD1
2	2	1	TXD1	27	3	1	RXD1
3	4	1	RTS1	28	5	1	CTS1
4	6	1	DSR1	29	20	1	DTR1
5	7	3	GND3	30	8	3	DCD3
6	2	3	TXD3	31	3	3	RXD3
7	4	3	RTS3	32	5	3	CTS3
8	6	3	DSR3	33	20	3	DTR3
9	7	5	GND5	34	8	5	DCD5
10	2	5	TXD5	35	3	5	RXD5
11	4	5	RTS5	36	5	5	CTS5
12	6	5	DSR5	37	20	5	DTR5
13	15	5	TXCI5	38	17	5	RXCI5
14	22	5	RI5	39	24	5	TXCO5
15	7	7	GND7	40	8	7	DCD7
16	2	7	TXD7	41	3	7	RXD7
17	4	7	RTS7	42	5	7	CTS7
18	6	7	DSR7	43	20	7	DTR7
19	15	7	TXCI7	44	17	7	RXCI7
20	22	7	RI7	45	24	7	TXCO7
From DB-50	**To DB-15**	**Port**	**Signal name**	**From DB-50**	**To DB-15**	**Port**	**Signal name**
21	2	Ethernet	C+	46	9	Ethernet	C-
22	3	Ethernet	T+	47	10	Ethernet	T-
23	5	Ethernet	R+	48	12	Ethernet	R-
24	6	Ethernet	SG	49	13	Ethernet	+12VF
25		FGND	FGND	50		FGND	FGND

Note: The cable wiring for the NT1R03AA Ethernet connector indicated at pins 21–24 and pins 46–49 on the DB-50 connector map onto pins 2, 3, 5, and 6, and pins 9, 10, 12, and 13 of the DB-15 Ethernet connector.

Figure 4-15
NT1R03BA four-port I/O cable

Port 2

Port 4

Port 6

Port 8

Connect to Option 11
or Option 21−81

Connect to peripheral
devices
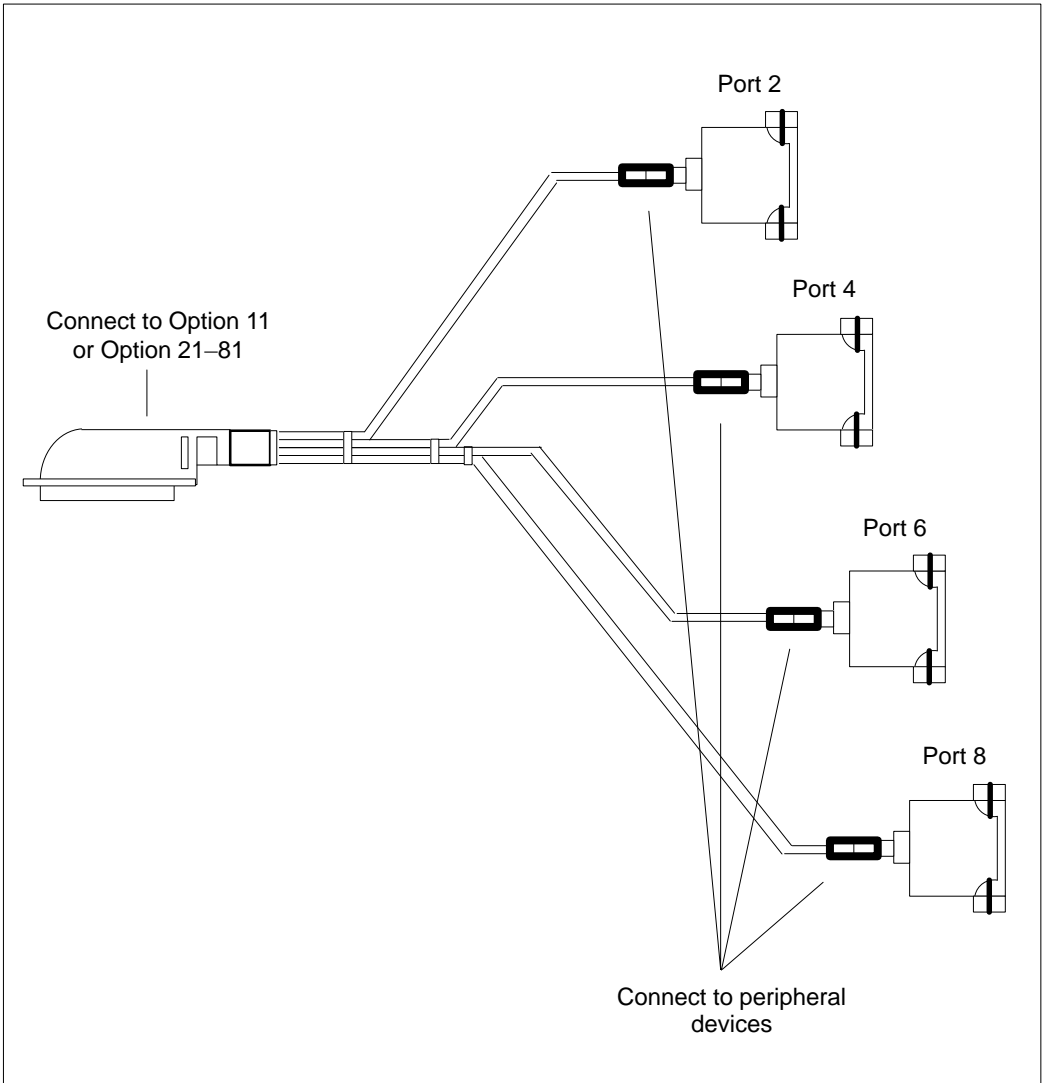
Table 4-14
NT1R03BA 50-pin four-port cable wiring

From DB-50	To DB-25	Port	Signal name	From DB-50	To DB-25	Port	Signal name
1	7	2	GND2	26	8	2	DCD2
2	2	2	TXD2	27	3	2	RXD2
3	4	2	RTS2	28	5	2	CTS2
4	6	2	DSR2	29	20	2	DTR2
5	7	4	GND4	30	8	4	DCD4
6	2	4	TXD4	31	3	4	RXD4
7	4	4	RTS4	32	5	4	CTS4
8	6	4	DSR4	33	20	4	DTR4
9	7	6	GND6	34	8	6	DCD6
10	2	6	TXD6	35	3	6	RXD6
11	4	6	RTS6	36	5	6	CTS6
12	6	6	DSR6	37	20	6	DTR6
13	15	6	TXCI6	38	17	6	RXCI6
14	22	6	RI6	39	24	6	TXCO6
15	7	8	GND8	40	8	8	DCD8
16	2	8	TXD8	41	3	8	RXD8
17	4	8	RTS8	42	5	8	CTS8
18	6	8	DSR8	43	20	8	DTR8
19	15	8	TXCI8	44	17	8	RXCI8
20	22	8	RI8	45	24	8	TXCO8
21			NC	46			NC
22			NC	47			NC
23			NC	48			NC
24			NC	49			NC
25		FGND	FGND	50		FGND	FGND

Hardware upgrades

A Meridian MAX IPE/IPE-E module for the Option 11 system can be upgraded in the field to a Meridian MAX IPE/IPE-E module for the Option 21–81 system. This is done by means of a Meridian MAX IPE/IPE-E hardware upgrade kit (A0600072) consisting of a new frame, faceplate, mounting hardware, labels, and documentation.

There is no need to reinstall the system software, since the same hard disk is used.

If you need to replace a component of the system, the upgrade instructions given in this section permit you to make the replacement.

CAUTION
Risk of equipment damage
Use an antistatic wrist strap before you remove components from an antistatic bag. Failure to do so results in damage to components.

All upgrades must be performed by qualified technicians.

CAUTION
Risk of data corruption
Shut down the system from the maintenance menu, then secure the system before powering down the module.

If you are adding a module to your system, power down the column. Once the appropriate equipment is powered down, remove the column's faceplate and back plate for the appropriate shelf. See the "Meridian MAX power-down procedure" chapter for more information.

Performing the hardware upgrade

Procedure 4-1 details instructions on performing a hardware upgrade.

Procedure 4-1
To perform the hardware upgrade

1   Shut down the Meridian MAX software, then ensure that the power to the IPE module is turned off.

Refer to the "Meridian MAX power-down procedure" chapter for instructions on how to shut down the Meridian MAX software.

2   Remove the Meridian MAX IPE/IPE-E module from the Option 11 or Option 21–81.

Move the latches at the top and bottom of the module to the unlatched position. Slowly slide the module along the slots and remove it from the cabinet.

3   Lay the module on its side with the outside of the disk drive card facing up, as in Figure 4-17, and the faceplate of the Option 11 Meridian MAX IPE/IPE-E module facing you.

4   Remove the SCSI terminator from the faceplate of the Meridian MAX IPE/IPE-E.

5   Using a small Phillips screwdriver, unscrew the six screws located on the outside of the disk drive card as shown in Figure 4-17.

These screws are indicated by arrows printed on the disk drive card. Set the screws and flat washers aside.

6   Hold the disk drive card by the edges. Push the disk drive card away from the faceplate, then lift it up and away.

7   To separate the disk drive card from the CPU card, disconnect the SCSI I/O cable from the CPU card at connector J14, as shown in Figure 4-16.

Pull open the ejectors at either end of the SCSI cable plug on the CPU card and lift the connector out of the plug.

8   Disconnect the power cable from the CPU card at connector J5, as shown in Figure 4-16.

9   Turn the CPU card over and remove the Option 11 bracing support, as shown in Figure 4-16.

This bracing support sits inside the module between the CPU and disk drive cards. Hold the support with one hand while removing the screw from the CPU board with the other.

10   Remove the six screws and flat washers securing the CPU card to the Meridian MAX IPE/IPE-E module frame, as shown in Figure 4-16.

11 Pull the CPU card away from the faceplate and lift.

The Option 21−81 Meridian MAX IPE/IPE-E module frame is identical in construction to the Option 11 module frame except that it is wider. The screw holes in the Option 21−81 module frame are in the same locations as the Option 11 module frame.

12 Place the CPU card against the Option 21−81 module frame, making sure the edge of the card is securely against the faceplate.

Make sure to line up the ABORT and RESET switches with the corresponding cutouts in the Meridian MAX IPE/IPE-E module frame.

13 Replace the six screws and flat washers, reattaching the CPU card to the Option 21−81 Meridian MAX IPE/IPE-E module frame as shown in Figure 4-16.

14 Insert the Option 21−81 bracing support shown in Figure 4-16.

This bracing support sits inside the module between the CPU and disk drive cards. Hold the support with one hand while inserting the screw into the CPU board with the other.

15 Turn the CPU card and frame over, and reconnect the disk drive card to the CPU card by connecting the power cable to the CPU card at connector J5, as shown in Figure 4-16.

16 Connect the disk drive card's SCSI I/O cable to the CPU card at connector J14, as shown in Figure 4-16. Make sure the SCSI plug's key bumps are lined up correctly and that the latches are closed.

17 With the faceplate of the Option 21-81 Meridian MAX IPE/IPE-E module facing you, hold the disk drive card by the edges. Close the module by lifting the disk drive card towards you and pulling it towards you until it is securely against the faceplate.

18 Reattach the disk drive card to the Meridian MAX IPE/IPE-E frame using the six original screws and flat washers, as shown in Figure 4-17.

These screw holes are indicated by arrows printed on the disk drive card.

19 Reattach the SCSI terminator to the SCSI port. Make sure the terminator is firmly in place.

20 Insert the upgraded Meridian MAX IPE/IPE-E module into the Option 11 or Option 21−81.

Slowly slide the module along the slots into the cabinet, making sure the latches at the top and bottom of the module are in an unlatched position, until it is firmly in place. Make sure the latches at the top and bottom of the module are secured.

21 Power on the Meridian MAX IPE/IPE-E module.

Figure 4-16
Meridian MAX IPE/IPE-E CPU card

Screws

J14

Bracing
support
screw

CPU
adapter
board

J5

SMM167 memory mezzanine

Screws
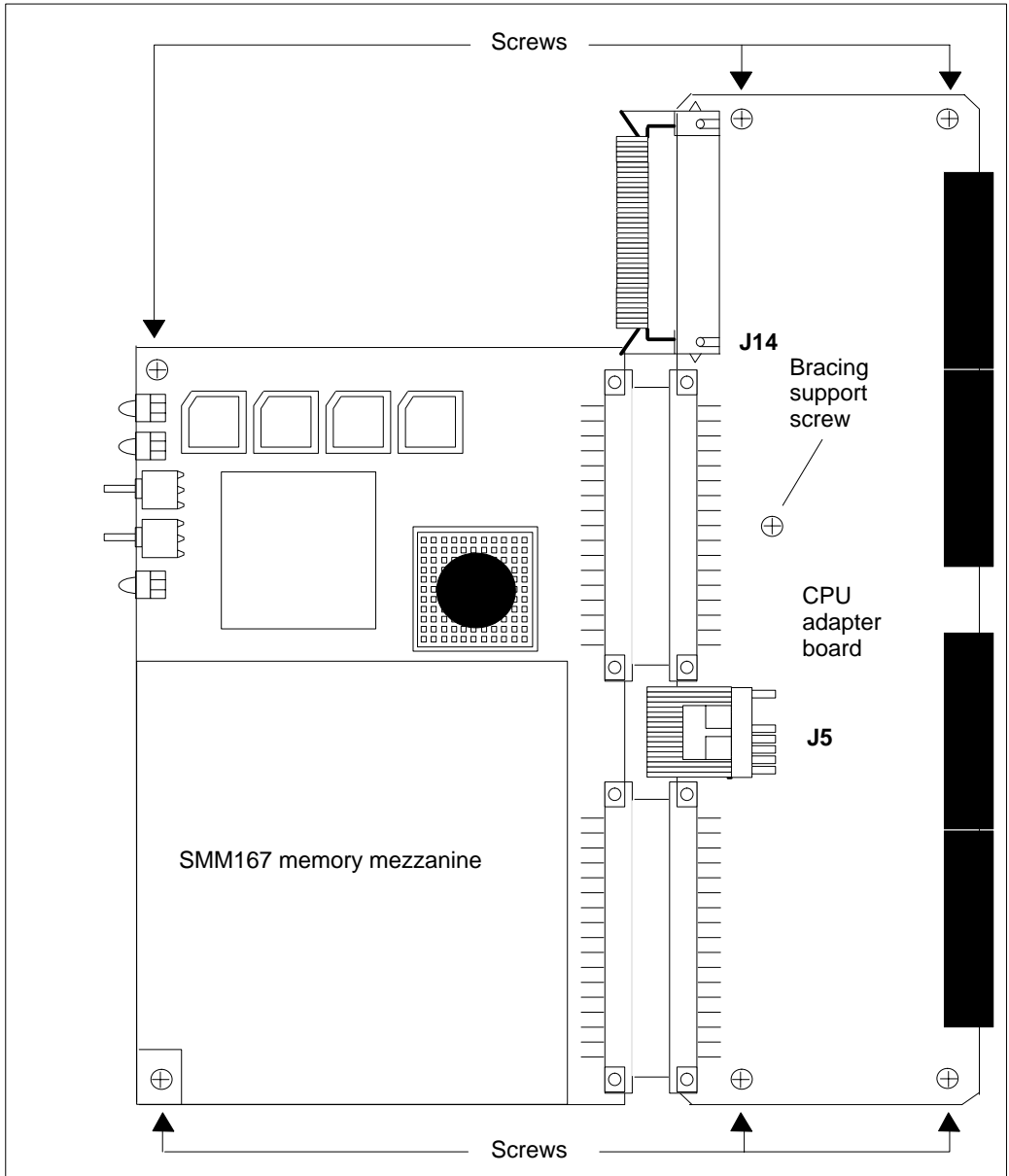
Figure 4-17
Meridian MAX IPE/IPE-E disk drive card: outside view
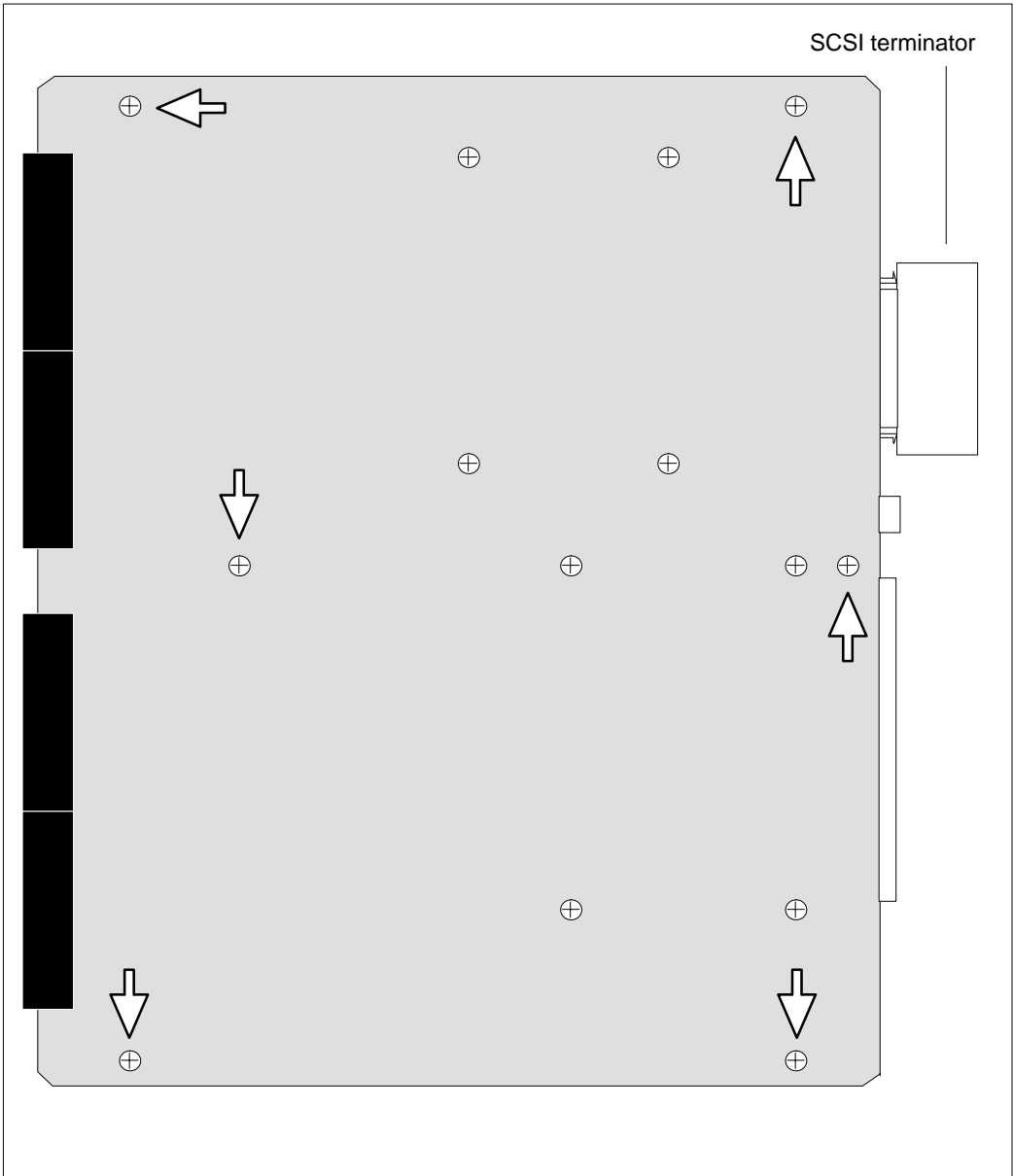
Figure 4-18
Meridian MAX IPE/IPE-E disk drive card: inside view
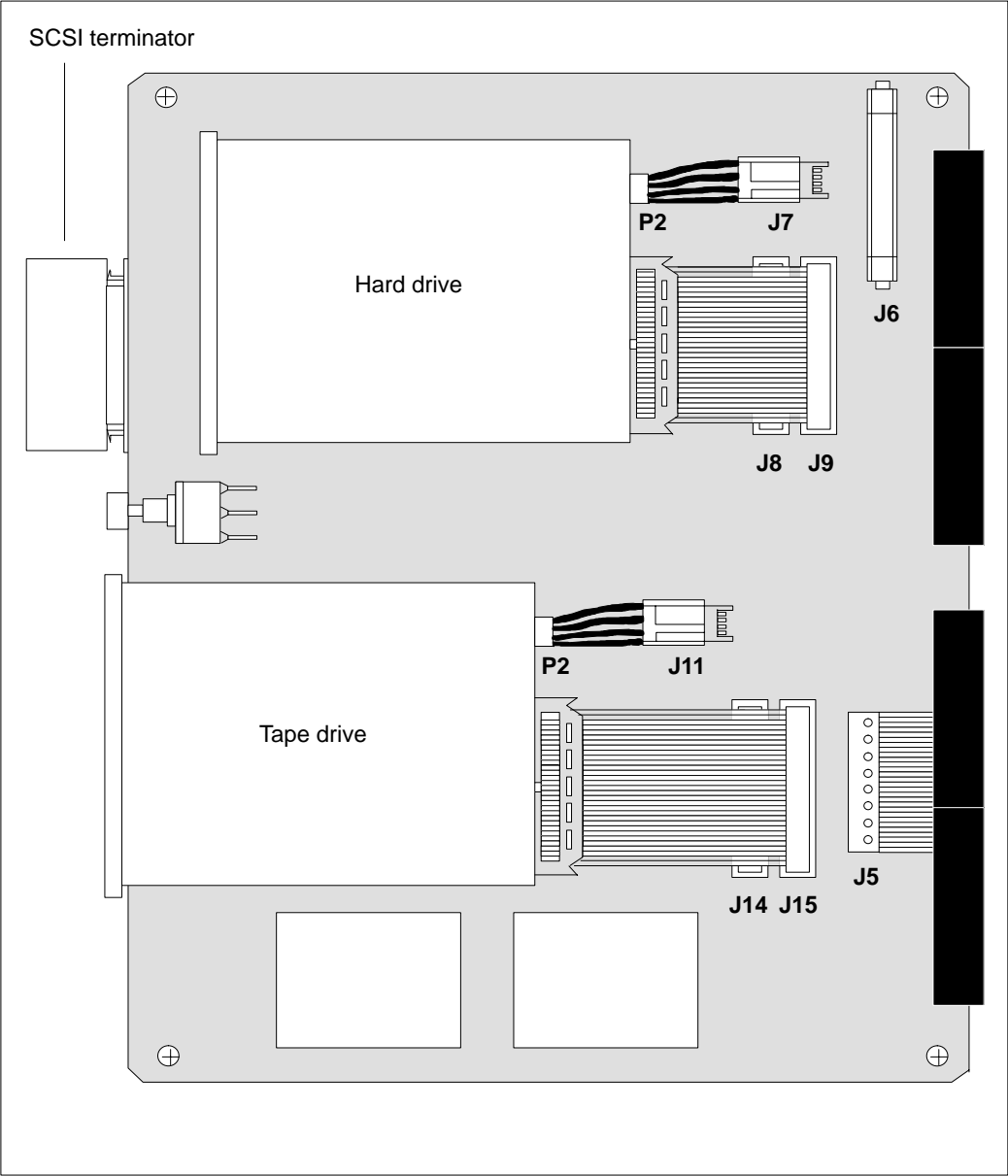
Hardware replacements

CAUTION
Risk of equipment damage
Use an antistatic wrist strap before you remove components from an antistatic bag. Failure to do so results in damage to components.

All replacements must be performed by qualified technicians.

CAUTION
Risk of data corruption
Shut down the system from the maintenance menu, then secure the system before powering down the module.

If you are adding a module to your system, power down the column. Once the appropriate equipment is powered down, remove the column's faceplate and back plate for the appropriate shelf.
See the "Meridian MAX power-down procedure" chapter for more information.

Procedure 4-2 details instructions on performing a hardware replacement.

Procedure 4-2
To perform the hardware replacement

1   Shut down the Meridian MAX software, then ensure that the power to the IPE module is turned off.

Refer to the "Meridian MAX power-down procedure" chapter for instructions on how to shut down the Meridian MAX software.

2   Remove the Meridian MAX IPE/IPE-E module from the Option 11 or Option 21−81.

Move the latches at the top and bottom of the module to the unlatched position. Slowly slide the module along the slots and remove it from the cabinet.

3   Insert the replacement Meridian MAX IPE/IPE-E module into the Option 11 or Option 21–81.

Slowly slide the module along the slots into the cabinet, making sure the latches at the top and bottom of the module are in an unlatched position, until it is firmly in place. Make sure the latches at the top and bottom of the module are secured.

4   Power on the Meridian MAX IPE/IPE-E module.

Configuring the SMM167 card

Procedure 4-3 provides instructions on configuring the SMM167 for the Option 11 and Option 21 Meridian MAX IPE/IPE-E modules.

Note: If you change the SMM167 card, you must make the LAN aware of the card's Media Access Control address. This is done by "pinging" a known device on your LAN while the Meridian MAX is in product mode. LAN connections to the Meridian MAX may not work properly if this address is not known to the LAN. For more information on the ping process, refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "LAN link diagnostic tools" chapter, "Ping" section.

Procedure 4-3
To configure the SMM167 card

1   Shut down the Meridian MAX software.

Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Shut down the system" section, for instructions on shutting down your Meridian MAX system.

2   Secure the Meridian MAX 8 system for power down.

Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and Administration programs: system shut down" chapter, "Restart and Power Down Utilities" section, "Secure the System for Power Down" subsection, for more information.

3   Power down your system by pressing the power button located at the front of the IPE module to the OFF position. Wait approximately 20 seconds, then press the power switch to the ON position.

The system displays the following messages at the maintenance workstation. Your system messages may differ.

```
Copyright Motorola Inc. 1989 - 1992, All Rights Reserved

M4120 Debugger/Diagnostics Release Version 1.0 - 09/04/92

COLD Start

Local Memory Found =01000000 (&16777216)

MPU Clock Speed =25Mhz
```

4   If your SMM167 card was preset in the factory, go to Step 7.

If your card was not preset in the factory, the following message appears:

```
Autoboot in progress... To abort hit <BREAK>
```

5   Press the **{BREAK}** key.

Note: {F5} on the VT520 and VT420 is equivalent to the {BREAK} key.

```
--Break Detected--
```

The following menu may be shown. If it does not appear, go to Step 7.

```
1) Continue System Start Up

2) Select Alternate Boot Device

3) Go to System Debugger

4) Initiate Service Call

5) Display System Test Errors

6) Dump Memory to Tape

Enter Menu #:
```

6   Enter **3** to select the "Go to System Debugger" option.

7   The system displays the following prompt:

```
4120-Diag>
```

8   Enter **env** to configure the system environment.

The default values that appear when the system is powered on are in effect at this moment. They may differ if the card was configured at the factory or at the site. Regardless, only the following recommended values should be entered.

```
Bug or System environment [B/S] = ?
```

9   Enter **b** for bug.

The system displays the following prompt:

`Field Service Menu Enable [Y/N] = ?`

10   Enter **n** to reject the Field Service Menu.

The system displays the following prompt:

`Probe System for Supported I/O controllers [Y/N] = ?`

11   Enter **y** to probe the system for supported I/O controllers.

The system displays the following prompt:

`Local SCSI Bus Reset on Debugger Startup [Y/N] = ?`

12   Enter **y** to start up the local SCSI bus reset on the debugger.

The system displays the following prompt:

`Ignore CFGA Block on a Hard Disk Boot [Y/N]   = ?`

13   Enter **y** to ignore the CFGA block on a hard disk boot.

The system displays the following prompt:

`Auto Boot Enable [Y/N]  = ?`

14   Enter **y** to enable the auto boot.

The system displays the following prompt:

`Auto Boot at power-up only [Y/N] = ?`

15   Enter **n** to disable auto boot at power-up only.

The system displays the following prompt:

`Auto Boot Controller LUN = ?`

16   Enter a period (**.**).

The system displays the following prompt:

`Update Non-Volatile RAM [Y/N] = ?`

17   Enter **y**.

Wait for the next prompt to appear on your screen. When the prompt appears, power down your system by pressing the power button located on the faceplate of the IPE module. At this point, you may replace the SMM167 card if necessary (refer to the "Hardware replacements" section for more details), or power on the system and install your Meridian MAX software.

SMM167 card jumper settings

Figure 4-19 describes the jumper settings for the Option 11 and Option 21–81 Meridian MAX IPE/IPE-E module CPU card. These settings are configured in the factory so no field configuration is required.

Figure 4-19
SMM167 card jumper settings
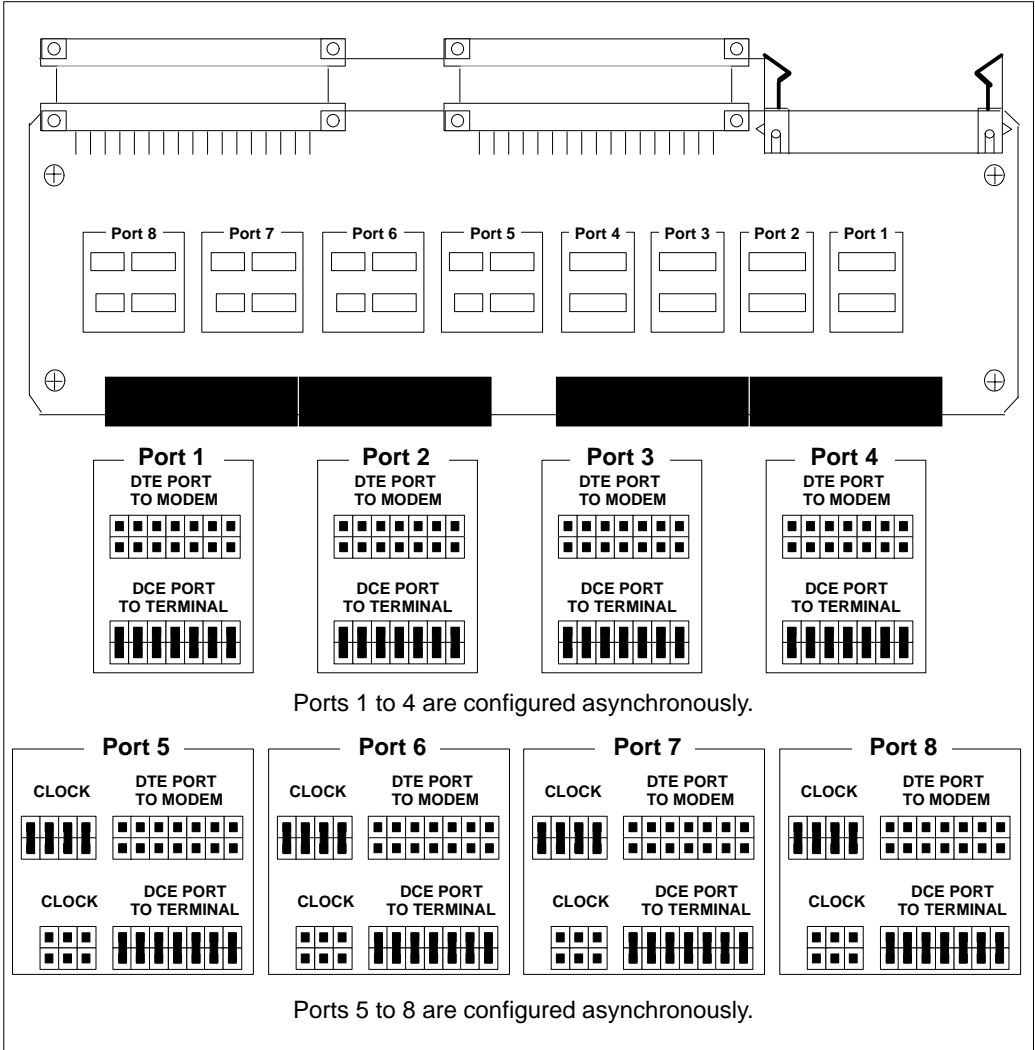
Chapter 5: Modems

A modem may be used when a peripheral device or a Network
Administration Center (NAC) system is located more than 15 meters (50
feet) from the Meridian MAX.

Supported modems

There are a number of modems that can be used to connect a NAC system
or peripheral device to the Meridian MAX. Table 5-1 lists each modem and
the gender of its DB-25 serial port.

Table 5-1
Modems—DB-25 serial port genders

Modem type	Gender
Gandalf LDS 120E	Female
Develcon DS511A	Female
NetComm SmartModem M7F	Female
Racal VI2422PA	Female
UDS 2440	Female
UDS EC224A/D	Female
Ven-Tel 2400 Plus II	Female
Ven-Tel 9600 Plus	Female
U.S. Robotics Sportster 28,800 Data/Fax	Female

Table 5-2 lists the modems and the functions for which they can be used.

Table 5-2
Modems and functions

Modem	Modem function				
	Limited distance	**Remote diagnostics**	**Dial-up supervisor**	**Remote supervisor login**	**Network link**
Gandalf LDS 120E	Yes			Yes	Yes
Develcon DS511A	Yes			Yes	Yes
NetComm Smart-Modem M7F		Yes	Yes	Yes	Yes
Racal VI2422PA		Yes	Yes	Yes	Yes
UDS 2440		Yes	Yes	Yes	Yes
UDS EC224A/D		Yes	Yes		
Ven-Tel 2400 Plus II			Yes	Yes	Yes
Ven-Tel 9600 Plus			Yes	Yes	Yes
U.S. Robotics Sportster 28,800 Data/Fax			Yes	Yes	Yes

A limited-distance modem is used when peripheral devices are connected to the Meridian MAX through a direct connection. If a direct connection cannot be supported, a dial-up modem is used to connect the peripheral device or NAC to the Meridian MAX through the public service telephone network (PSTN).

Other modems

It may be possible to use other modems for dial-up supervisor displays, remote supervisor logins, or network links, provided that they support the correct subset of standard Hayes modem commands. A set of modem responses must also be supported. Table 5-3 shows the list of commands, and Table 5-4 shows the list of responses that must be supported.

Table 5-3
Supported Hayes modem commands

Command	Usage
+++	Escape sequence
AT&C1	
AT&D0	
AT&D2	
AT&F	Recall factory settings
AT&W	Write parameters
ATDS1	Dial stored number
ATDS=1*	Dial stored number
ATDT...	Dial
ATE0	Echo off
ATH0	On hook
ATL0	
ATQ0	Result codes on
ATS0=0	Auto answer ring number
ATS2=128	Escape code character
ATS64=1	Dial/answer sequence abort
ATX4	Extended feature set
ATB1**	ITU – T answer sequence
* This command is only used with the NetComm SmartModem M7F.	
** This command is only used with the U.S. Robotics 28.8 Sportster.	

Table 5-4
Supported modem responses

Command	Response
0	OK
1	RING
2	CONNECT 1200
3	CONNECT 2400
4	CONNECT 4800
5	CONNECT 9600
6	CONNECT
7	NO CARRIER
8	MODEM ERROR
9	NO DIAL TONE
10	BUSY
11	NO ANSWER

Modem cables

Modems can be connected to the Meridian MAX using two modem cables: the NT7D99AA null modem cable and the NT7D61Ax cable.

Figure 5-1 shows the cabling arrangement for the NT7D99AA cable for use with dial-up supervisor, remote supervisor login, and network link.

Figure 5-2 shows the cabling arrangement for the NT7D61Ax cable for use with remote diagnostics.

Figure 5-1
Cabling arrangement—modem connection cable NT7D99AA for dial-up supervisor, remote supervisor login, and network link
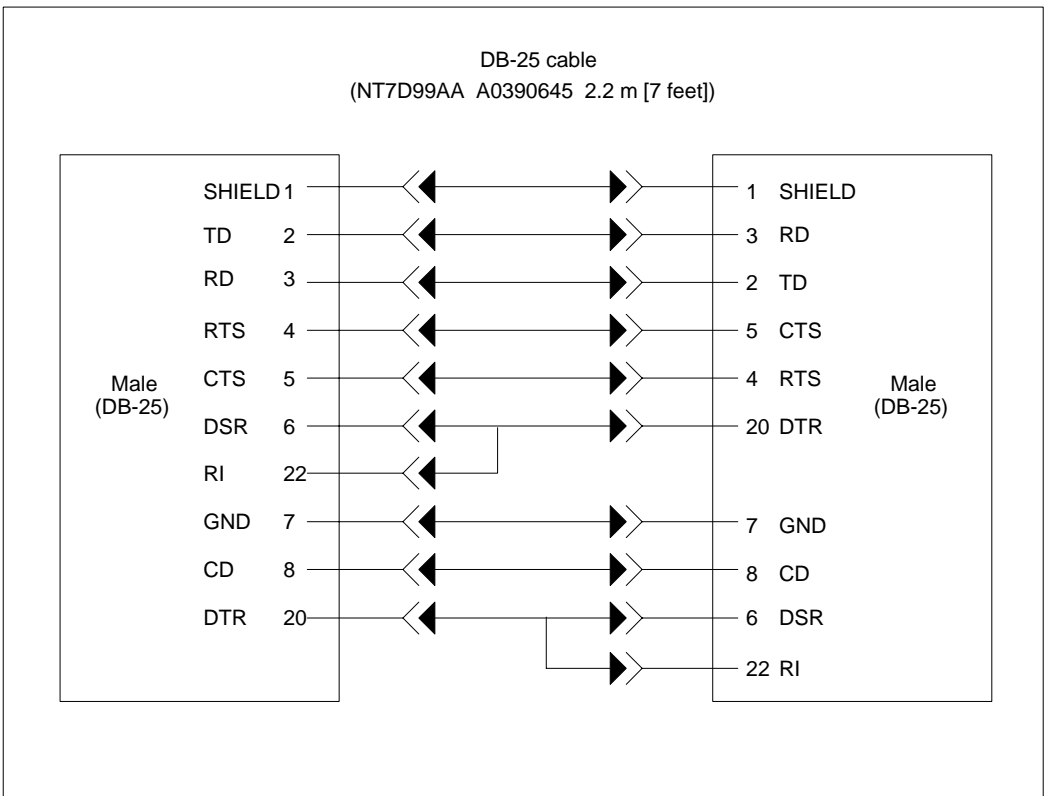
Figure 5-2
Cabling arrangement—modem connection cable NT7D61Ax for remote diagnostics

DB-25 to DB-9 cable

(NT7D61AB A0374031 61 cm [2 feet])
(NT7D61AD A0374070 1.8 m [6 feet])
(NT7D61AF A0374071 3 m [10 feet])
(NT7D61AL A0374072 6.1 m [20 feet])
(NT7D61AT A0374073 10.7 m [35 feet])
(NT7D61AV A0374074 13.7 m [45 feet])

Male (DB-25)			Female (DB-9)
TD	2	3	TD
RD	3	2	RD
RTS	4	7	RTS
CTS	5	8	CTS
DSR	6	6	DSR
GND	7	5	GND
CD	8	1	CD
DTR	20	4	DTR
SHIELD	1	9	SHIELD
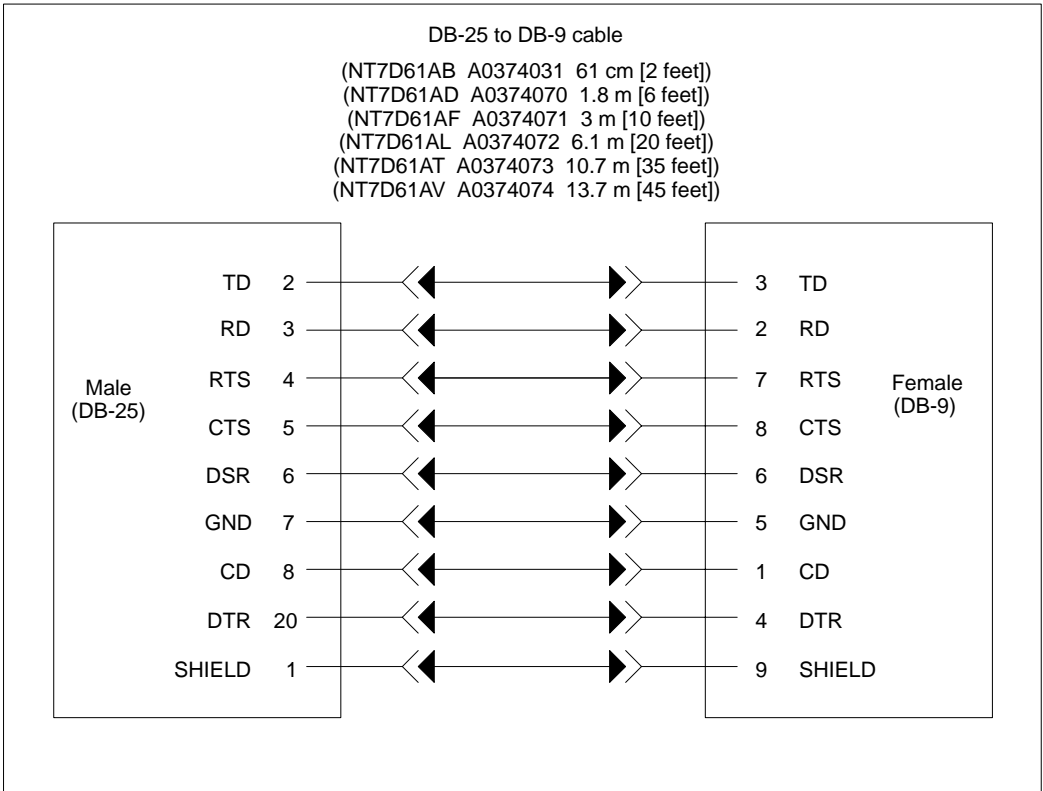
Limited-distance modems

The following modems are supported for remote diagnostics:

- Gandalf LDS 120E

- Develcon DS 511A

If you need more than 15 meters (50 feet) between the Meridian MAX and any peripheral, you need to use a limited-distance modem. The limited-distance modem must be self-powered. The added range depends on the modem you obtain. Limited-distance modems are recommended for use inside buildings only.

The following settings are used for a limited-distance modem:

- 9600 baud rate

- 8 bits, No-parity, 1 stop bit

Gandalf LDS 120E and Develcon DS 511A limited distance

The Gandalf LDS 120E and Develcon DS 511A limited-distance modems allow you to extend the distance between the SNN/SNN-E's VME multiport cable or the IPE/IPE-E's four-port I/O cable and any connected peripheral by up to a nominal distance of eight km (five miles). Other limited distance modems may not provide the eight km (five miles) distance. It is your responsibility to check with the particular manufacturer.

The Gandalf LDS 120E and Develcon DS 511A limited-distance modems can also be used for both the remote supervisor login and the network link. Refer to the "NAC Connectivity" section for more information.

For each peripheral requiring a limited-distance modem, you require either the null modem cable NT7D99AA (SNN/SNN-E) or NT1R03HF (IPE/IPE-E) connected between the modem and the multiport cable connected at the Meridian MAX.

If the peripheral device connected to the second modem is a female DTE connection, the NT1R03Dx cable must be used to connect this modem to the peripheral device. If the peripheral device connected to the second modem is a male DTE connection, the NT1R03Ex cable must be used to connect this modem to the peripheral device.

The switch on the back of the modem should be set to the "normal" position.

Figure 5-3 illustrates the hardware configuration required to use the Gandalf LDS 120E modem with an SNN/SNN-E.

Figure 5-3
Gandalf LDS 120E limited-distance modem hardware configuration (SNN/SNN-E)
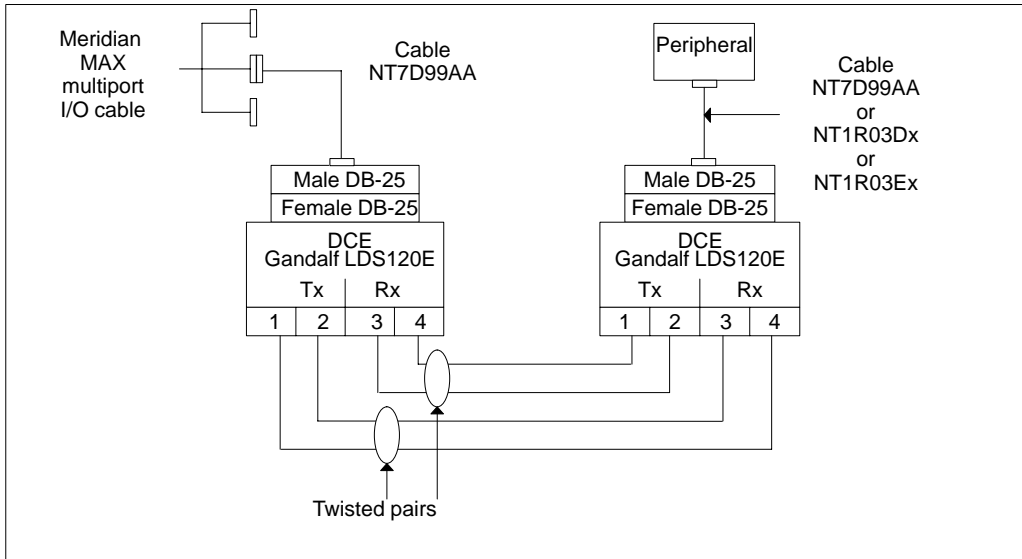
Figure 5-4 illustrates the hardware configuration required to use the Develcon DS 511A modem with an SNN/SNN-E.

Figure 5-4
Develcon DS 511A limited-distance modem hardware configuration (SNN/SNN-E)
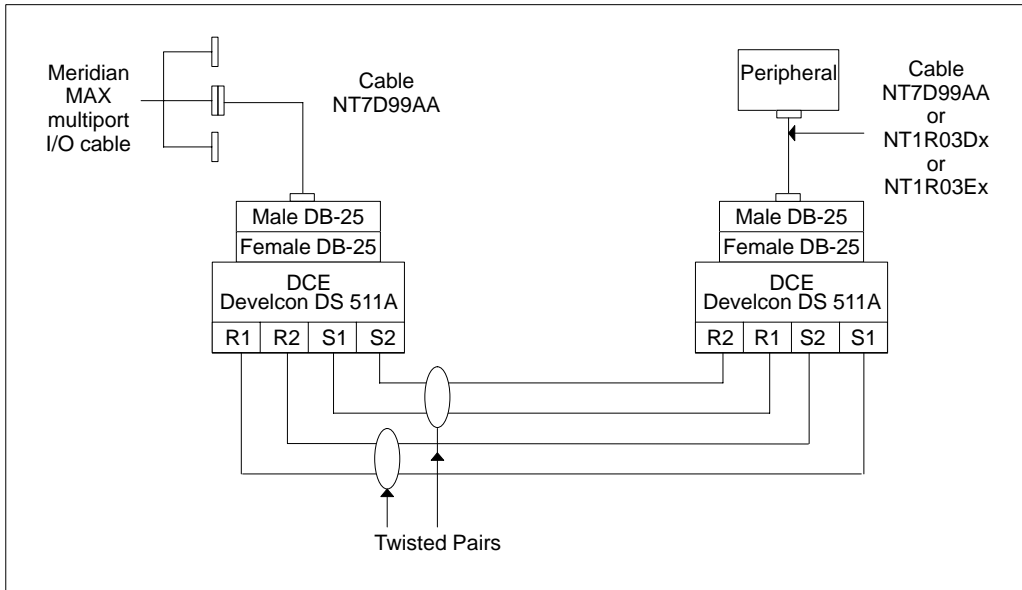
Figure 5-5 illustrates the hardware configuration required to use the Gandalf LDS 120E modem with an IPE/IPE-E system.

Figure 5-5
Gandalf LDS 120E limited-distance modem hardware configuration (IPE/IPE-E)
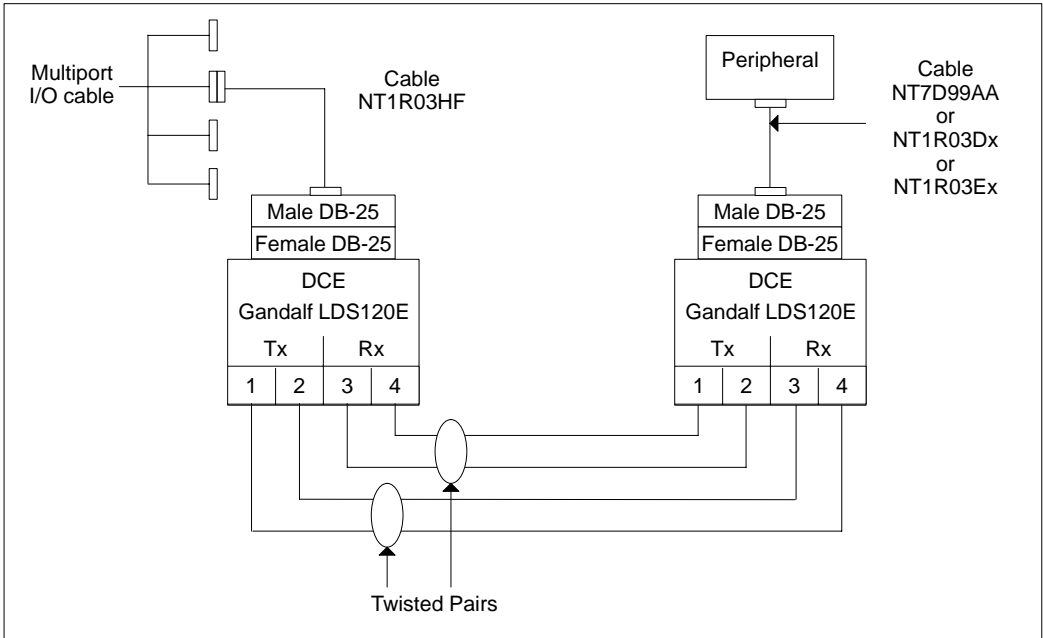
Figure 5-6 illustrates the hardware configuration required to use the Develcon DS 511A modem with an IPE/IPE-E system.

Figure 5-6
Develcon DS 511A limited-distance modem hardware configuration (IPE/IPE-E)
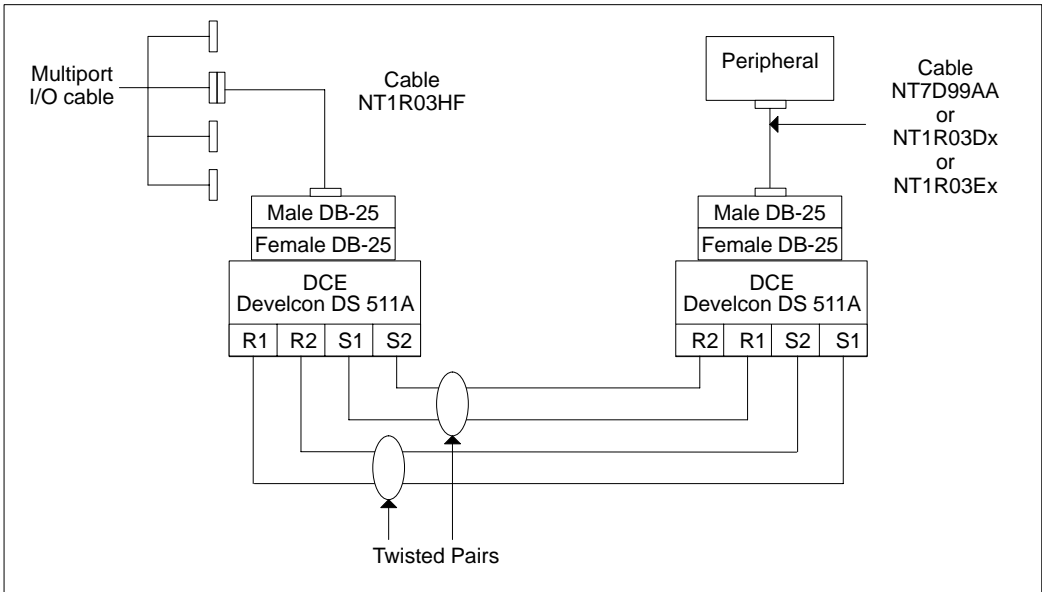
Once the modems are connected, turn on the power and ensure that the DCD lamp on each modem comes on. This lamp indicates that both Gandalf LDS 120E modems are active.

Please note that these instructions may vary depending on the equipment used at your site. Some peripherals connect to male DB-25 connectors, and others connect to female DB-25 connectors. The creation of the straight-through DB-25 cable and the 2-pair twisted cable is the responsibility of the user, and it is the user's responsibility to ensure that the correct connectors are attached.

Connect one end of the modem cable NT7D99AA to the VME multiport cable or one end of modem cable NT1R03HF to the four-port I/O cable port. Connect the other end to the female DB-25 socket on the first Gandalf LDS 120E or Develcon DS 511A modem.

The first Gandalf LDS 120E or Develcon DS 511A modem is connected to the second Gandalf LDS 120E or Develcon DS 511A modem with a 2-pair twisted cable of 24 AWG. This cable cannot exceed eight km (five miles). For the Develcon DS 511A modem, the cover casing must be removed before connecting the 2-pair twisted cable.

Figures 5-3 and 5-4 illustrate the 2-pair twisted cable connections for the two modems with an SNN/SNN-E. Figures 5-5 and 5-6 illustrate the 2-pair twisted cable connections for the two modems with an IPE/IPE-E system.

If the peripheral device is a female DTE connection, the second Gandalf LDS 120E or Develcon DS 511A modem is connected to the peripheral by using a straight-through NT1R03Dx cable. If the peripheral device is a male DTE connection, the second Gandalf LDS 120E or Develcon DS 511A modem is connected to the peripheral by using a straight-through NT1R03Ex cable.

If the peripheral device is DCE, the modem is connected to the peripheral device by the null modem cable NT7D99AA.

If the peripheral device is DTE, the second Gandalf LDS 120E or Develcon DS 511A modem is connected to the peripheral by using a straight-through NT1R03Dx cable.

A male DB-25 connector is attached to the second Gandalf LDS 120E modem or Develcon DS 511A modem's female DB-25 socket, and the appropriate DB-25 connector is attached to the peripheral.

The following settings are necessary for the Gandalf LDS 120E modem to be used:

- Termination: T (330 OHM)
- Internal Jumper Plugs: 4-wire mode, J13-J14 connected and J15-J16 connected
- Front Panel Push-button Switches: <u>ALL OUT</u> - TP - RL - DL - AL

Table 5-5
LDS 120E external DIP switch settings for point-to-point, full-duplex

Switch number	Switch setting
1	OPEN (OFF)
2	CLOSED (ON)
3	CLOSED (ON)
4	CLOSED (ON)
5	CLOSED (ON)
6	NOT USED

Table 5-6
LDS 120E internal DIP switch settings for point-to-point, full-duplex

Switch number	Switch setting
1	CLOSED (ON)
2	CLOSED (ON)
3	CLOSED (ON)
4	CLOSED (ON)
5	CLOSED (ON)
6	CLOSED (ON)

Note: Set the modem I/O port of the Meridian MAX IPE/IPE-E to direct (9600 baud) through the system console.

Dial-up modems overview

Dial-up modems are used for the following functions:

- Remote diagnostics
- Dial-up supervisor
- Network link
- Remote supervisor login feature specific to the NAC option. For more information, refer to the *Meridian MAX 8 Supervisor's User Guide* (P0853407).

The same brand of dial-up modem must be used for either purpose. Ensure that each modem connected to the network is properly set up for its purpose.

This section recommends modems that have been tested with Meridian MAX when configured for remote diagnostics, supervisor dial-up, and network link, and for the remote supervisor login feature.

> *Note:* Dial-up printers are not supported through the dial-up connection.

Remote diagnostic modems

The remote diagnostic allows Nortel to diagnose your Meridian MAX whenever you experience difficulties. Often the solutions can be sent back through this link directly to your system. Consult your service contract for more details about the remote diagnostic service.

The following modems are supported for remote diagnostics:

- NetComm SmartModem M7F
- Racal VI2422PA
- UDS 2440
- UDS EC224A/D
- U.S. Robotics 28,800 Sportster

For the remote diagnostic modems, the following standards must be met:

- 1200 or 2400 baud rate
- auto-answer capability
- accessible from the public switch telephone network

The cable between the remote terminal and the diagnostic modem is a straight-through DB-25 serial cable NT1R03Dx (male to male) or NT1R03Ex (male to female). The type of cable used depends on the configuration defined by the user.

Figure 5-7 illustrates this connection for a Meridian MAX running on an SNN/SNN-E. Figure 5-8 illustrates this connection for a Meridian MAX running on an IPE/IPE-E.

For an SNN/SNN-E, the cable between the Meridian MAX I/O panel and the remote diagnostic modem is a DB-25 (male) to DB-9 (female) modem cable, NT7D61Ax. This cable is connected to the I/O panel at Card 1, Conn 2.

For an IPE/IPE-E system, the cable between the Meridian MAX multiport cable, NT1R03AA or NT1R03BA, and the remote diagnostic modem is a straight-through DB-25 (male) to DB-25 (male) modem cable, NT1R03HF. This cable is connected to the I/O panel at Port 2.

The modem settings at the Meridian MAX end must be done before connecting the modem to the Meridian MAX. This is accomplished by first connecting the modem to one of the workstations.

Refer to your specific modem setups. Once this is done, disconnect the modem and reconnect it to the Meridian MAX.

Figure 5-7
Connecting the remote diagnostics workstation with a Meridian MAX remote diagnostic modem (SNN/SNN-E)

Note: The NT7D61Ax cable connects to the generic I/O panel within the AEM.
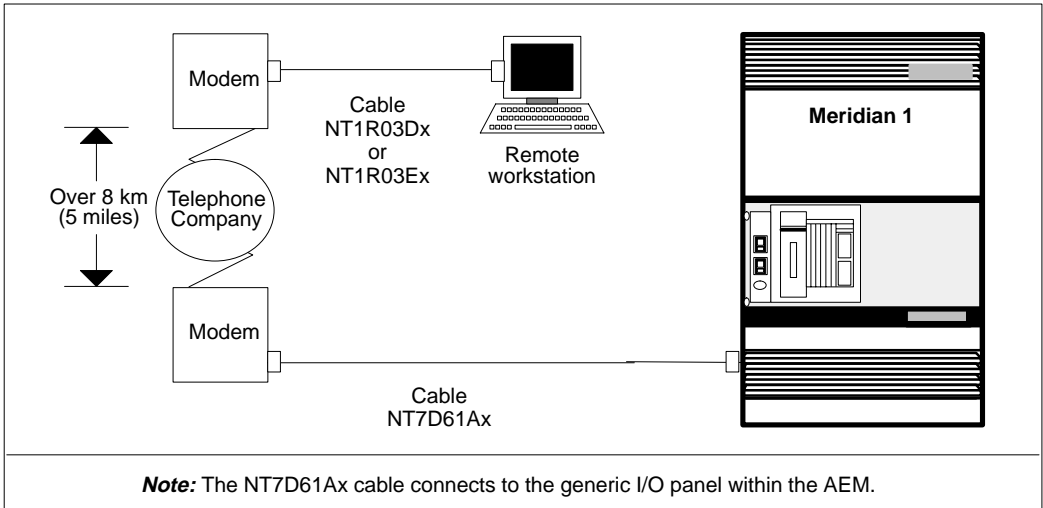
Figure 5-8
Connecting the remote dial-up workstation with a Meridian MAX remote diagnostic
modem (IPE/IPE-E)
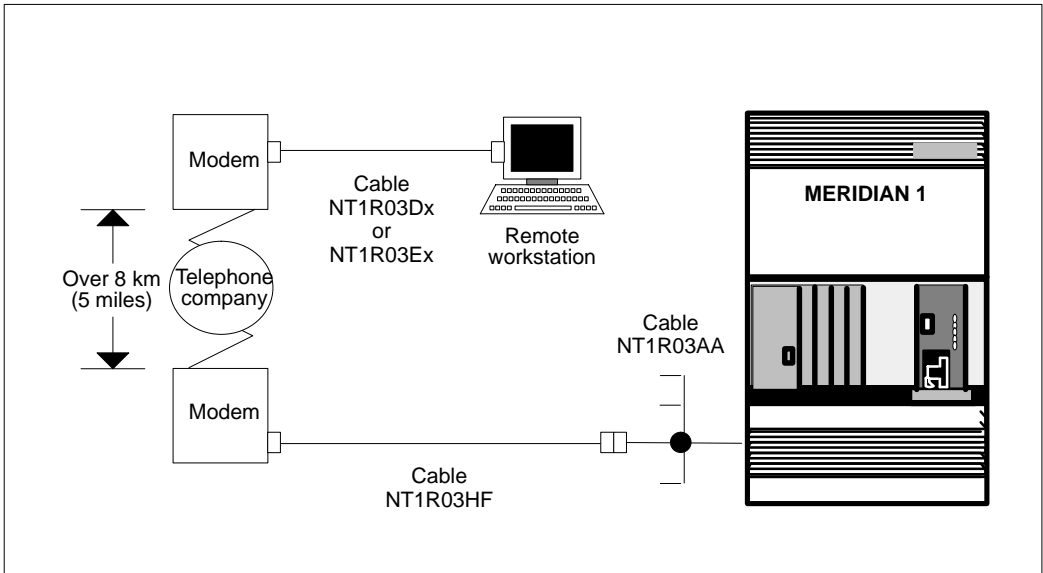
NetComm SmartModem M7F

Figure 5-7 (SNN/SNN-E) and Figure 5-8 (IPE/IPE-E) illustrate the connection between the Meridian MAX remote diagnostics port and a remote workstation using the NetComm SmartModem M7F.

To properly set up the NetComm modem for remote diagnostics, ensure that the modem's switch settings match those shown in Figure 5-9. The same switch settings should be used at both the remote end and the Meridian MAX end.

Note: There are two buttons located on the front panel of the modem: Mode and Talk/Data. For use with the NetComm modem, the Talk/Data button should be pressed.

Figure 5-9
NetComm SmartModem M7F modem switch settings
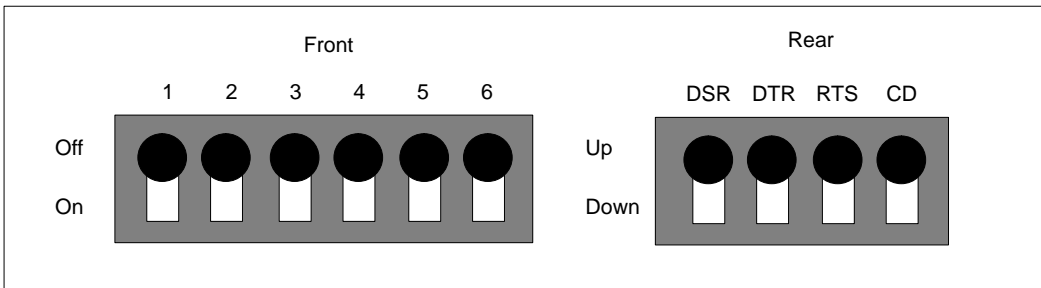
Complete the steps in Procedure 5-1 to configure the NetComm modem for remote diagnostics.

Procedure 5-1
Configuring the NetComm SmartModem M7F for remote diagnostics

1   Connect a workstation to the modem with a straight-through NT1R03Dx or NT1R03Ex cable. Set the workstation speed to 2400 baud.

2   Connect the workstation and the modem to their power sources.

3   Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

4   Enter **atz** followed by **{RETURN}.**

   OK

5   Enter **atz&f** followed by **{RETURN}.**

  OK

6   Enter **ats0=1** followed by **{RETURN}.**

  OK

7   Enter **at&d0** followed by **{RETURN}**.

  OK

8   Enter **at&c1** followed by **{RETURN}**.

  OK

9   Enter **at\n3** followed by **{RETURN}**.

  OK

10 Enter **at\q3** followed by **{RETURN}**.

  OK

11 Enter **at&w** followed by **{RETURN}**.

  OK

12 Power down the workstation and the modem.

13 Disconnect the workstation from the modem.

14 For an SNN/SNN-E, connect the modem directly to the Meridian MAX
     I/O panel using an NT7D61Ax modem cable.

     For an IPE/IPE-E system, connect the modem to the Meridian MAX
     multiport cable, NT1R03AA or NT1R03BA, using an NT1R03HF
     modem cable.

     Make sure the modem is connected to the telephone system with an
     RJ-11 cable/connector.

15 Power up the modem.

     If your Meridian MAX is powered up and fully functional, you should see
     the LED labeled "TR" light up on the front panel of the modem. If the
     "TR" LED does not light up, retry this procedure. If the light still does not
     appear, contact your Nortel representative.

Racal VI2422PA

If you use a Racal VI2422PA modem at one end of the line, you must use the Racal VI2422PA modem at the other end as well. Both modems must be set to the same speed.

Figures 5-7 (SNN/SNN-E) and 5-8 (IPE/IPE-E) illustrate the connection between the Meridian MAX remote diagnostics port and a remote workstation using a Racal VI2422PA modem.

Complete the steps in Procedure 5-2 to configure the Racal modem for remote diagnostics.

For more information on the Racal modem and its operation, refer to the *Racal VI2422PA Modem User's Guide*.

Procedure 5-2
Configuring the Racal VI2422PA modem for remote diagnostics

1   Connect a workstation with data format 8N1 and speed 2400 to the modem with a straight-through NT1R03Dx or NT1R03Ex cable.

2   Connect the workstation and the modem to their power sources.

3   Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

4   Enter **at&f** followed by **{RETURN}.**

   OK

5   Enter **atq0** followed by **{RETURN}.**

   OK

6   Enter **atv1** followed by **{RETURN}.**

   OK

7   Enter **atx1** followed by **{RETURN}.**

   OK

8   Enter **ats0=1** followed by **{RETURN}.**

   OK

9   Enter **at&c1** followed by **{RETURN}.**

   OK

10   Enter **at&d2** followed by **{RETURN}.**

   OK

11 Enter **ats2=128** followed by **{RETURN}.**

OK

12 Enter **ate0** followed by **{RETURN}.**

OK

13 The following command does not appear on the screen when you enter it:

Enter **at&w** followed by **{RETURN}.**

OK

14 Power down the workstation and the modem.

15 Disconnect the workstation from the modem.

16 For an SNN/SNN-E, connect the modem directly to the Meridian MAX I/O panel using an NT7D61Ax modem cable.

For an IPE/IPE-E system, connect the modem to the Meridian MAX multiport cable, NT1R03AA or NT1R03BA, using an NT1R03HF modem cable.

Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

17 Power up the modem.

18 Through the use of the Racal modem's front panel, choose option 1 and set the value to **1**. Choose option 13 and set the value to **2**.

UDS 2440

Figure 5-10 shows the front and rear view of the UDS 2440 modem. This modem connects to the SNN/SNN-E's multiport cable using an NT7D99AA cable and the IPE/IPE-E's four-port I/O cable using the NT1R03HF cable.

Figure 5-10
UDS 2440 modem—front and rear view
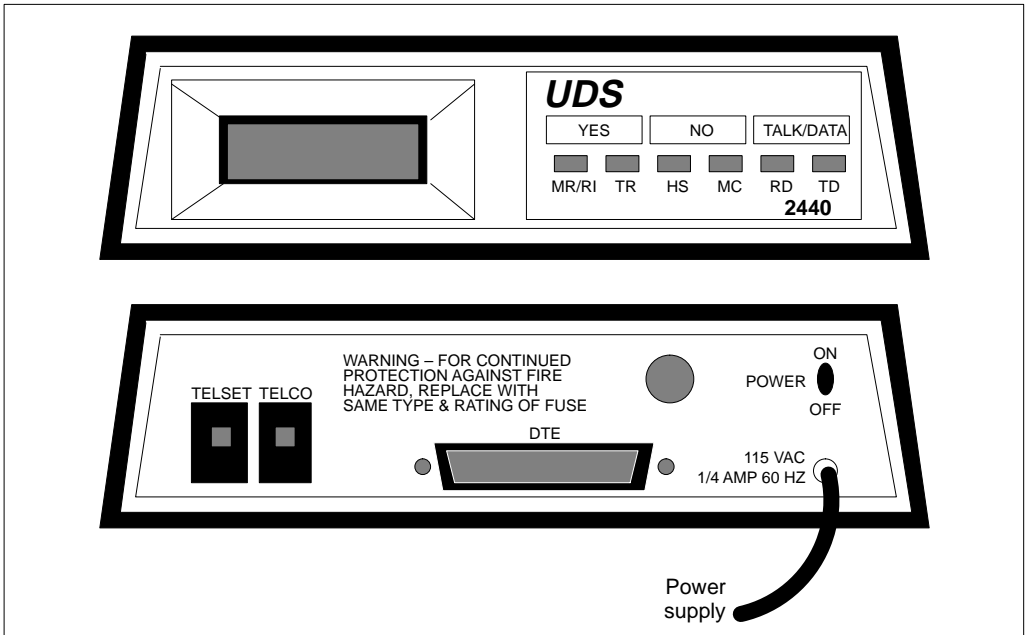
The UDS 2440 modem does not contain any internal switch settings. The configuration is done through the front panel buttons on the modem.

To configure the UDS 2440 modem for remote diagnostics using the modem's front panel buttons, perform Procedure 5-3.

Procedure 5-3
Configuring the UDS 2440 modem through the front panel for remote diagnostics

1   Connect the modem to a power source next to the Meridian MAX system. Ensure that the modem is not connected to the Meridian MAX system at this point.

2   Position the power switch on the rear panel of the modem to ON.

Press either the YES or NO button on the front of the modem panel for each response appearing in the LCD window.

If the wrong button is pressed, press the {**TALK/DATA**} button followed by the NO button. This action returns you to Step 2.

The LCD on the front panel displays the following:

####–## (For example, 3050–5C, appears for two seconds.)

OFFLINE

3   Press **NO**.

DIAL?

4   Press **NO**.

TEST?

5   Press **NO**.

AUTO ANS?

6   Press **NO**.

DATA OPTS?

7   Press **NO**.

OPTIONS?

8   Press **YES**.

RESET?

9   Press **YES**.

LOADING (appears for one second)

RESET?

10   Press **NO**.

FACTORY?

11   Press **YES**.

FACTORY O?

12 Press **YES**.

LOADING (appears for one second)

FACTORY?

13 Press **NO**.

SPKR OPTS?

14 Press **NO**.

TELE OPTS?

15 Press **NO**.

PIN OPTS?

16 Press **NO**.

MSG OPTS?

17 Press **NO**.

SECURITY OPTS?

18 Press **NO**.

DISC OPTS?

19 Press **NO**.

SREGS OPTS?

20 Press **NO**.

OPTIONS?

21 Press **NO**.

PROTOCOL?

22 Press **NO**.

If SAVE? appears go to Step 23, if not go to Step 24.

23 Press **YES**.

SAVING (appears for two seconds)

24 OFFLINE

25 Press **NO**.

DIAL?

26 Press **NO**.

TEST?

27 Press **NO**.

AUTO ANS?

28 Press **YES**.

AUTO ANS E

29 Press **YES**.

RINGS?

30 Press **YES**.

RING = 001

31 Press **YES**.

AUTO ANS?

32 Press **NO**.

DATA OPTS?

33 Press **NO**.

OPTIONS?

34 Press **YES**.

RESET?

35 Press **NO**.

FACTORY?

36 Press **NO**.

SPKR OPTS?

37 Press **NO**.

TELE OPTS?

38 Press **NO**.

PIN OPTS?

39 Press **YES**.

DTR OPTS?

40 Press **YES**.

DTR OPTS 0

41 Press **NO**.

dtr opt 1

42 Press **NO**.

```
dtr opt 2
```

43 Press **NO**.

```
dtr opt 3
```

44 Press **YES**.

```
DTR OPTS?
```

45 Press **NO**.

```
DSR OPTS?
```

46 Press **YES**.

```
DSR FORCED
```

47 Press **NO**.

```
DSR normal
```

48 Press **YES**.

```
DSR OPTS?
```

49 Press **NO**.

```
CD OPTS?
```

50 Press **YES**.

```
CD  FORCED
```

51 Press **NO**.

```
lo at disc
```

52 Press **NO**.

```
cd normal
```

53 Press **YES**.

```
CD OPTS?
```

54 Press **NO**.

```
CTS OPTS?
```

55 Press **NO**.

```
P 21 OPTS
```

56 Press **NO**.

```
P 23 OPTS
```

57 Press **NO**.

```
P 25 OPTS
```

58 Press **NO**.

PIN OPTS?

59 Press **NO**.

MSG OPTS

60 Press **NO**.

SECURITY?

61 Press **NO**.

DISC OPTS?

62 Press **NO**.

SREGS?

63 Press **NO**.

OPTIONS?

64 Press **NO**.

PROTOCOL?

65 Press **NO**.

SAVE?

66 Press **YES**.

SAVING (appears for two seconds)

OFFLINE

67 Connect the modem directly to the Meridian MAX I/O panel using an NT7D61Ax modem cable. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

If your Meridian MAX system is powered up and fully functional, you should see the LED labeled "TR" light up on the front panel of the modem. If the "TR" LED does not light up, retry this procedure. If the light still does not appear, contact your Nortel representative.

If you have a workstation, you can use an alternative method to set up the UDS 2440 modem. To properly configure the modem, perform the steps in Procedure 5-4.

Procedure 5-4
Alternative procedure for configuring the UDS 2440 modem through a workstation for remote diagnostics

1   Connect a workstation to the modem with a straight-through NT1R03Dx or NT1R03Ex cable.

2   Connect the workstation and the modem to their power sources.

3   Power up the workstation and the modem.

4   Set the workstation baud rate to 2400. Refer to the "Workstation" section, "Video display terminal (VDT) workstation" subsection, for more information.

    Enter the following commands on the workstation keyboard.

5   Enter **atz** followed by **{RETURN}.**

    OK

6   Enter **at&f** followed by **{RETURN}**.

    OK

7   Enter **ats0=1** followed by **{RETURN}**.

    OK

8   Enter **at&d3** followed by **{RETURN}**.

    OK

9   Enter **at&s1** followed by **{RETURN}**.

    OK

10 Enter **at&c1** followed by **{RETURN}**.

    OK

11 Enter **at&w** followed by **{RETURN}**.

    OK

12 Power down the workstation and the modem.

13 Disconnect the workstation from the modem.

14 For an SNN/SNN-E, connect the modem directly to the Meridian MAX
I/O panel using an NT7D61Ax modem cable.

For an IPE/IPE-E system, connect the modem to the Meridian MAX
multiport cable, NT1R03AA or NT1R03BA, using an NT1R03HF
modem cable.

Make sure the modem is connected to the telephone system with an
RJ-11 cable/connector.

15 Power up the modem.

If your Meridian MAX system is powered up and fully functional, you
should see the LED labeled "TR" light up on the front panel of the
modem. If the "TR" LED does not light up, retry this procedure. If the
light still does not appear, contact your Meridian MAX representative.

UDS EC224A/D 2400

Figure 5-11 shows the front and rear view of the UDS EC224A/D 2400 modem. The cable connecting the Meridian MAX SNN/SNN-E's VME multiport cable and the UDS EC224A/D 2400 modem is the modem cable NT7D61Ax. The cable connecting the Meridian MAX IPE/IPE-E's four-port I/O cable and the UDS EC224A/D 2400 modem is the modem cable NT1R03HF.

Figure 5-11
UDS EC224A/D 2400 modem—front and rear view
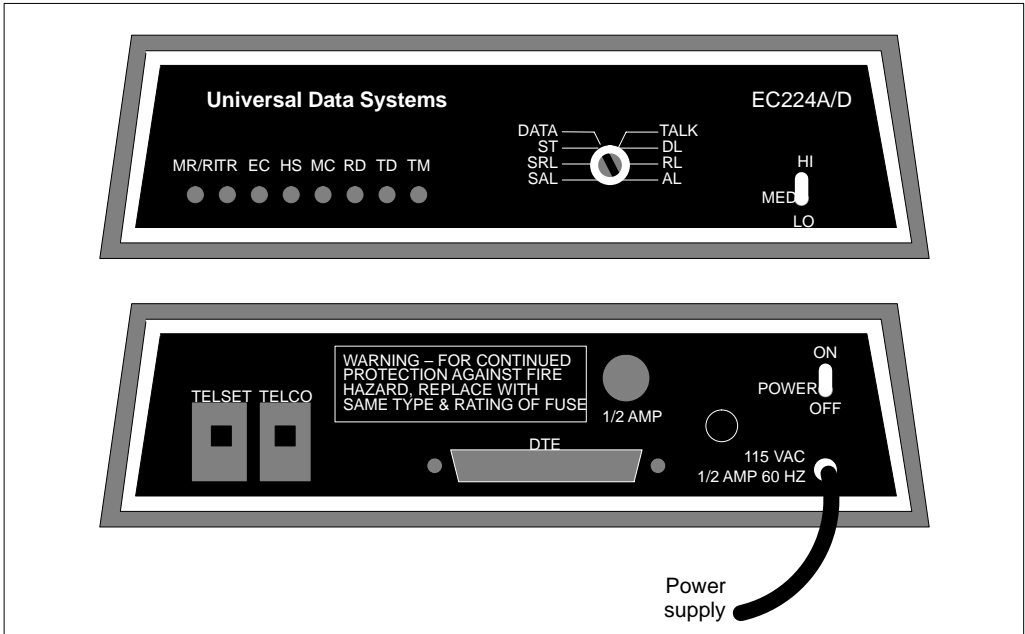
Remove the modem's cover and position the modem so that the front faceplate is facing you. In the front left corner of the modem are three switches. Make sure the switch settings match those shown in Figure 5-12.

Figure 5-12
UDS EC224A/D 2400 remote diagnostics modem switch settings
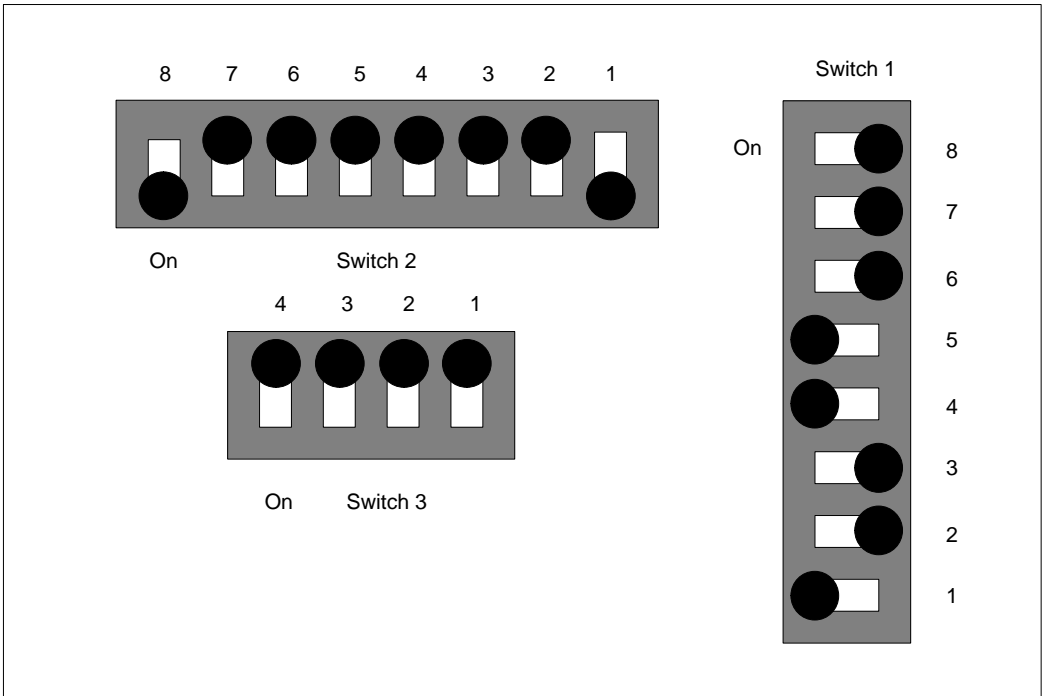
U.S. Robotics 28.8 Sportster modem

The U.S. Robotics Sportster 28.8 modem has DIP switches on the rear panel (see Figure 5-13). These can be set using the configuration instructions in Procedure 5-5. The down position indicates On. The switches are numbered 1 to 8.

Figure 5-13
Rear view of the U.S. Robotics 28.8 Sportster modem
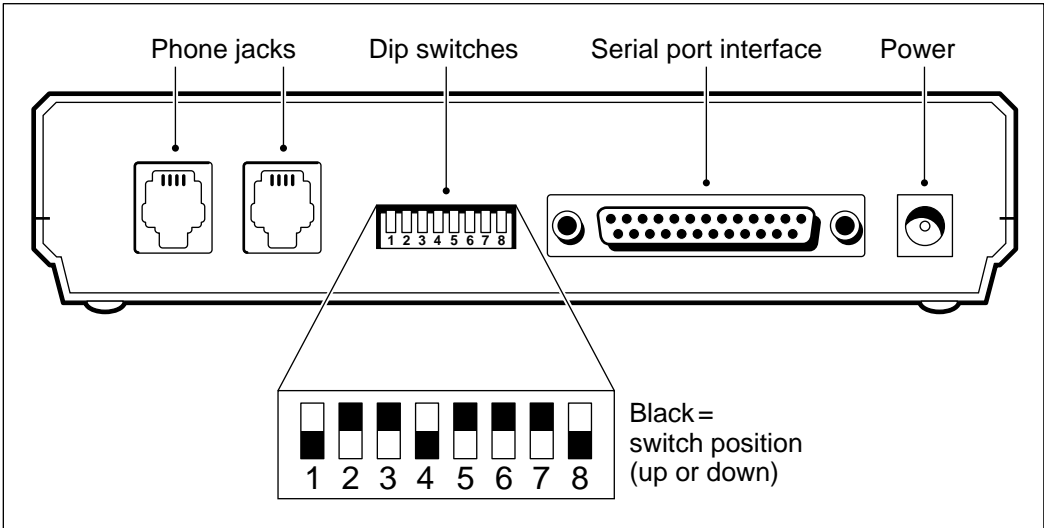
G100426L

The cable connecting the Meridian MAX SNN/SNN-E's VME multiport cable and the U.S. Robotics modem is the modem cable NT7D99AA. The cable connecting the Meridian MAX IPE/IPE's four-port I/O cable and the U.S. Robotics modem is the modem cable NT1R03HF.

Refer to Procedure 5-5 to configure the U.S. Robotics 28.8 Sportster modem for use as a remote dial-up supervisor. It also applies to configuring the remote end.

Procedure 5-5
Configuring the U.S. Robotics 28.8 Sportster modem's remote end for a remote dial-up supervisor

1   Open the modem and ensure that the switch settings are correct. Compare them with the correct settings in Figure 5-14.

2   Set the workstation speed to 9600 baud.

Figure 5-14
U.S. Robotics 28.8 Sportster modem switch settings for programming mode
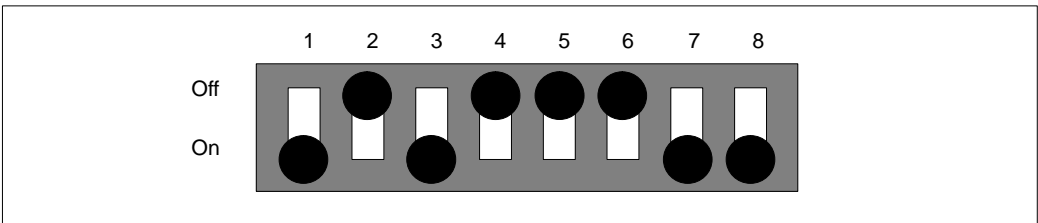
3   Connect a workstation to the modem with a straight-through cable (NT1R03Dx or NT1R03Ex).

4   Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

5   Power up the workstation and the modem.

6   On the workstation keyboard, enter **AT&B1&W&W1** followed by **{RETURN}**.

     The system responds with OK.

7   Power off the modem.

8   Configure the modem's switch settings as shown in Figure 5-15.

Figure 5-15
U.S. Robotics Sportster 28.8 modem switch settings for operating mode
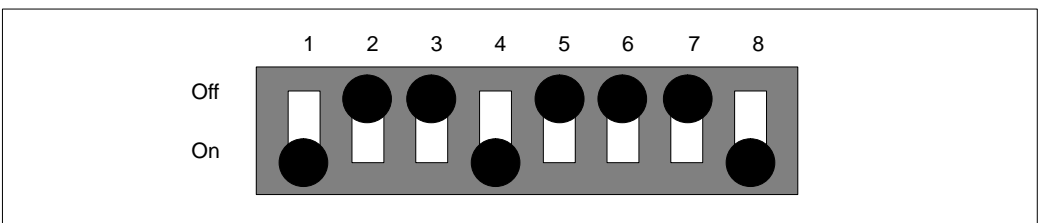
9   If you are configuring the remote end, use the Hayes AT command
    "atdt####" for touch-tone dialing, and "atdp####" for pulse dialing, to
    dial the required number.

    (where #### is the telephone number of the Meridian MAX modem)

Dial-up supervisor modems

The following modems are supported modems for dial-up supervisor:

- NetComm SmartModem M7F

- Racal VI2422PA

- UDS 2440

- UDS EC224A/D

- Ven-Tel 9600 Plus

- Ven-Tel 2400 Plus II

The cable between the supervisor workstation and the modem is a straight-through DB-25 serial cable NT1R03Dx (male to male) or NT1R03Ex (male to female) cable. However, this depends on the configuration defined by the user. The cable between a PC running Reflection software or the Meridian Terminal Emulator (MTE) and the modem is a DB-25 to DB-9 serial cable (male to female) A0268901.

The cable between the Meridian MAX SNN/SNN-E and the dial-up supervisor modem is a modem cable NT7D99AA. Figure 5-16 illustrates this connection.

The cable between the Meridian MAX IPE/IPE-E and the dial-up supervisor modem is a modem cable NT1R03HF. Figure 5-17 illustrates this connection.

The settings for modems are found in Table 5-3. Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end. Before dialing, at the remote location, the user must configure the modem as shown in Table 5-3.

Figure 5-16
Connecting the remote dial-up workstation with a Meridian MAX dial-up supervisor modem (SNN/SNN-E)
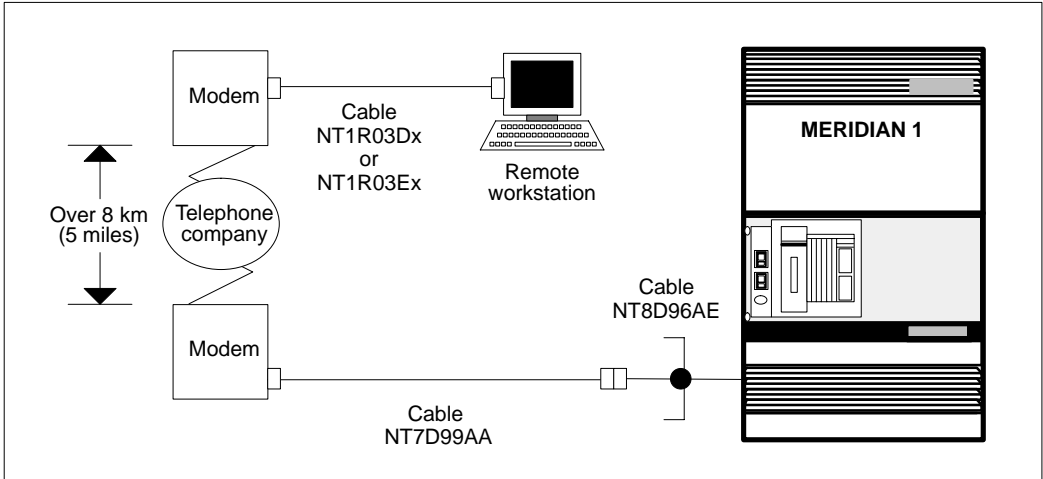
Figure 5-17
**Connecting the remote dial-up workstation with a Meridian MAX dial-up supervisor modem (IPE/IPE-E)**
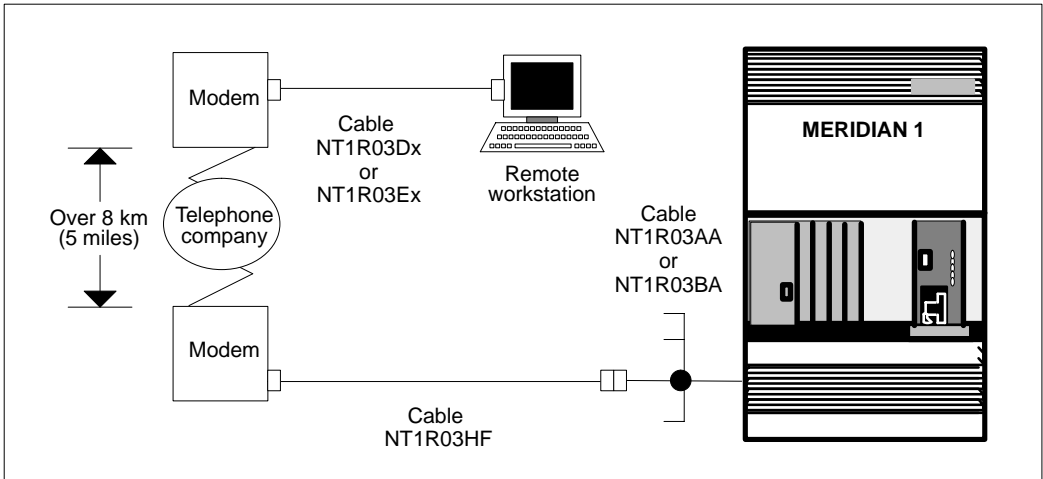
NetComm SmartModem M7F

Figures 5-16 (SNN/SNN-E) and 5-17 (IPE/IPE-E) illustrate the connection between the Meridian MAX dial-up supervisor port and a remote workstation using the NetComm SmartModem M7F.

To properly set up the NetComm modem for dial-up supervisor, ensure that the modem's switch settings match those shown in Figure 5-18. The same switch settings should be used at both the remote end and the Meridian MAX end.

Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end.

The cable connecting the Meridian MAX SNN/SNN-E's VME multiport cable and the NetComm SmartModem M7F is the modem cable NT7D99AA.

The cable connecting the Meridian MAX IPE/IPE-E's VME multiport cable and the NetComm SmartModem M7F is the modem cable NT1R03HF.

> *Note:* There are two buttons located on the front panel of the modem: Mode and Talk/Data. For use with the NetComm modem, the Talk/Data button should be pressed.

Figure 5-18
NetComm SmartModem M7F modem switch settings
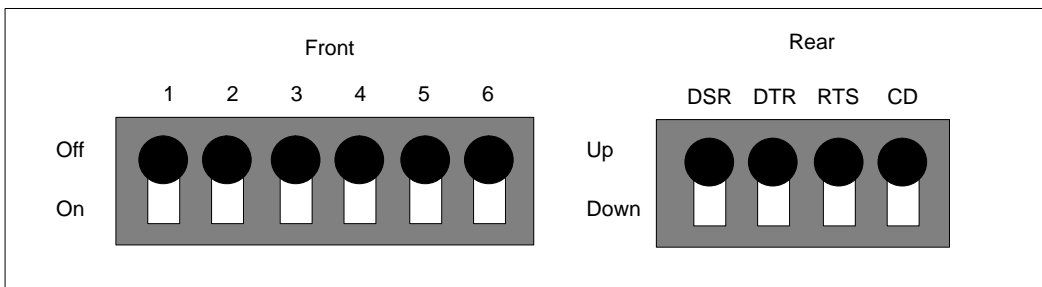
Complete the steps in Procedure 5-6 to configure the NetComm modem for remote diagnostics.

Procedure 5-6
Configuring the NetComm SmartModem M7F for dial-up supervisor—remote end

1   Connect a workstation to the modem with a straight-through NT1R03Dx or NT1R03Ex cable.

2   Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

3   Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

4   Enter **atz** followed by **{RETURN}**.

    OK

5   Enter **at&f** followed by **{RETURN}**.

    OK

6   Enter **ats0=1** followed by **{RETURN}**.

    OK

7   Enter **at&d0** followed by **{RETURN}**.

    OK

8   Enter **at&c1** followed by **{RETURN}**.

    OK

9   Enter **at\n3** followed by **{RETURN}**.

    OK

10 Enter **at\q3** followed by **{RETURN}**.

   OK

11 Enter **at&w** followed by **{RETURN}**.

    OK

12 Use the Hayes AT command "atdt####" for touch-tone dialing, and "atdp####" for pulse dialing, to dial the required number.

    (where #### is the telephone number of the NAC modem)

Racal VI2422PA

Figure 5-16 illustrates the connection between the Meridian MAX port configured for dial-up supervisor and a remote dial-up workstation using a Racal VI2422PA modem.

Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end. The cable connecting the Meridian MAX SNN/SNN-E's VME multiport cable and the Racal VI2422PA modem is the modem cable NT7D99AA. The cable connecting the Meridian MAX IPE/IPE-E's four-port I/O cable and the Racal VI2422PA modem is the modem cable NT1R03HF.

The Racal modem can be used for the dial-up supervisor, for the remote supervisor login, and as the modem for the network link. Regardless of the way it is used, the modem's set-up is identical:

- Connect the Racal modem to its power source.
- Connect the Racal modem to the Meridian MAX through the use of the NT9D9007 cable.
- Connect the Racal modem's RJ-45 TELCO socket to the telephone socket using the cable provided by Racal.
- Record the port that is assigned to the Racal mode.
- Power up the RACAL modem.
- Set Option 1 to "1".
- Set Option 13 to "2".

If you use a Racal modem at one end of the line, you must use the Racal modem at the other end as well. For example, a single network link could have a Racal modem at the NAC site and a Racal modem at the nodal Meridian MAX site. Both modems must be set to the same speed.

For more information on the Racal modem and its operation, refer to the *Racal VI2422PA Modem User's Guide*.

Complete the steps in Procedure 5-7 to configure the Racal VI2422PA modem at the remote location for dial-up supervisor.

Procedure 5-7
Configuring the Racal VI2422PA dial-up supervisor modem—remote end

1 Connect a workstation with data format 8N1 and speed 2400 to the modem with a straight-through NT1R03Dx or NT1R03Ex cable.

2 Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

3 Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

4 Enter **at&f** followed by **{RETURN}**.

   OK

5 Enter **at*f0** followed by **{RETURN}**.

   OK

6 Enter **ats0=1** followed by **{RETURN}**.

   OK

7 Enter **atq1** followed by **{RETURN}**.

   OK

8 Enter **ate0** followed by **{RETURN}**.

   OK

9 The following command will not appear on the screen when you enter it:

   Enter **at&w** followed by **{RETURN}**.

   OK

10 Through the use of the Racal modem's front panel, choose option 1 and set the value to **1**. Choose option 13 and set the value to **2**.

11 Use the Hayes AT command "atdt####" for touch-tone dialing, and "atdp####" for pulse dialing, to dial the required number.

   (where #### is the telephone number of the Meridian MAX modem)

UDS 2440

Figure 5-10 shows the front and rear view of the UDS 2440 dial-up supervisor modem.

The UDS 2440 modem does not contain any internal switch settings. Complete Procedure 5-8 to configure the UDS 2440 modem for dial-up supervisor.

Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end.

The cable connecting the Meridian MAX SNN/SNN-E's VME multiport cable and the UDS 2440 modem is the modem cable NT7D99AA.

The cable connecting the Meridian MAX IPE/IPE-E's VME multiport cable and the UDS 2440 modem is the modem cable NT1R03HF.

Procedure 5-8
Configuring the UDS 2440 modem for dial-up supervisor—remote end

1   Connect a workstation to the modem with a straight-through NT1R03Dx or NT1R03Ex cable. Set the workstation speed to 2400 baud.

2   Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

3   Power up the workstation and the modem.

4   Enter the following commands on the workstation keyboard, pressing **{ENTER}** after each command.

5   Enter **atz** followed by **{RETURN}**.

   OK

6   Enter **at&f** followed by **{RETURN}**.

   OK

7   Enter **ats0=1** followed by **{RETURN}**.

   OK

8   Enter **at&d3** followed by **{RETURN}**.

   OK

9   Enter **at&s1** followed by **{RETURN}**.

   OK

10 Enter **at&c1** followed by **{RETURN}**.

OK

11 Enter **at&w** followed by **{RETURN}**.

OK

12 Use the Hayes AT command "atdt####" for touch-tone dialing, and "atdp####" for pulse dialing, to dial the required number.

(where #### is the telephone number of the NAC modem)

UDS EC224A/D 2400

Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end. The cable connecting the Meridian MAX SNN/SNN-E's VME multiport cable and the UDS EC224A/D 2400 modem is the modem cable NT7D99AA. The cable connecting the Meridian MAX IPE/IPE-E's four-port I/O cable and the UDS EC224A/D 2400 modem is the modem cable NT1R03HF.

Figure 5-19 shows the remote dial-up supervisor workstation modem's front and rear view.

Figure 5-19
UDS EC224A/D 2400 modem—front and rear view
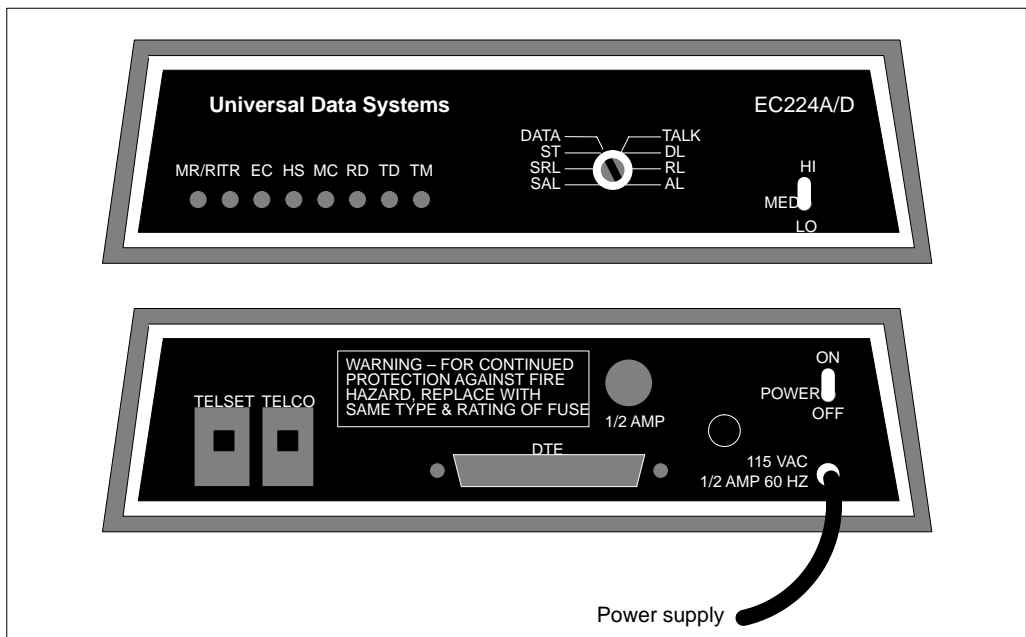
Remove the modem's cover and position the modem so that the front faceplate is facing you. In the front left corner of the modem are three switches. Make sure the switch settings match those shown in Figure 5-20.

Figure 5-20
UDS EC224A/D 2400 remote dial-up supervisor modem switch settings
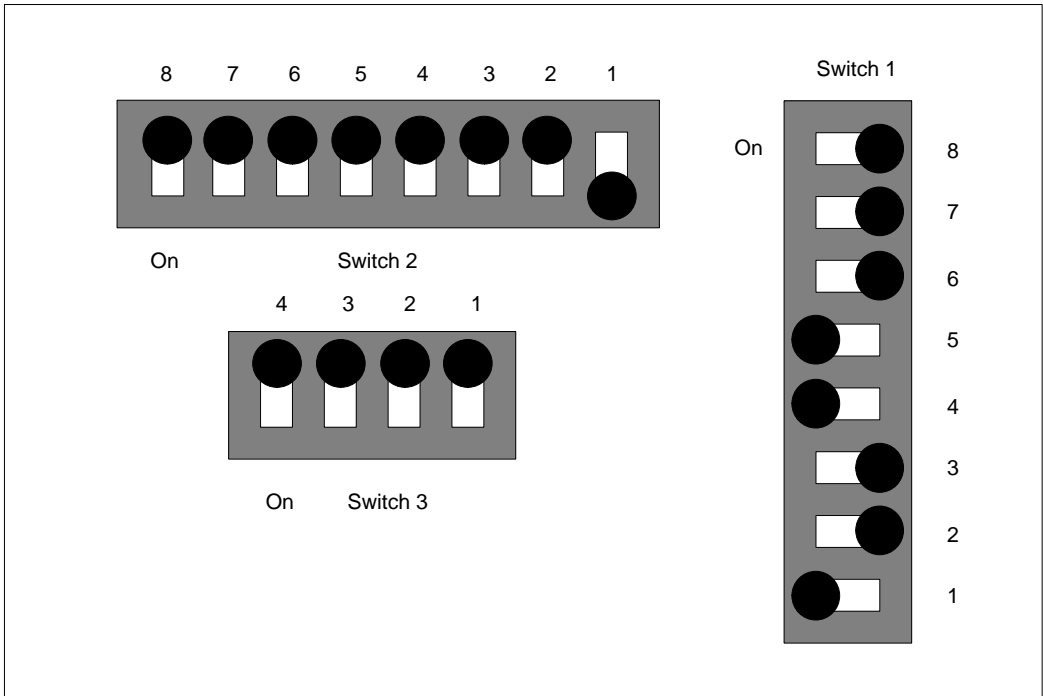
Complete the steps in Procedure 5-9 to configure the UDS EC224A/D 2400 modem at the remote location for dial-up supervisor.

Procedure 5-9
Configuring the UDS EC224A/D 2400 dial-up supervisor modem—remote end

1   Open the modem and ensure that the switch settings are correct. Compare them with the correct settings in Figure 5-20.

2   Connect a workstation to the modem with a straight-through NT1R03Dx or NT1R03Ex cable.

3   Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

4   Power up the workstation and the modem.

5   Set the front panel toggle switch to HI.

6 Set the front panel rotary switch to DATA.

7 Enter the following commands on the workstation keyboard.

8 Enter **at&f** followed by **{RETURN}**.

OK

9 Enter **ats2=128** followed by **{RETURN}**.

OK

10 Enter **at&c1** followed by **{RETURN}**.

OK

11 Enter **at&d2** followed by **{RETURN}**.

OK

12 Enter **atv1** followed by **{RETURN}**.

OK

13 Enter **atx1** followed by **{RETURN}**.

OK

14 Enter **ats0=1** followed by **{RETURN}**.

OK

15 Enter **atq0** followed by **{RETURN}**.

OK

16 Enter **ate0** followed by **{RETURN}**.

OK

The following command will not appear on the screen when you enter it:

17 Enter **at&w** followed by **{RETURN}**.

OK

18 Use the Hayes AT command "atdt####" for touch-tone dialing, and "atdp####" for pulse dialing, to dial the required number.

(where #### is the telephone number of the Meridian MAX modem)

Ven-Tel 2400 Plus II

Figure 5-21 and Figure 5-22 show the front and rear view of the Ven-Tel 2400 Plus II modem. Figure 5-23 shows how to open the modem. Figure 5-24 shows the switch locations.

Figure 5-21
Ven-Tel 2400 Plus II modem—front view
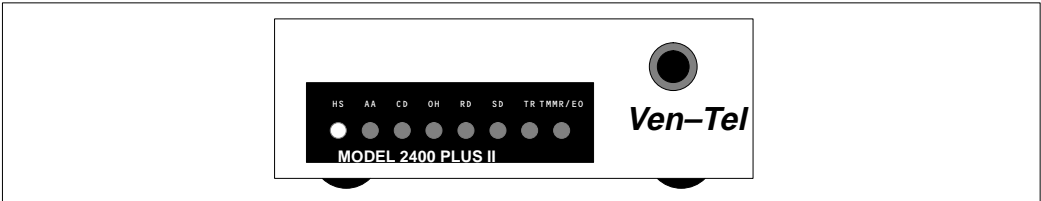
Figure 5-22
Ven-Tel 2400 Plus II modem—rear view
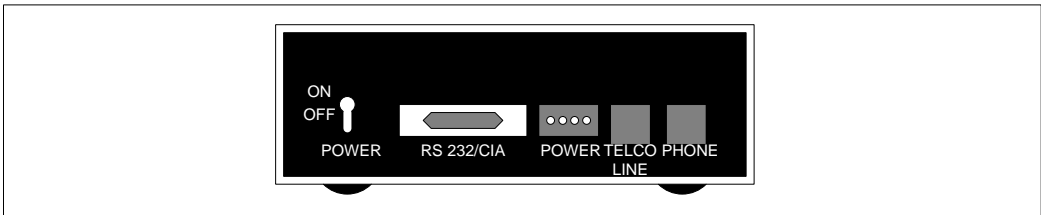
Figure 5-23
Ven-Tel 2400 Plus II modem—opening the modem
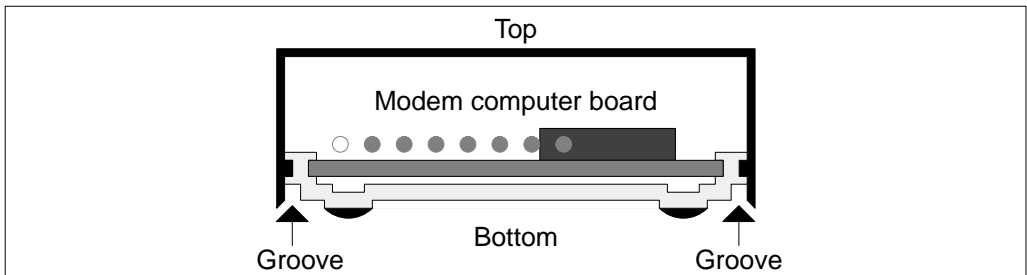
Figure 5-24
Ven-Tel 2400 Plus II modem—switch locations
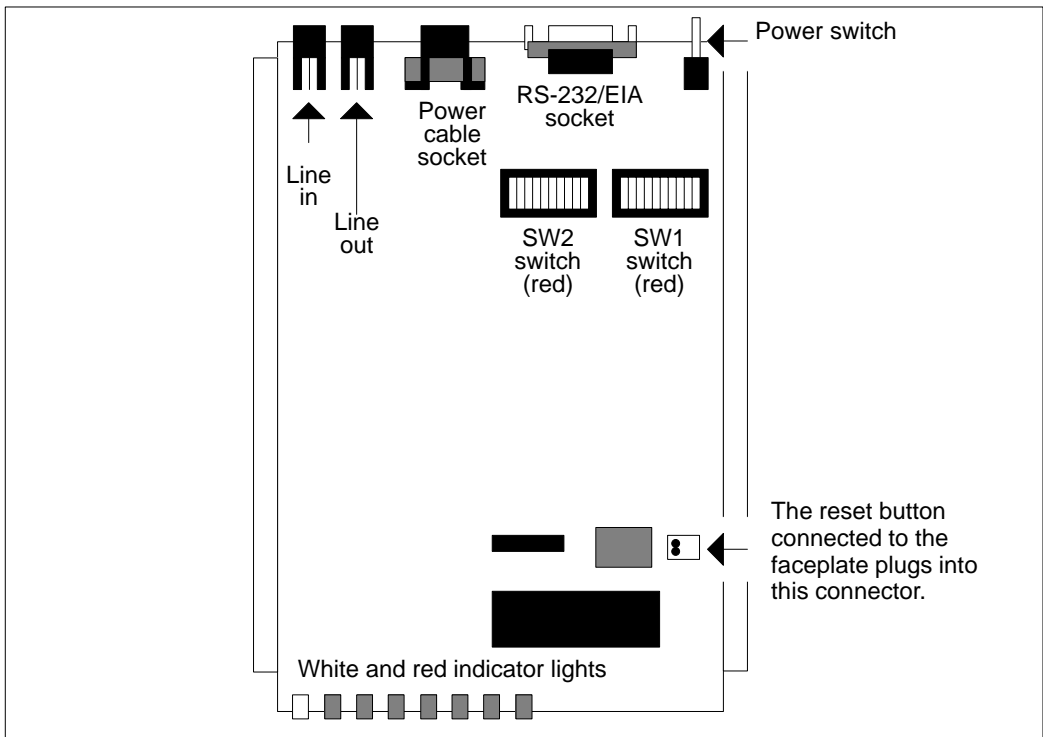
Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end. The cable connecting the Meridian MAX SNN/SNN-E's VME multiport cable and the Ven-Tel 2400 Plus II modem is the modem cable NT7D99AA. The cable connecting the Meridian MAX IPE/IPE-E's four-port I/O cable and the Ven-Tel 2400 Plus II modem is the modem cable NT1R03HF.

To properly set up the Ven-Tel 2400 Plus II modem for use as a dial-up supervisor modem, refer to Figure 5-25 and ensure that the modem's switch settings are correct. The same switch settings should be used at both the remote end and the MAX end.

Figure 5-25
Ven-Tel 2400 Plus II remote dial-up supervisor modem switch settings
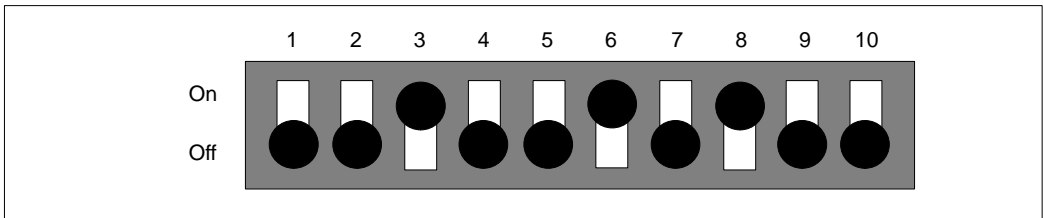
Complete the steps in Procedure 5-10 to configure the Ven-Tel 2400 Plus II modem for dial-up supervisor.

Procedure 5-10
Configuring the Ven-Tel 2400 Plus II dial-up supervisor modem—remote end

1 Open the modem as in Figure 5-23, and ensure that the switch settings are correct. Figure 5-24 shows the switch locations on the modem. Compare them with the correct settings in Figure 5-25.

2 Connect a workstation to the modem with a straight-through NT1R03Dx or NT1R03Ex cable.

3 Connect a workstation to the modem with a straight-through NT1R03Dx or NT1R03Ex cable.

4 Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

5 Enter **at&f** followed by **{RETURN}**.

   OK

6 Enter **ats2=128** followed by **{RETURN}**.

   OK

7 Enter **at&c1** followed by **{RETURN}**.

   OK

8 Enter **at&d2** followed by **{RETURN}**.

   OK

9 Enter **atv1** followed by **{RETURN}**.

   OK

10   Enter **atx1** followed by **{RETURN}**.

OK

11   Enter **ats0=1** followed by **{RETURN}**.

OK

12   Enter **atq0** followed by **{RETURN}**.

OK

13   Enter **ate0** followed by **{RETURN}**.

OK

The following command will not appear on the screen when you enter it:

14   Enter **at&w** followed by **{RETURN}**.

OK

15   Use the Hayes AT command "atdt####" for touch-tone dialing, and "atdp####" for pulse dialing, to dial the required number.

(where #### is the telephone number of the Meridian MAX modem)

Ven-Tel 9600 Plus (with power pack model # L5730-01)

Figure 5-26 shows the front view of the Ven-Tel 9600 Plus modem and Figure 5-27 shows the rear view. Figure 5-28 shows how to open the modem. Figure 5-29 shows the switch locations.

Figure 5-26
Ven-Tel 9600 Plus modem—front view
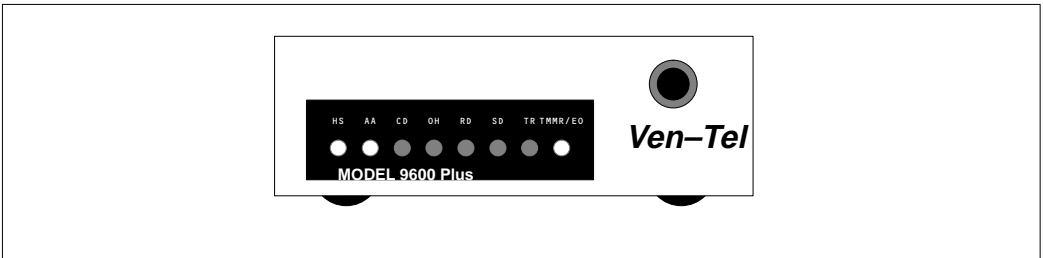
Figure 5-27
Ven-Tel 9600 Plus modem—rear view
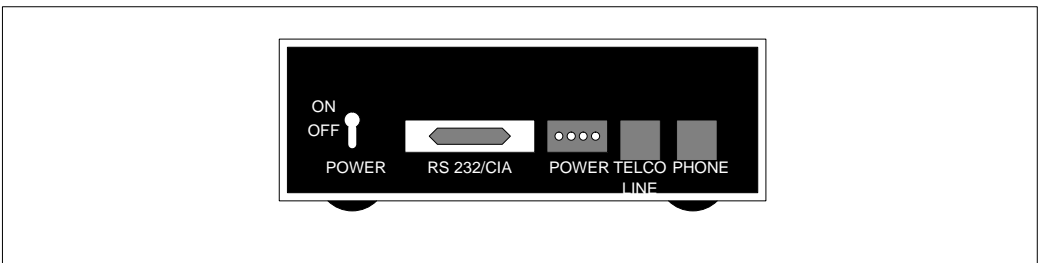
Figure 5-28
Ven-Tel 9600 Plus modem—opening the modem
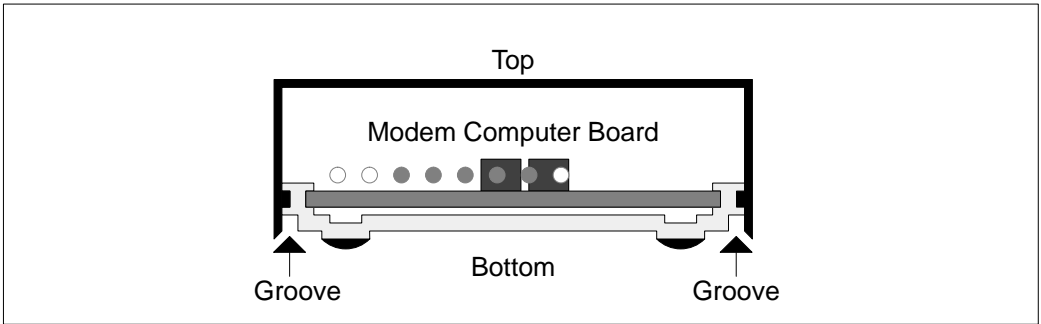
Figure 5-29
Ven-Tel 9600 Plus modem—switch locations and settings
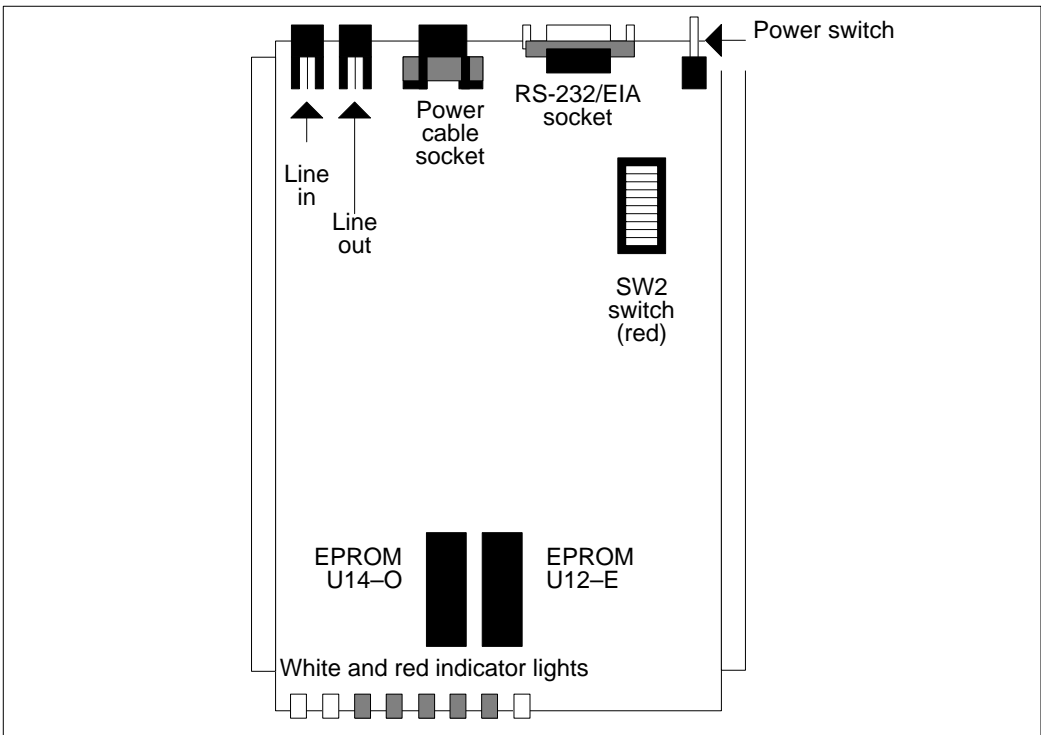
Figure 5-30
Ven-Tel 9600 Plus remote dial-up supervisor, remote supervisor login, and network link modem switch settings
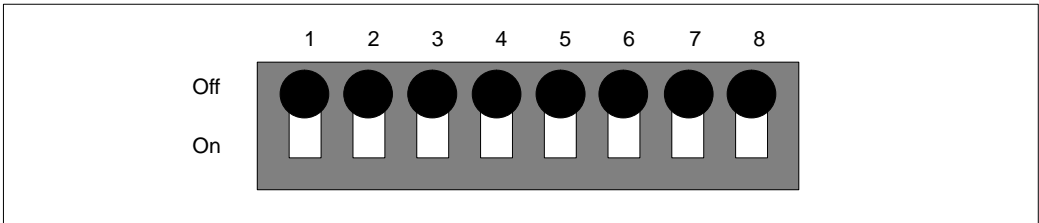
Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end. The cable connecting the Meridian MAX SNN/SNN-E's VME multiport cable and the Ven-Tel 9600 Plus modem is the modem cable NT7D99AA. The cable connecting the Meridian MAX IPE/IPE-E's four-port I/O cable and the Ven-Tel 9600 Plus modem is the modem cable NT1R03HF.

To properly set up the Ven-Tel 9600 Plus modem for use as a dial-up supervisor modem, refer to Figure 5-30 and ensure that the modem's switch settings are correct. The same switch settings should be used at both the remote end and the MAX end.

Make sure power pack model number L5730-01 is used.

Complete the steps in Procedure 5-11 to configure the Ven-Tel 9600 Plus modem for dial-up supervisor.

Procedure 5-11
Configuring the Ven-Tel 9600 Plus dial-up supervisor modem—remote end

1   Open the modem and ensure that the switch settings are correct. Compare them with the correct settings in Figure 5-30. Set the workstation speed to 9600 baud.

2   Connect a workstation to the modem with a straight-through NT1R03Dx or NT1R03Ex cable.

3   Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

4 Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

5 Enter **at&f** followed by **{RETURN}**.

OK

6 Enter **ats2=128** followed by **{RETURN}**.

OK

7 Enter **at&c1** followed by **{RETURN}**.

OK

8 Enter **at&d2** followed by **{RETURN}**.

OK

9 Enter **atv1** followed by **{RETURN}**.

OK

10 Enter **atx1** followed by **{RETURN}**.

OK

11 Enter **ats0=1** followed by **{RETURN}**.

OK

12 Enter **atq0** followed by **{RETURN}**.

OK

13 Enter **ate0** followed by **{RETURN}**.

OK

The following command will not appear on the screen when you enter it:

14 Enter **at&w** followed by **{RETURN}**.

OK

15 Use the Hayes AT command "atdt####" for touch-tone dialing, and "atdp####" for pulse dialing, to dial the required number.

(where #### is the telephone number of the Meridian MAX modem)

NAC connectivity

Network Administration Center (NAC) is a computerized system which allows organizations with multiple sites (known as "nodes") to monitor and supervise all sites from one central location. Using NAC connectivity, each Meridian MAX system can become a node on the NAC system.

NAC currently functions on two hardware platforms. NAC 2 functions on the Application Module (AM) platform while NAC 1 functions on the HP Vectra platform.

NAC 2 and NAC 1 both support full Meridian MAX 8 functionality. The exception is that NAC 2 reports contain the Enhanced Day/Night Call Abandoned data.

Figure 5-31 shows a simplified overview of the network connectivity between a NAC 2 system and its various MAX nodes using modems.

Figure 5-32 shows a simplified overview of the network connectivity between a NAC 1 system and its various MAX nodes using modems.

NAC connectivity supports the following functions:

- Remote supervisor login
- Network link

Both remote supervisor login and network link require a separate modem connection. Your site's layout may be different.

Your NAC system can connect to Meridian MAX in four ways:

- Limited distance
- Dial-up
- T1 connection
- Direct connection

Figure 5-31
NAC 2 network connectivity overview

Network printer

Network supervisor workstation

System console

I/O Panel

Remote diagnostic modem

NAC 2

Modem   Modem

Modem   Modem

Modem

Modem

Modem   Modem

Dial-up

NetLink

NetLink

NetLink

Dial-up

Modem   Modem

Modem

Octopus cables

MERIDIAN 1 connected to Meridian MAX 8 SNN

MERIDIAN 1 containing Meridian MAX IPE 8

MERIDIAN 1 connected to Meridian MAX 8 SNN

Note: The NAC 2 module can also be in a stand-alone AEM module.

Meridian MAX   *Installation Guide*   Product release 8

Figure 5-32
NAC 1 network connectivity overview
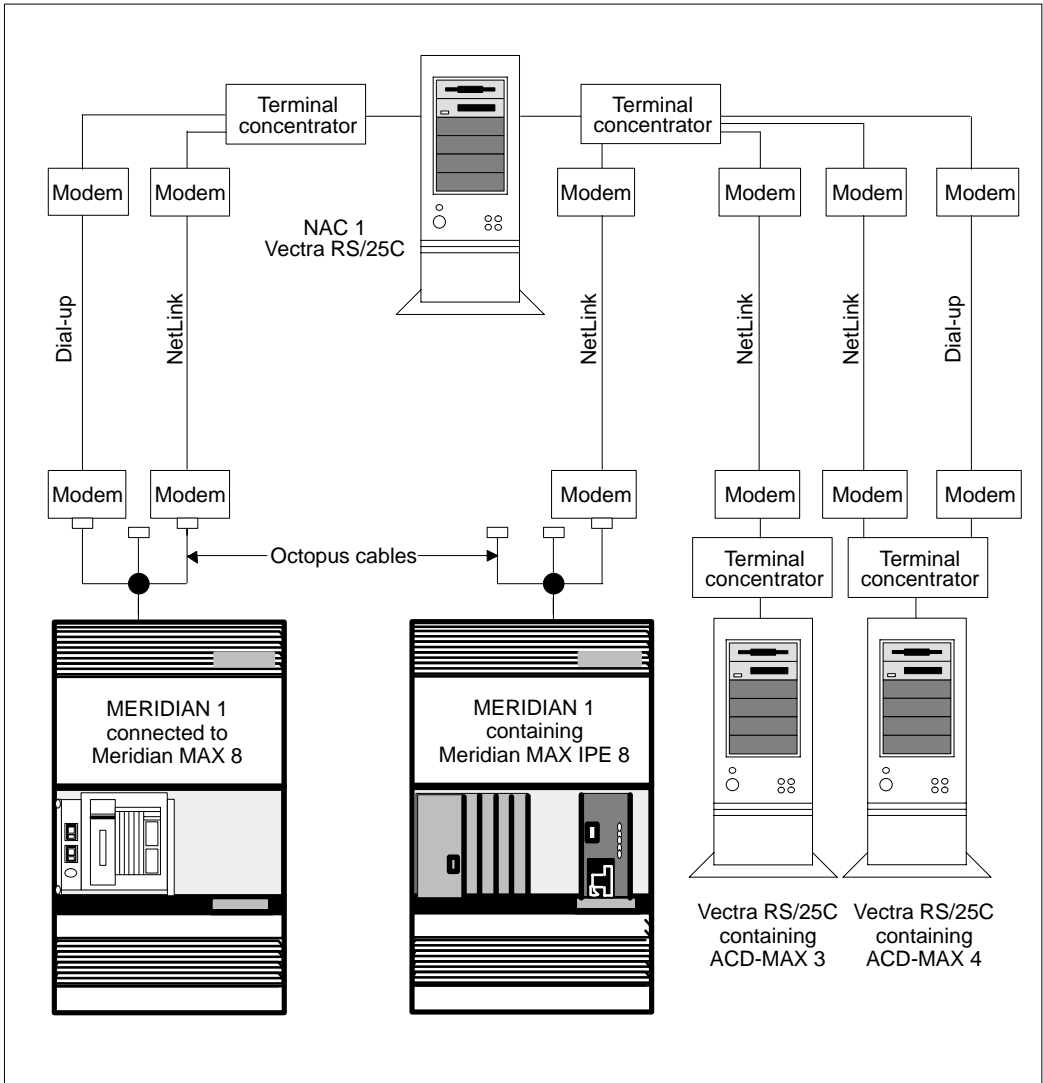
Limited distance modems for NAC connectivity

Limited distance modems extend workstation and printer connections when used for a remote supervisor login or a network link.

Remote supervisor login and network link

The following modems are supported for limited distance connections using a remote supervisor login or a network link:

- Gandalf LDS 120E
- Develcon DS 511A

Gandalf LDS 120E and Develcon DS 511A

The Gandalf LDS 120E and Develcon DS 511A limited distance modems can be used for both the remote supervisor login and the network link. This modem allows you to extend the distance between a NAC system and a Meridian MAX to a nominal distance of eight km (five miles). Other limited-distance modems may not provide the eight km (five miles) distance. It is your responsibility to check with the particular manufacturer.

ATTENTION

RS-232 cables that directly connect peripherals to the Meridian MAX must not exceed 15 meters (50 feet).

This length is based on an EIA RS-232C standard. Peripherals can be farther away if self-powered limited-distance (own power supply), or dial-up modems are used.

ATTENTION

Cable connections between the LAN and the Meridian MAX must not exceed 50 meters (164 feet).

This connection is an IEEE standard 802.3.

For NAC 2, each remote supervisor login and network link requiring a limited-distance modem needs a straight-through NT1R03Dx cable and the modem cable NT7D99AA (SNN/SNN-E) or NT1R03HF (IPE/IPE-E) at the Meridian MAX end and at the NAC end.

Figure 5-33 illustrates the hardware configuration required to use the Gandalf LDS 120E modem for network link and remote supervisor login with a NAC 2 system.

Figure 5-34 illustrates the hardware configuration required to use the Develcon DS 511A modem for network link and remote supervisor login with a NAC 2 system.

For NAC 1, each remote supervisor login and network link requiring a limited-distance modem needs a straight-through NT1R03Dx cable, the modem cable NT7D99AA (SNN/SNN-E) or NT1R03HF (IPE/IPE-E), and the NT9D8001 cable illustrated in Figure 5-37.

Figure 5-35 illustrates the hardware configuration required to use the Gandalf LDS 120E modem for network link and remote supervisor login with a NAC 2 system.

Figure 5-36 illustrates the hardware configuration required to use the Develcon DS 511A modem for network link and remote supervisor login with a NAC 2 system.

Figure 5-33
NAC 2 Gandalf LDS 120E limited-distance modem hardware configuration for remote supervisor login or network link
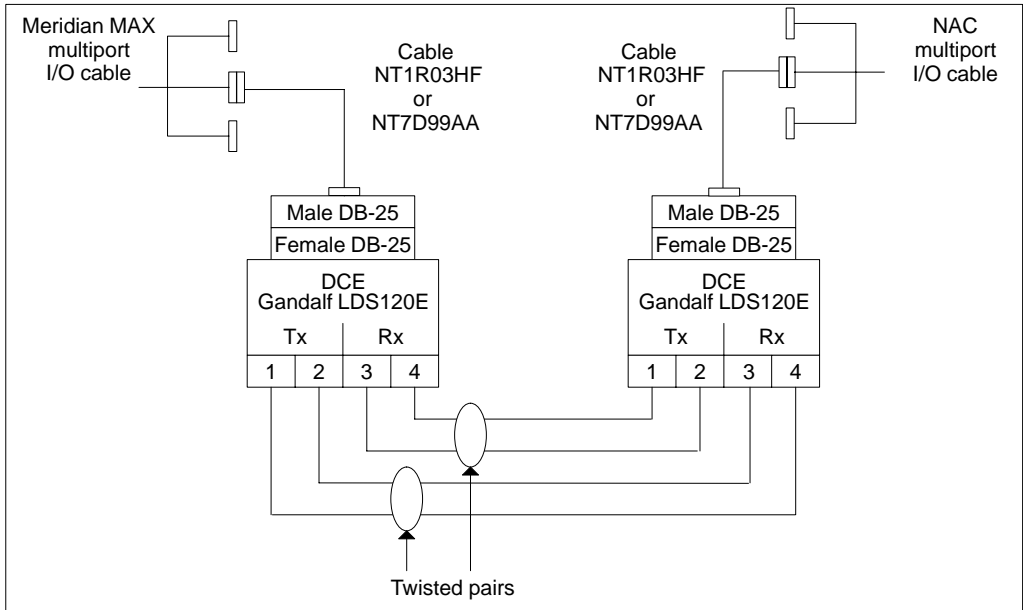
Figure 5-34
NAC 2 Develcon DS 511A limited-distance modem hardware configuration for remote supervisor login or network link
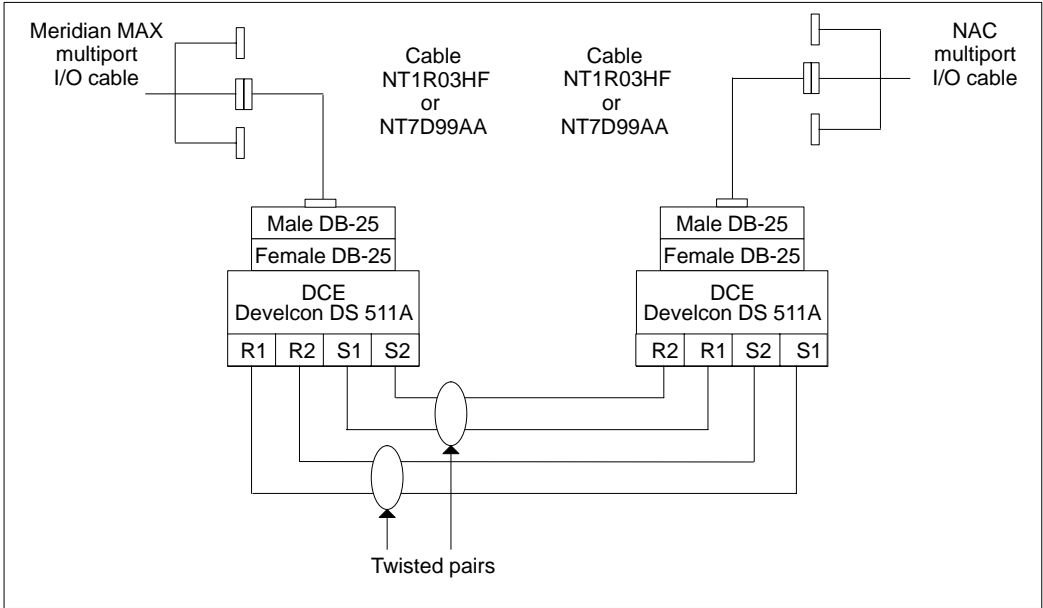
Figure 5-35
NAC 1 Gandalf LDS 120E limited-distance modem hardware configuration for network link or remote supervisor login
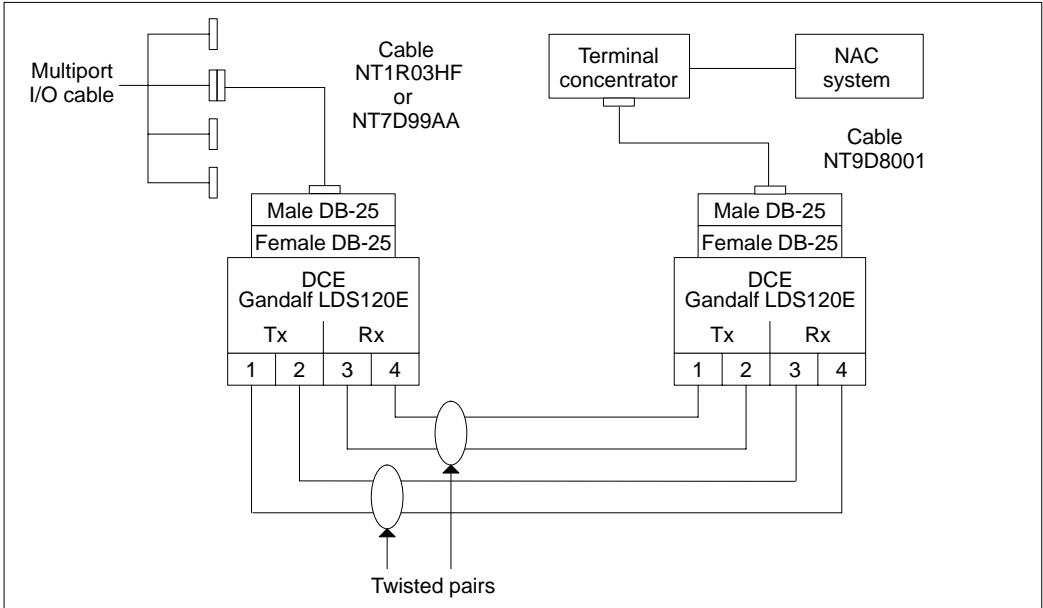
Figure 5-36
NAC 1 Develcon DS 511A limited-distance modem hardware configuration for network link or remote supervisor login
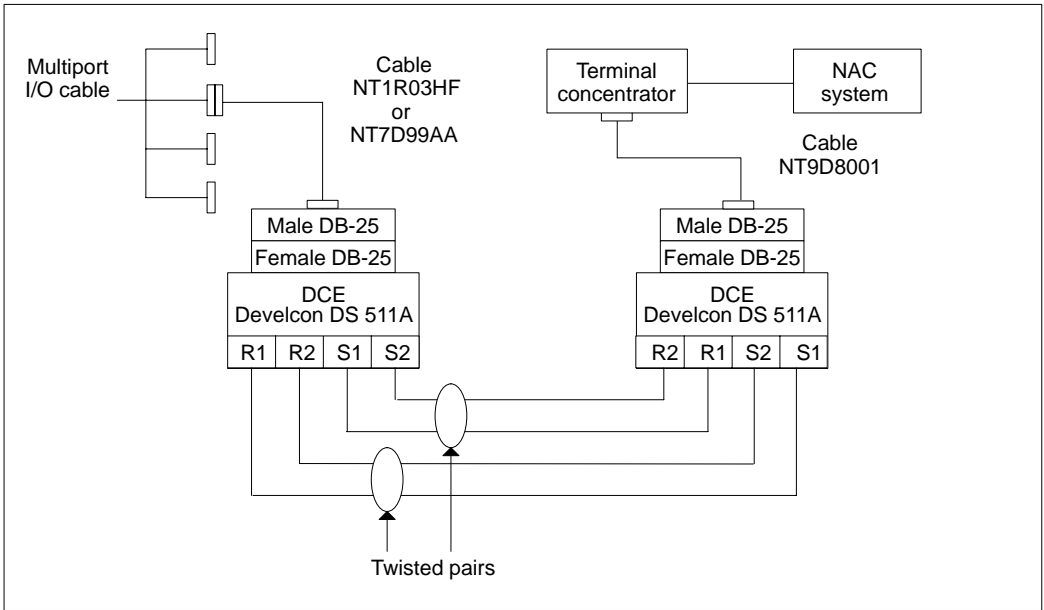
Figure 5-37
Cabling arrangement—modem connection cable NT9D8001
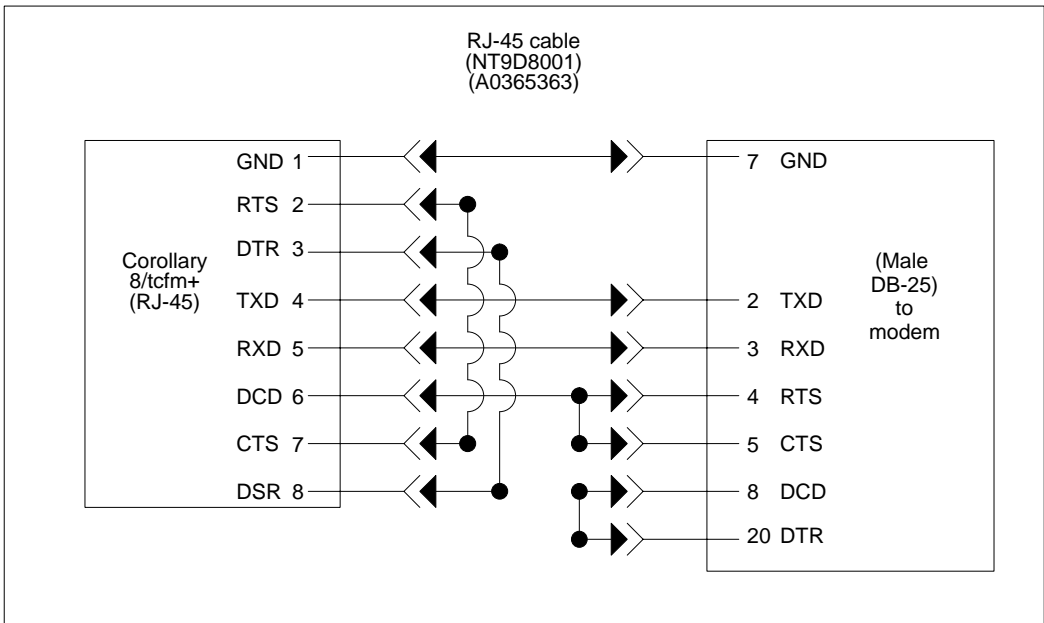
Connect one end of the NT7D99AA (SNN/SNN-E) to the VME multiport cable or the NT1R03HF (IPE/IPE-E) modem cable to the four-port I/O cable port, then connect the other end to the female DB-25 socket on the first Gandalf LDS 120E or Develcon DS 511A modem. The first Gandalf LDS 120E or Develcon DS 511A modem is connected to the second Gandalf LDS 120E or Develcon DS 511A modem with a 2-pair twisted cable of 24 AWG. This cable cannot exceed eight km (five miles).

For a NAC 2 system, the second Gandalf LDS 120E or Develcon DS 511A modem is connected to the NAC's VME multiport cable port using an NT7D99AA modem cable, with one DB-25 connector attached to the second Gandalf LDS 120E or Develcon DS 511A modem's female DB-25 socket, and the second male DB-25 connector attached to the NAC's VME multiport cable.

For a NAC 1 system, the second Gandalf LDS 120E or Develcon DS 511A modem is connected to the terminal concentrator through the NT9D8001 cable. A male DB-25 connector is attached to the second Gandalf LDS 120E or Develcon DS 511A modem's female DB-25 socket, with the RJ-45 connector attached to the terminal concentrator.

Gandalf LDS 120E modem settings

The following settings are necessary for the Gandalf LDS 120E modem to be used:

- Termination: T (330 OHM)

- Internal Jumper Plugs: 4-wire mode, J13-J14 connected and J15-J16 connected

- Front Panel Push-button Switches: <u>ALL OUT</u> - TP - RL - DL - AL

Table 5-7 lists the external DIP switch settings for point-to-point, full-duplex for the Gandalf LDS 120E. Table 5-8 lists the internal DIP switch settings for point-to-point, full-duplex.

Table 5-7
LDS 120E external DIP switch settings for point-to-point, full-duplex

Switch number	Switch setting
1	OPEN (OFF)
2	CLOSED (ON)
3	CLOSED (ON)
4	CLOSED (ON)
5	CLOSED (ON)
6	NOT USED

Table 5-8
LDS 120E internal DIP switch settings for point-to-point, full-duplex

Switch number	Switch setting
1	CLOSED (ON)
2	CLOSED (ON)
3	CLOSED (ON)
4	CLOSED (ON)
5	CLOSED (ON)
6	CLOSED (ON)

Once the modems are connected, turn on the power and ensure that the DCD lamp on each modem comes on. This will indicate that both Gandalf LDS 120E modems are active.

Please note that these instructions may vary depending on the equipment used at your site.

NAC 2 end
The cable between the NAC, running with a Meridian MAX SNN/SNN-E, and the limited-distance modem is modem cable NT7D99AA. Figure 5-38 illustrates this connection.

The cable between the NAC, running with a Meridian MAX IPE/IPE-E, and the limited distance modem is modem cable NT7D99AA. Figure 5-40 illustrates this connection.

Refer to the "Modems" section of the "Hardware installation" chapter of the *Network Administration Center (NAC) 2.0 Installation Guide* (NTP 553-4011-110) for further information.

NAC 1 end
The RJ-45 end of the NT9D8001 cable is connected to the corollary terminal concentrator at the NAC end. The other end of the cable is a DB-25 male connector, which is attached to a limited-distance modem.

Figures 5-39 and 5-41 illustrate this connection.

Refer to the "Modems" section of the "Hardware installation" chapter of *Network Administration Center (NAC) 1.0 Installation* (NTP 553-4011-100) for further information.

Meridian MAX end

The cable between the Meridian MAX, running on an SNN/SNN-E, and the limited-distance modem is modem cable NT7D99AA. Figure 5-39 illustrates this connection.

The cable between the Meridian MAX, running on an IPE/IPE-E module, and the limited-distance modem is modem cable NT1R03HF. Figure 5-41 illustrates this connection.

Figure 5-38
Connecting NAC 2 with a Meridian MAX node—limited-distance connection (SNN/SNN-E)
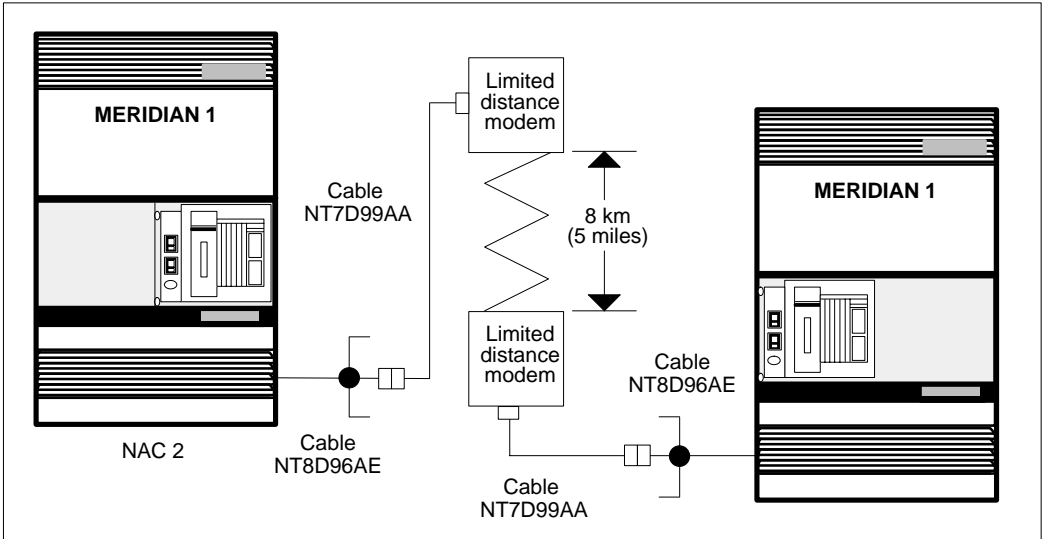
Figure 5-39
Connecting NAC 1 with a Meridian MAX node—limited-distance connection (SNN/SNN-E)
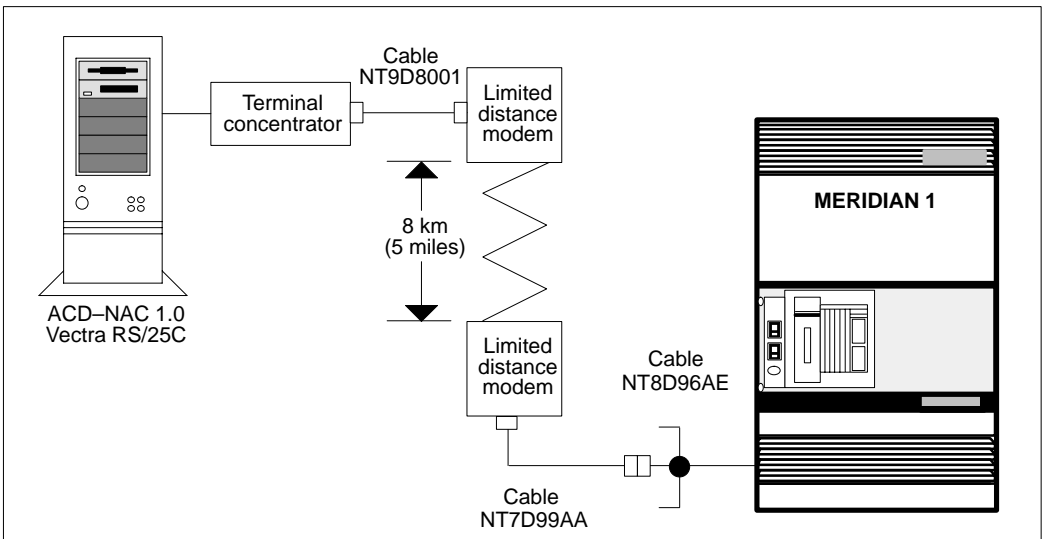
Figure 5-40
Connecting the NAC 2 with a Meridian MAX node—limited-distance connection (IPE/IPE-E)
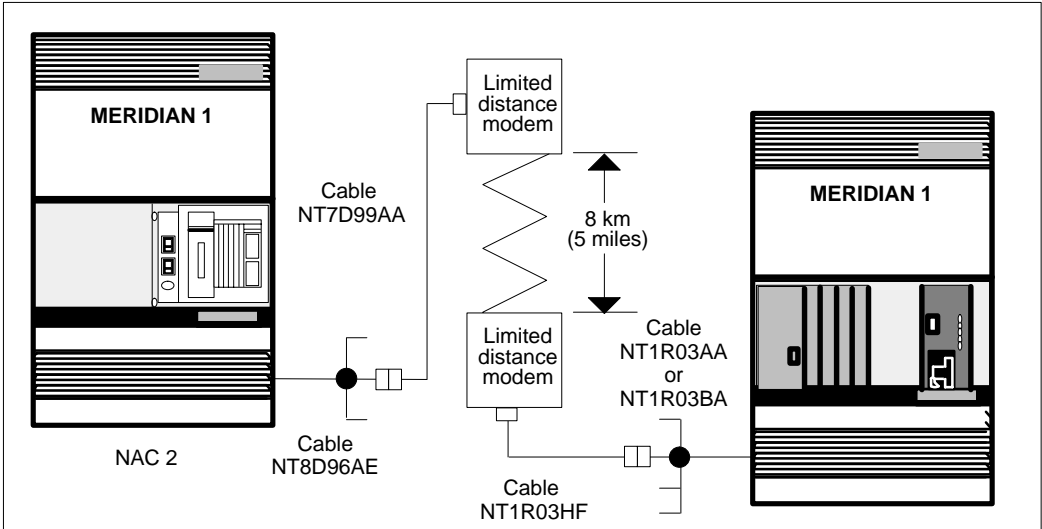
Figure 5-41
Connecting the NAC 1 with a Meridian MAX node—limited-distance connection (IPE/IPE-E)
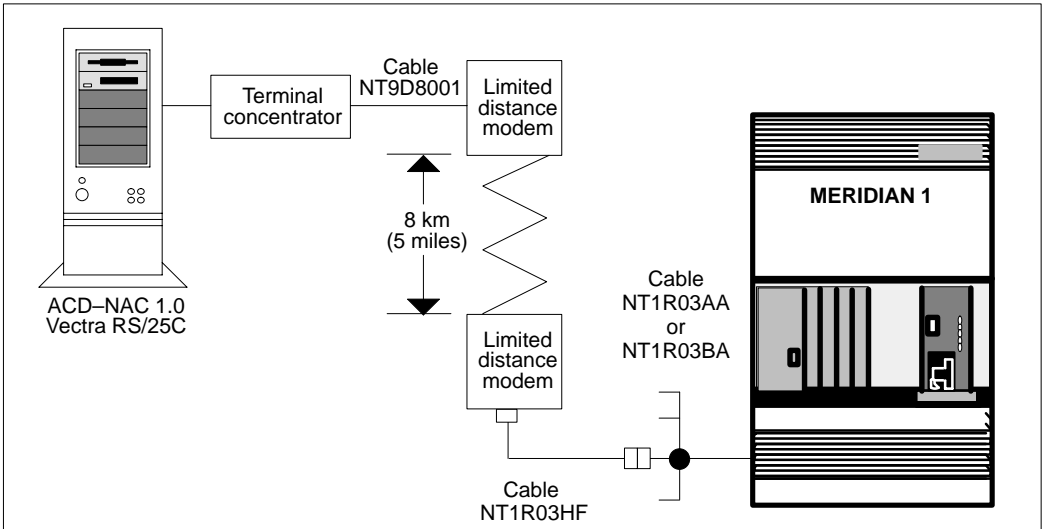
Dial-up modems for NAC connectivity

If the NAC system is beyond eight km (five miles) of the Meridian MAX SNN/SNN-E's VME multiport cable or the IPE/IPE-E's four-port I/O cable, then the dial-up connection method can be used. Dial-up modems can be used with both the remote supervisor login and network link.

All modems for NAC connectivity to Meridian MAX are cabled in the same fashion. This is outlined as follows.

NAC 2 end

The cable between the NAC, running a Meridian MAX SNN/SNN-E, and the dial-up modem is a modem cable NT7D99AA. Figure 5-42 illustrates this connection.

The cable between the NAC, running a Meridian MAX IPE/IPE-E system, and the dial-up modem is a modem cable NT7D99AA. Figure 5-44 illustrates this connection.

Refer to the "Modems" section of the "Hardware installation" chapter of *Network Administration Center (NAC) 2.0 Installation* (NTP 553-4011-110) for further information.

NAC 1 end

The RJ-45 end of the NT9D9007 cable is connected to the corollary terminal concentrator at the NAC end. The other end of the cable is a DB-25 male connector, which is attached to a dial-up modem.

Figures 5-43 and 5-45 illustrate this connection.

Figure 5-46 shows the cabling arrangement for the NT9D9007 cable.

Refer to the "Modems" section of the "Hardware installation" chapter of *Network Administration Center (NAC) 1.0 Installation* (NTP 553-4011-100) for further information.

Meridian MAX end

The cable between the Meridian MAX SNN/SNN-E and the dial-up modem is a modem cable NT7D99AA. Figure 5-43 illustrates this connection.

The cable between the Meridian MAX IPE/IPE-E and the dial-up modem is a modem cable NT1R03HF. Figure 5-45 illustrates this connection.

Figure 5-42
Connecting the NAC 2 with a Meridian MAX node—dial-up connection (SNN/SNN-E)
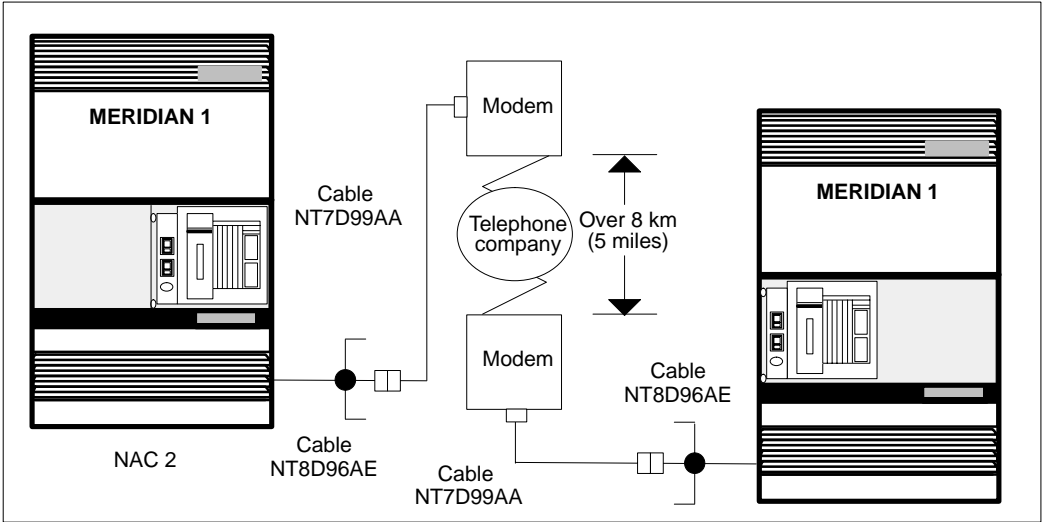
Figure 5-43
Connecting the NAC 1 with a Meridian MAX node—dial-up connection (SNN/SNN-E)
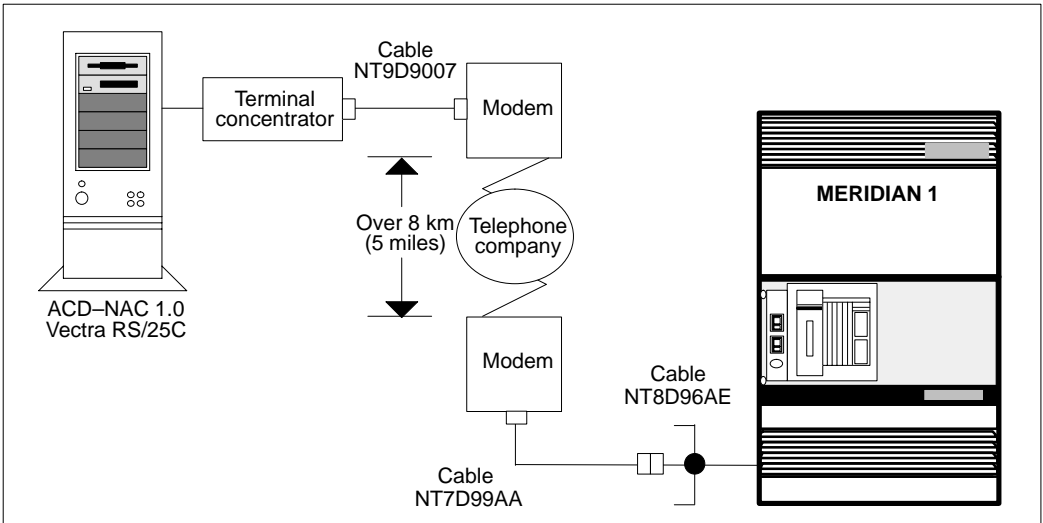
Figure 5-44
Connecting the NAC 2 with a Meridian MAX node—dial-up connection (IPE/IPE-E)
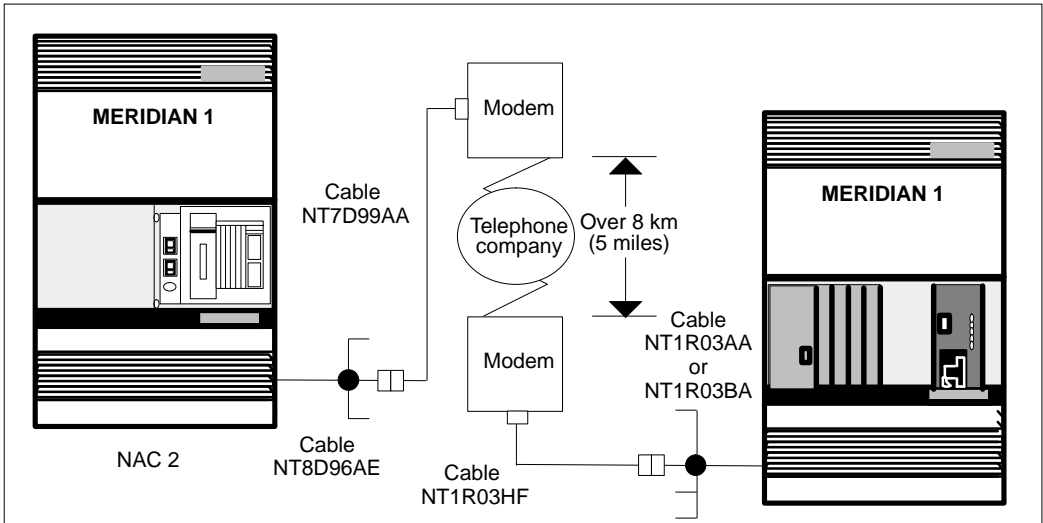
Figure 5-45
Connecting the NAC 1 with a Meridian MAX node—dial-up connection (IPE/IPE-E)
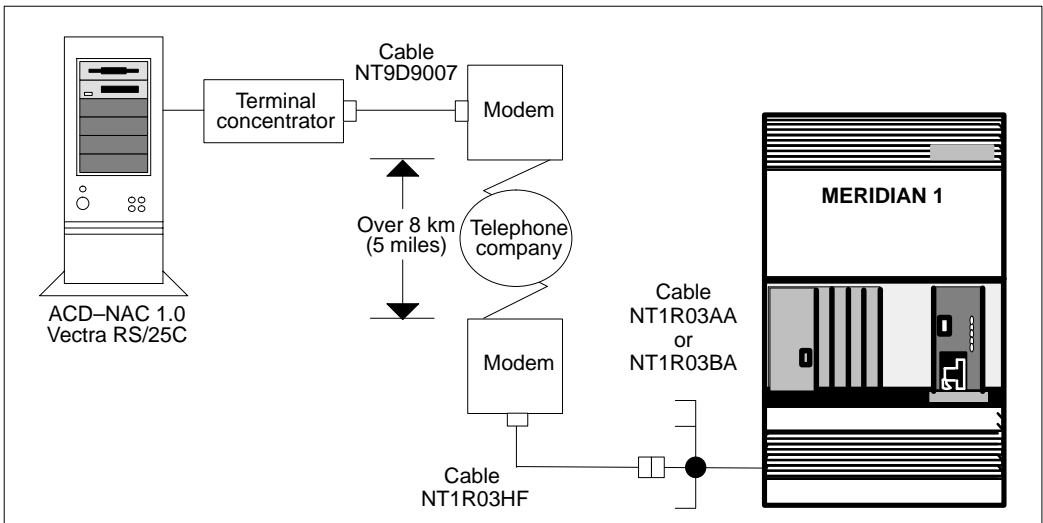
Figure 5-46
Cabling arrangement—direct connection cable NT9D9007
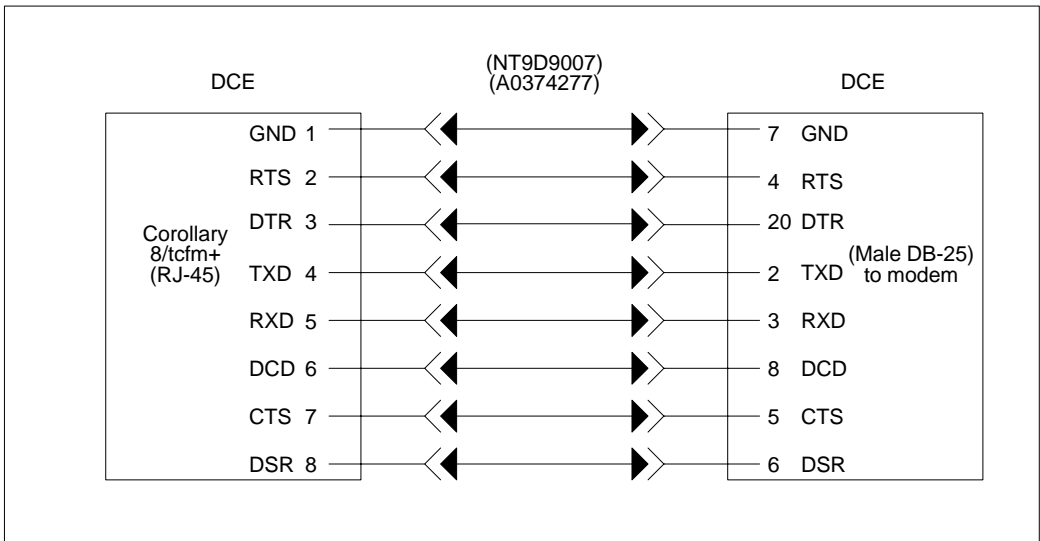
Remote supervisor login

The following modems can be used for remote supervisor logins:

- NetComm SmartModem M7F

- UDS 2440

- Ven-Tel 2400 Plus II

- Ven-Tel 9600 Plus

- Racal VI2422PA

- UDS EC224 A/D

- U.S. Robotics 28.8 Sportster modem

Both the NAC and Meridian MAX ends of the remote supervisor login connection send Hayes AT modem initialization strings.

NetComm SmartModem M7F

To properly set up the NetComm modem for remote supervisor login, ensure that the modem's switch settings match those shown in Figure 5-47. The same switch settings should be used at both the remote end and the Meridian MAX end.

Note: There are two buttons located on the front panel of the modem: Mode and Talk/Data. For use with the NetComm modem, the Talk/Data button should be pressed.

Figure 5-47
NetComm SmartModem M7F modem switch settings

FRONT   REAR

        1   2   3   4   5   6   DSR DTR RTS CD

OFF   UP

ON   DOWN
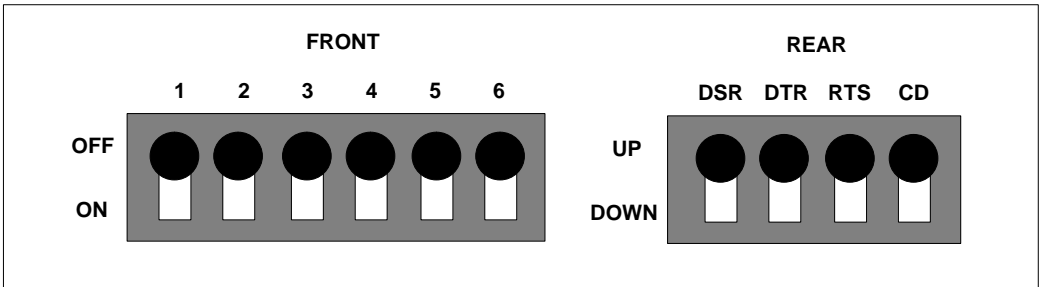
UDS 2440

Figure 5-10 shows the front and rear view of the UDS 2440 dial-up supervisor modem. This modem connects to the SNN/SNN-E's multiport cable using an NT7D99AA cable. This modem connects to the IPE/IPE-E's multiport cable using an NT1R03HF cable.

No internal switch settings are required to configure the UDS 2440 modem for remote supervisor login. Refer to the "Dial-up supervisor modem" section, "UDS 2440" subsection, for more information.

Ven-Tel 2400 Plus II

To properly set up the Ven-Tel 2400 Plus II modem for use as a remote supervisor login, ensure that the switch settings match those shown in Figure 5-48.

Figure 5-48
Ven-Tel 2400 Plus II remote supervisor login modem switch settings

        1   2   3   4   5   6   7   8   9   10

ON

OFF
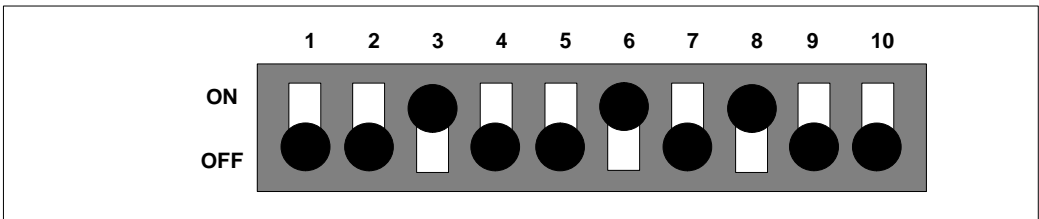
Ven-Tel 9600 Plus

To properly set up the Ven-Tel 9600 Plus modem for use as a remote supervisor login, ensure that the switch settings match those shown in Figure 5-49.

Figure 5-49
Ven-Tel 9600 Plus remote supervisor login modem switch settings
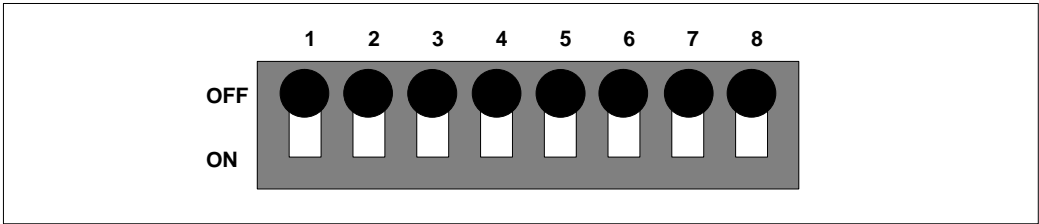
Racal VI2422PA

There are no internal switch settings required to configure the Racal VI2422PA modem for use as a remote supervisor login.

UDS EC224A/D 2400

To properly set up the UDS EC224 A/D modem for use as a remote supervisor login, ensure that the switch settings match those shown in Figure 5-50.

Figure 5-50
UDS EC224A/D 2400 remote supervisor login modem switch settings
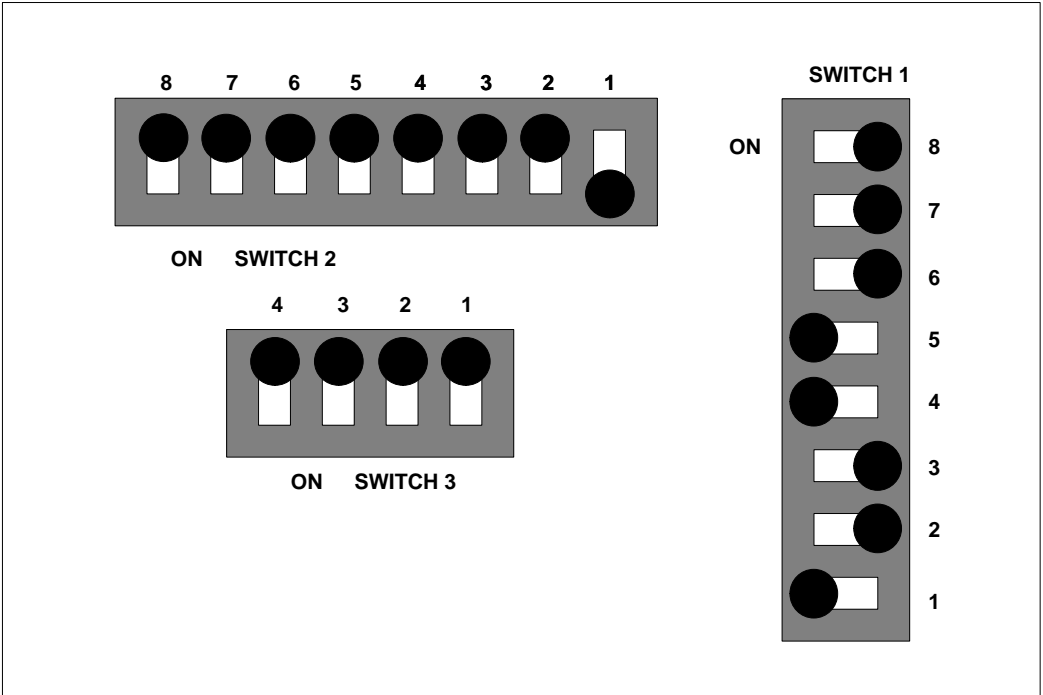
U.S. Robotics 28.8 Sportster modem

To properly set up the U.S. Robotics 28.8 Sportster modem for use as a remote supervisor login, ensure that the switch settings match those shown in Figure 5-51.

Figure 5-51
U.S. Robotics 28.8 Sportster remote supervisor login modem switch settings
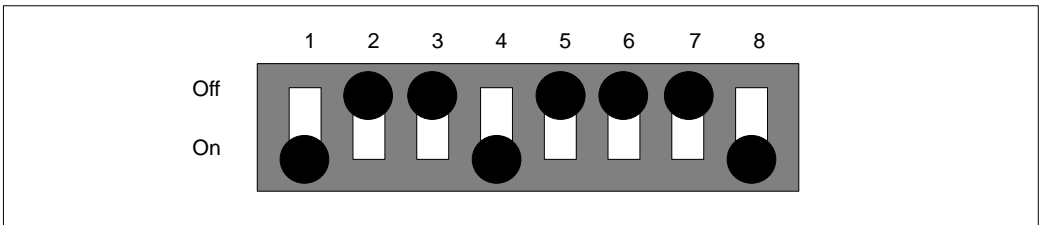
Network link

The following modems can be used for network link:

- NetComm SmartModem M7F

- UDS 2440

- Ven-Tel 2400 Plus II

- Ven-Tel 9600 Plus

- Racal VI2422PA

- U.S. Robotics 28.8 Sportster modem

NetComm SmartModem M7F

To properly set up the NetComm modem for network link, ensure that the modem's switch settings match those shown in Figure 5-52. The same switch settings should be used at both the remote end and the Meridian MAX end.

Note: There are two buttons located on the front panel of the modem: Mode and Talk/Data. For use with the NetComm modem, the Talk/Data button should be pressed.

Figure 5-52
NetComm SmartModem M7F modem switch settings
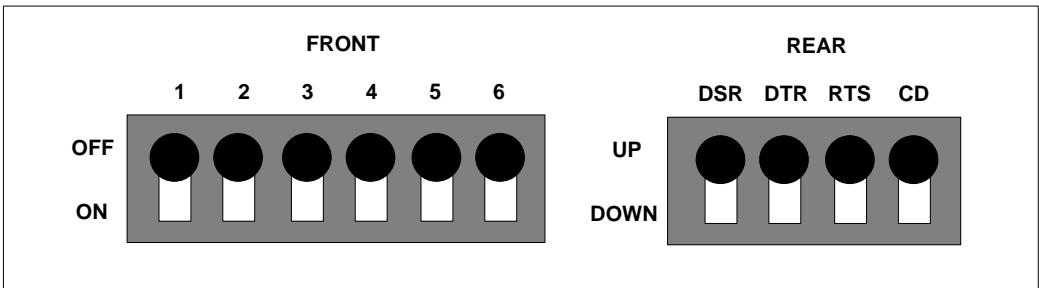
Complete the steps in Procedure 5-12 to configure the NetComm modem for network link.

Procedure 5-12
Configuring the NetComm SmartModem M7F for network link

1   Connect a workstation to the modem with a straight-through NT1R03Dx or NT1R03Ex cable. Set the workstation speed to 2400 baud.

2   Connect the workstation and the modem to their power sources.

3   Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

4   Enter **atz** followed by **{RETURN}**.

   OK

5   Enter **at&f** followed by **{RETURN}**.

   OK

6   Enter **at&d0** followed by **{RETURN}**.

   OK

7   Enter **at&c1** followed by **{RETURN}**.

   OK

8   Enter **at\n3** followed by **{RETURN}**.

   OK

9   Enter **at\q3** followed by **{RETURN}**.

   OK

10 Enter **at&z1=t#######** followed by **{RETURN}**.
####### must be replaced with the correct telephone number for the
NAC node.

OK

11 Enter **at&w** followed by **{RETURN}**.

NONE

12 Power down the workstation and the modem.

13 Disconnect the workstation from the modem.

14 Make sure the modem at the NAC site is properly connected and
powered up. The NAC initiates the signal that connects the modems.

The Meridian MAX modem dials the NAC telephone number as
recorded during Step 10.

The connection between the NAC site and the Meridian MAX site is
confirmed when the Carrier Detect (CD) LED remains constantly on.

15 For an SNN/SNN-E system, connect the modem directly to the
Meridian MAX multiport cable using an NT7D99AA modem cable.

For IPE/IPE-E systems, connect the modem directly to the Meridian
MAX multiport cable using an NT1R03HF modem cable.

Make sure the modem is connected to the telephone system with an
RJ-11 cable/connector.

16 Power up the modem.

If your Meridian MAX system is powered up and fully functional, you
should see the LED labeled "TR" light up on the front panel of the
modem. If the "TR" LED does not light up, retry this procedure. If the
light still does not appear, contact your Nortel representative.

UDS 2440

Figure 5-10 shows the front and rear view of the UDS 2440 network link modem. This modem connects to the SNN/SNN-E's multiport cable using an NT7D99AA cable.

The UDS 2440 modem does not contain any internal switch settings. Complete Procedure 5-13 to configure the UDS 2440 modem for network link.

Procedure 5-13
Configuring the UDS 2440 modem for network link

1   Connect a workstation to the modem with a straight-through NT1R03Dx or NT1R03Ex cable. Set the workstation speed to 2400 baud.

2   Connect the workstation and the modem to their power sources.

3   Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

4   Enter **atz** followed by **{RETURN}**.

    OK

5   Enter **at&f** followed by **{RETURN}**.

    OK

6   Enter **at&d3** followed by **{RETURN}**.

    OK

7   Enter **at&s1** followed by **{RETURN}**.

    OK

8   Enter **at&c1** followed by **{RETURN}**.

    OK

9   Enter **at&z0=t#######** followed by **{RETURN}**.
    ####### must be replaced with the correct telephone number for the NAC node.

    OK

10 Enter **at&w** followed by **{RETURN}**.

    OK

11 Power down the workstation and the modem.

12 Disconnect the workstation from the modem.

13 For an SNN/SNN-E system, connect the modem directly to the Meridian MAX multiport cable using an NT7D99AA modem cable.

For IPE/IPE-E systems, connect the modem directly to the Meridian MAX multiport cable using an NT1R03HF modem cable.

Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

14 Power up the modem.

If your Meridian MAX system is powered up and fully functional, you should see the LED labeled "TR" light up on the front panel of the modem. If the "TR" LED does not light up, retry this procedure. If the light still does not appear, contact your Nortel representative.

Ven-Tel 2400 Plus II

To properly set up the Ven-Tel 2400 Plus II modem for use as a network link, ensure that the switch settings match those shown in Figure 5-53, and follow the instructions given in Procedure 5-14.

Figure 5-53
Ven-Tel 2400 Plus II network link modem switch settings
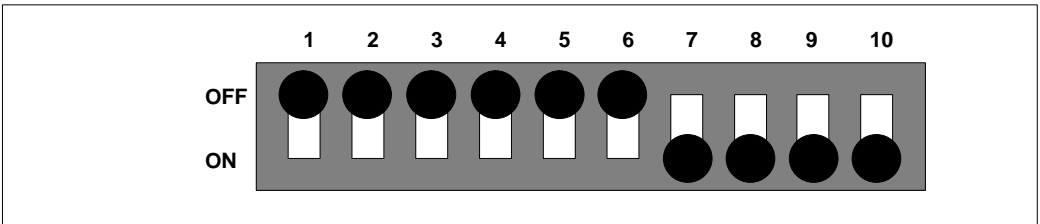
Procedure 5-14
Configuring the Ven-Tel 2400 Plus II modem for network link

1 Open the modem and ensure that the switch settings are correct as shown in Figure 5-53. Set the workstation speed to 2400 baud.

2 Connect a workstation to the modem with a straight-through NT1R03Ex cable.

3 Connect the workstation and the modem to their power sources.

4 Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

5 Enter **at&f** followed by **{RETURN}**.

OK

6 Enter **at&d0** followed by **{RETURN}**.

OK

7 Enter **at&c1** followed by **{RETURN}**.

OK

8 Enter **at\n1** followed by **{RETURN}**.

OK

9 Enter **at\g1** followed by **{RETURN}**.

OK

10 Enter **at\q1** followed by **{RETURN}**.

OK

11 Enter **at\x1** followed by **{RETURN}**.

OK

12 Enter **at\j1** followed by **{RETURN}**.

OK

13 Enter **at\c1** followed by **{RETURN}**.

OK

14 Enter **ats64=1** followed by **{RETURN}**.

OK

15 Enter **ats0=1** followed by **{RETURN}**.

OK

16 Enter **at&z1=t#######** followed by **{RETURN}**.
####### must be replaced with the correct telephone number for the
NAC node.

OK

17 Enter **atq1** followed by **{RETURN}**.

NONE

18 Enter **ate0** followed by **{RETURN}**.

NONE

The following command will not appear on the screen when you enter it.

19 Enter **at&w** followed by **{RETURN}**.

NONE

20 Power down the workstation and the modem.

21 Disconnect the workstation from the modem.

22 Make sure that the modem at the NAC site is properly connected and powered up. The NAC initiates the signal that connects the modems.

The Meridian MAX modem will dial the NAC telephone number as recorded during Step 16.

The connection between the NAC site and the Meridian MAX site is confirmed when the carrier detect (CD) LED remains constantly on.

23 For an SNN/SNN-E system, connect the modem directly to the Meridian MAX multiport cable using an NT7D99AA modem cable.

For IPE/IPE-E systems, connect the modem directly to the Meridian MAX multiport cable using an NT1R03HF modem cable.

Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

24 Power up the modem.

If your Meridian MAX system is powered up and fully functional, you should see the LED labeled "TR" light up on the front panel of the modem. If the "TR" LED does not light up, retry this procedure. If the light still does not appear, contact your Nortel representative.

Ven-Tel 9600 Plus

To properly set up the Ven-Tel 9600 Plus modem for use as a network link, ensure that the switch settings match those shown in Figure 5-54, and follow the instructions given in Procedure 5-15.

Make sure power pack model # L5730-01 is used.

Figure 5-54
Ven-Tel 9600 Plus network link modem switch settings
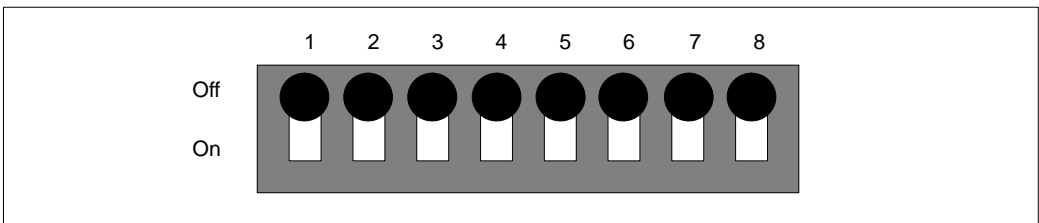
Procedure 5-15
Configuring the Ven-Tel 9600 Plus modem for network link

1   Open the modem and ensure that the switch settings are correct as shown in Figure 5-54. Set the workstation speed to 9600 baud.

2   Connect a workstation to the modem with a straight-through NT1R03Ex cable.

3   Connect the workstation and the modem to their power sources.

4   Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

5   Enter **at&f** followed by **{RETURN}**.

    OK

6   Enter **at%f2** followed by **{RETURN}**.

    OK

7   Enter **at&d0** followed by **{RETURN}**.

    OK

8   Enter **at&c1** followed by **{RETURN}**.

    OK

9   Enter **at\n3** followed by **{RETURN}**.

    OK

10 Enter **at\q3** followed by **{RETURN}**.

OK

11 Enter **ats64=1** followed by **{RETURN}**.

OK

12 Enter **ats0=1** followed by **{RETURN}**.

OK

13 Enter **at&z1=t#######** followed by **{RETURN}**.

####### must be replaced with the correct telephone number for the Meridian MAX node.

OK

14 Enter **atq1** followed by **{RETURN}**.

OK

15 Enter **ate0** followed by **{RETURN}**.

OK

16 The following command does not appear on the screen when you enter it.

Enter **at&w1&y1** followed by **{RETURN}**.

NONE

17 Power down the workstation and the modem.

18 Disconnect the workstation from the modem.

19 Make sure the modem at the NAC site is properly connected and powered up. The NAC initiates the signal that connects the modems.

The Meridian MAX modem will dial the NAC telephone number as recorded during Step 13.

The connection between the NAC site and the Meridian MAX site is confirmed when the carrier detect (CD) LED remains constantly on.

20 For an SNN/SNN-E system, connect the modem directly to the Meridian MAX multiport cable using an NT7D99AA modem cable.

For IPE/IPE-E systems, connect the modem directly to the Meridian MAX multiport cable using an NT1R03HF modem cable.

Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

21 Power up the modem.

If your Meridian MAX system is powered up and fully functional, you should see the LED labeled "TR" light up on the front panel of the modem. If the "TR" LED does not light up, retry this procedure. If the light still does not appear, contact your Nortel representative.

Racal VI2422PA

There are no internal switch settings required to configure the Racal VI2422PA modem for use as a network link.

To properly set up the Racal VI2422PA modem for use as a network link, follow the instructions given in Procedure 5-16.

Procedure 5-16
Configuring the Racal VI2422PA modem for network link

1 Connect a workstation with data format 8N1 and speed 2400 baud to the modem with a straight-through NT1R03Ex cable.

2 Connect the workstation and the modem to their power sources.

3 Power up the workstation and the modem, then enter the following commands on the workstation keyboard.

4 Enter **at&f** followed by **{RETURN}**.

OK

5 Enter **at*f0** followed by **{RETURN}**.

OK

6 Enter **at&zt#######** followed by **{RETURN}**.
####### must be replaced with the correct telephone number for the NAC node.

OK

7 Enter **atq1** followed by **{RETURN}**.

NONE

8 Enter **ate0** followed by **{RETURN}**.

NONE

9 The following command does not appear on the screen when you enter it.

Enter **at&w** followed by **{RETURN}**.

NONE

10 Power down the workstation and the modem.

11 Disconnect the workstation from the modem.

12 For an SNN/SNN-E system, connect the modem directly to the Meridian MAX multiport cable using an NT7D99AA modem cable.

For IPE/IPE-E systems, connect the modem directly to the Meridian MAX multiport cable using an NT1R03HF modem cable.

Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

13 Power up the modem.

14 Through the use of the Racal modem's front panel, choose option 1 and set the value to **1**. Choose option 13 and set the value to **2**.

15 Make sure the modem at the NAC site is properly connected and powered up. The NAC initiates the signal that connects the modems.

The Meridian MAX modem dials the NAC telephone number as recorded during Step 6.

The connection between the NAC site and the Meridian MAX site is confirmed when the carrier detect (CD) LED remains constantly on.

U.S. Robotics 28.8 Sportster modem

Follow Procedure 5-17 to configure the U.S. Robotics 28.8 Sportster
modem for a network link.

Figure 5-55
U.S. Robotics 28.8 Sportster network link modem switch settings for programming mode
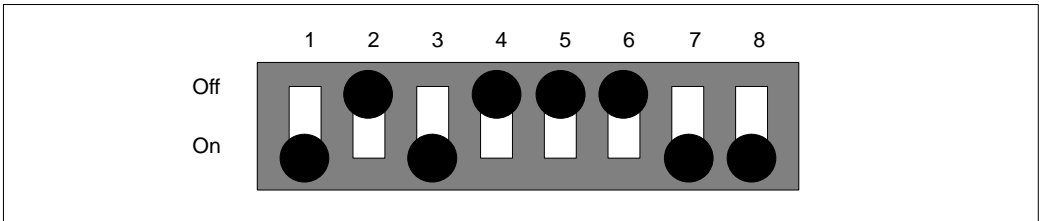
Procedure 5-17
Configuring the U.S. Robotics 28.8 Sportster modem for network link

1   Configure the modem switch setting as shown in Figure 5-55.

2   Set the workstation speed to 9600 baud.

3   Connect the workstation to the modem with a straight-through cable
    (NT1R03Dx or NT1R03Ex).

4   Connect the workstation and the modem to their power sources.
    Ensure that the modem is connected to the telephone system with an
    RJ-11 cable/connector.

5   Power up the workstation and the modem.

6   At the workstation keyboard, enter **AT&F** followed by **{RETURN}**.

    The system responds with

    OK

7   Enter **AT*B1** followed by **{RETURN}**.

    OK

8   Enter **AT&Z1=T#######** followed by **{RETURN}**.
    The ####### must be replaced with the correct telephone number for
    the Meridian MAX node.

    OK

9   Enter **ATE0** followed by **{RETURN}**.

    OK

10 Enter **AT&W1&Y1** followed by **{RETURN}**.
This command does not appear on the screen.

OK

11 Power off the modem.

12 Configure the modem's switch settings as shown in Figure 5-56.

Figure 5-56
U.S. Robotics Sportster 28.8 modem switch settings for operating mode
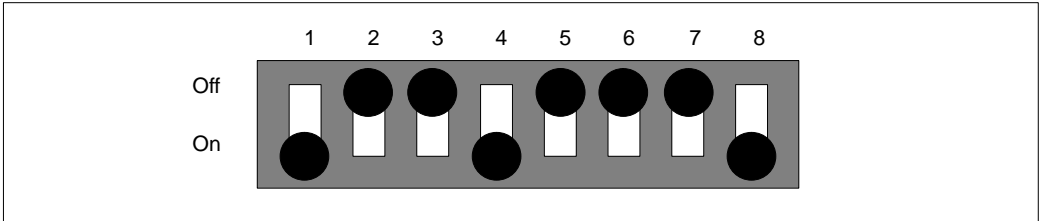
13 Disconnect the modem from the workstation.

14 Ensure that the modem at the NAC site is properly connected and powered up.

The NAC initiates the signal that connects the modems.

The Meridian MAX modem dials the NAC telephone number as recorded during step 8.

The connection between the NAC site and the Meridian MAX site is confirmed when the carrier detect (CD) LED remains constantly on.

15 For an SNN/SNN-E, connect the modem directly to the Meridian MAX multiport cable using an NT7D99AA modem cable.

For an IPE/IPE-E, connect the modem directly to the Meridian MAX multiport cable using an NT1R03HF modem cable.

Ensure that the modem is connected to the telephone system with an RJ-11 cable/connector.

16 Power up the modem.

If your Meridian MAX system is powered up and functional, the LED labeled "TR" will light up on the front panel of the modem. If the "TR" LED does not light up, repeat this procedure. If the light still does not appear, contact your Nortel representative.

T1 connection for NAC connectivity

The NAC system can be connected to a Meridian MAX node through digital lines such as a T1 digital line. During the system's installation, the network link port on the NAC and the Meridian MAX must be configured as direct connection ports. On the NAC system, the network link baud rate should be set to 9600 through the Network Definition screen.

The T1 ports (Data Module or DSU) for the network link should be set up as follows:

- asynchronous

- full duplex

- 9600 baud

- 8 data bits, no parity, 1 stop bit

- T1 network delay must be less than 0.5 second

- RS-232/C

- DCE or DTE (DCE is recommended)

If the T1 port for the network link provides a DB-25 interface, then the network link is connected as follows:

- If the T1 port is configured as DCE, then the modem cable NT7D99AA (SNN/SNN-E) or NT1R03HF (IPE/IPE-E) is used to connect the T1 port to the IPE/IPE-E four-port I/O cable or the SNN/SNN-E VME multiport cable's network link port on the Meridian MAX.

- If the T1 port is configured as DTE, then the terminal cable NT1R03Dx is used to connect the T1 port to the IPE/IPE-E four-port I/O cable or SNN/SNN-E VME multiport cable's network link port on the Meridian MAX.

Note that it is desirable to have both ports of the T1 link configured as DCE. Setting up both ports as DTE is not recommended.

If the T1 data bank does not provide a DB-25 interface, then a patch panel or similar equipment should be installed to provide the required RS-232/C interface. In this case, the T1 connection will be from the patch panel to the corollary terminal concentrator in the NAC or the four-port cable in the Meridian MAX systems.

Due to the wide variety of T1 equipment available, it is important that the T1 administrator be consulted before installing the network link.

Direct connection for NAC connectivity

If the NAC system is within 15 meters (50 feet) of the four-port I/O cable used by a Meridian MAX nodal system, then you can use the direct connection method.

Because Meridian MAX and NAC 2 both run on the Application Module (AM) hardware platform, the two systems may be installed in the same Application Equipment Module (AEM).

NAC 2 end

The cable between the NAC, running with a Meridian MAX SNN/SNN-E, and the VME multiport cable is modem cable NT7D99AA. Figure 5-57 illustrates this connection.

The cable between the NAC, running with a Meridian MAX IPE/IPE-E system, and the four-port I/O cable port is modem cable NT7D99AA. Figure 5-59 illustrates this connection.

Refer to the "Modems" section of the "Hardware installation" chapter of the *Network Administration Center (NAC) 2 Installation Guide* (NTP 553-4011-110) for further information.

NAC 1 end

The RJ-45 end of the NT9D9007 cable is connected to the corollary terminal concentrator at the NAC end.

Figure 5-46 shows the cabling arrangement for the NT9D9007 cable.

Meridian MAX end

If Meridian MAX is connected to a NAC 2 system, one DB-25 end of the NT7D99AA cable is connected to the NT8D96AE multiport cable (SNN/SNN-E) or the NT1R03AA/BA cable (IPE/IPE-E) at the Meridian MAX end. Figures 5-57 and 5-59 illustrate these connections.

If Meridian MAX is connected to a NAC 1 system, the DB-25 end of the NT9D9007 cable is connected to the NT8D96AE multiport cable (SNN/SNN-E) or the NT1R03AA/BA cable (IPE/IPE-E) at the Meridian MAX end. Figures 5-58 and 5-60 illustrate these connections.

Figure 5-57
Connecting the NAC 2 to a Meridian MAX node—direct connection (SNN/SNN-E)
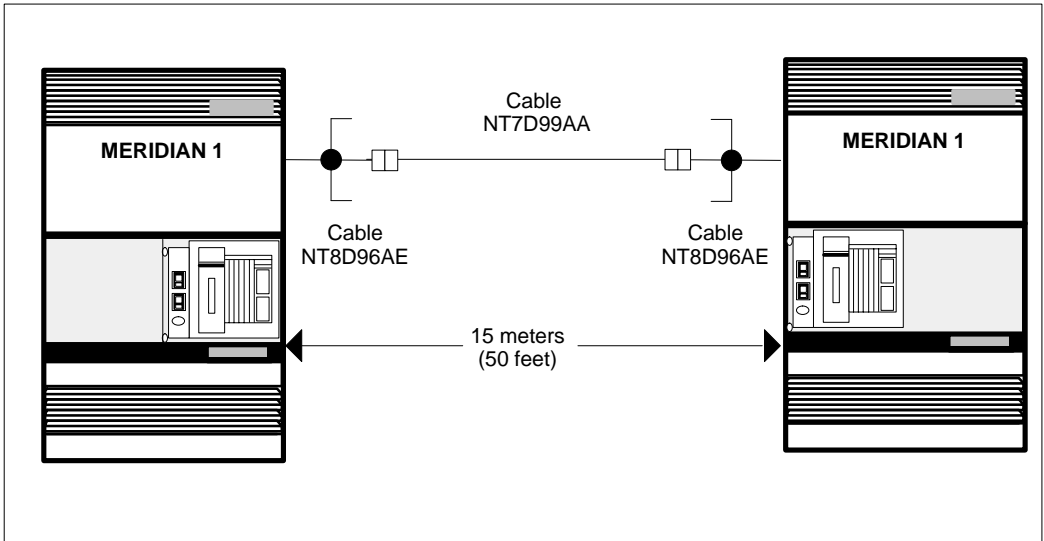
Figure 5-58
Connecting the NAC 1 to a Meridian MAX node—direct connection (SNN/SNN-E)
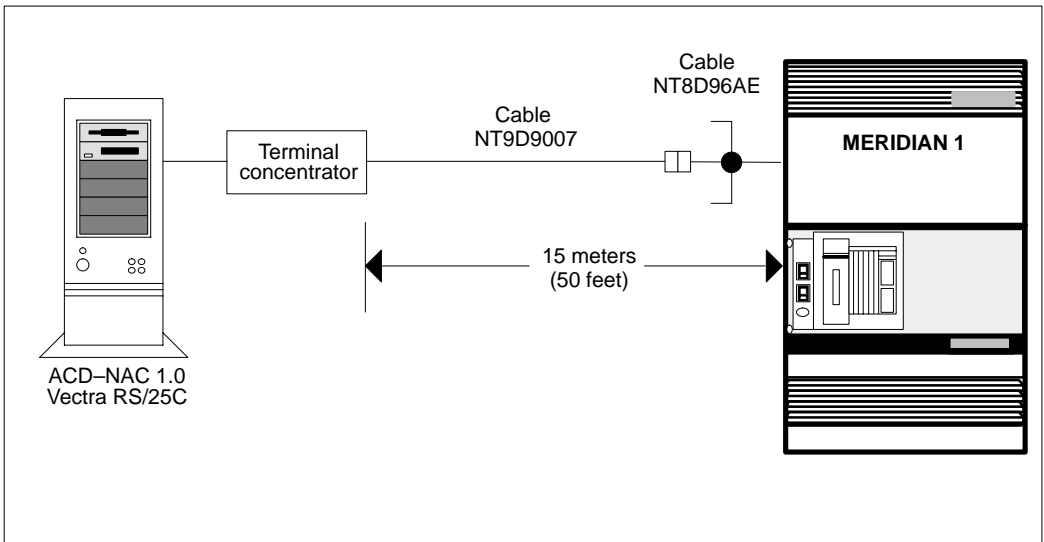
Figure 5-59
Connecting the NAC 2 to a Meridian MAX node—direct connection (IPE/IPE-E)
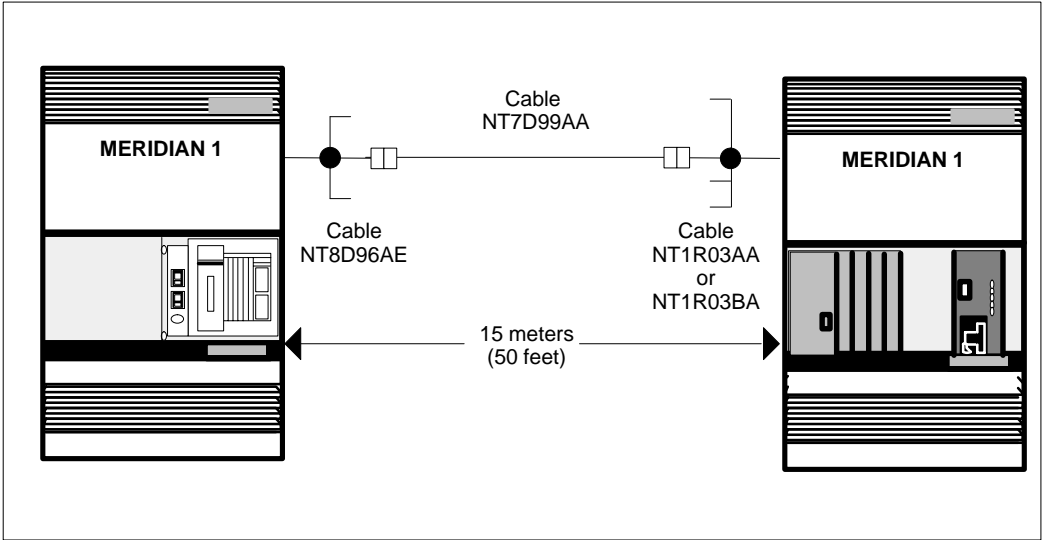
Figure 5-60
Connecting the NAC 1 to a Meridian MAX node—direct connection (IPE/IPE-E)
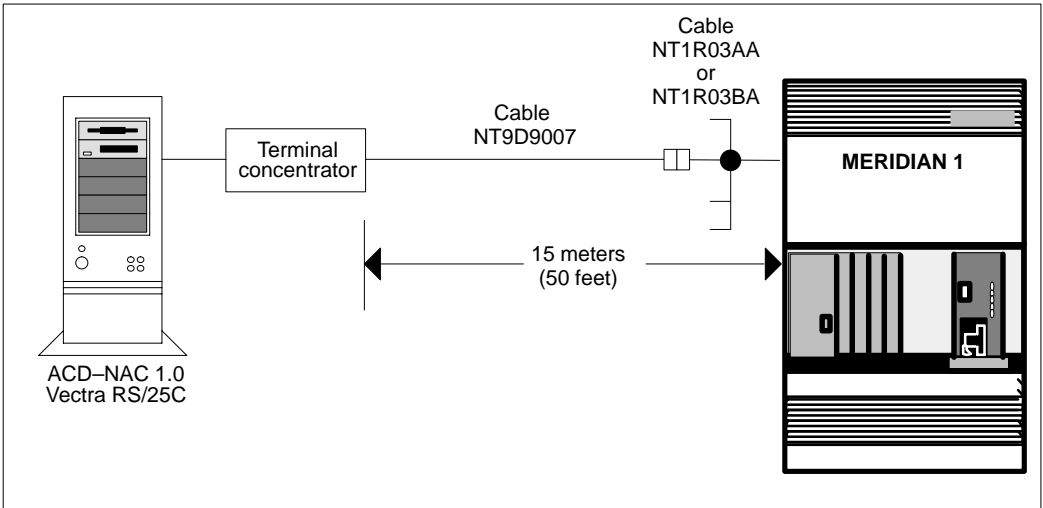
Chapter 6: Workstations

Overview

Workstations are used by the network supervisors to control the operation of the Meridian MAX.

Workstations available for the Meridian MAX can be separated into two categories: personal computers (PCs) and video display terminals (VDTs). Table 6-1 lists each type of workstation and the gender of its serial port.

Note: The maintenance console controls the installation and upgrade procedures, as well as the maintenance and administration programs. This console supports DEC VT520, VT420, VT220, HP 700/32, or 100%-compatible display terminals. If your workstation is being used as a system console, a female-to-female gender changer, A0351509, is required.

Table 6-1
Workstations—serial port genders

Workstation type	Gender
PC (running Reflection 4+ for DOS or the Meridian Terminal Emulator)	Male DB-25 or DB-9
DEC VT520, VT420, VT220, HP700/32 (or 100%-compatible models)	Male DB-25

PCs supported by the Meridian MAX are the IBM PS/2, IBM AT (and 100% compatibles) with the following:

- AT-style keyboard
- 512 kbytes of RAM

- Paradise EGA or VGA card with 256 kbytes of memory

- two floppy disk drives or one floppy disk drive and hard disk (3.5 in. or 5.25 in. disk drives can be used)

- serial communications port

- PC-DOS/MS-DOS Version 5.0 or higher

- Reflection 4+ for DOS

- Meridian Terminal Emulator (MTE) for DOS (Version 5.32) or Windows (Version 6, 7, or 8)

The VDTs supported by the Meridian MAX are the DEC VT520, VT420, VT220, and 100% compatibles.

Unpack and assemble the workstation (PC) by following the installation instructions given in the manufacturer's user manual. Perform all setup and diagnostic routines to ensure the viability of the equipment. This includes formatting the hard disk (if present) as the DOS start-up drive.

Connect the workstation to the NT8D96AE cable for the Application Module or the NT1R03AA or NT1R03BA cable for the IPE/IPE-E module. Refer to the "Cables" section of the "Hardware installation: Application Module (SNN/SNN-E)" chapter or "Hardware installation: Intelligent Peripheral Equipment module" for more information on these cables.

Install the Reflection 4+ or MTE software to the hard disk (if present). Reflection 4+ and MTE can be used on the same Meridian MAX but not on the same PC. Before you start or restart the Meridian MAX, and each time you power up the PC, you must follow the instructions described in the "Reflection 4+" section or the "Meridian Terminal Emulator" section.

To configure your workstation, refer to the "Workstation, HSL, and LML configuration" chapter, "Workstation configuration" section.

Reflection 4+

When this document mentions Reflection 4+, it refers to Reflection 4+ for DOS.

To use a PC to run Meridian MAX 8, you must install either Reflection 4+ for DOS or MTE. Only MTE, not Reflection 4+, can be used if you are connected to a LAN. Refer to your Reflection 4+ user's manual for installation instructions.

> *Note:* If you require international support, Reflection 4+ Release 4.1 or higher is recommended. Only these versions have full international support. Release 3.4 to 4.0 have partial support. Any release below 3.4 does not have international support.

PC without hard disk running Reflection 4+ for DOS
If you are using a PC without a hard disk, power up the PC and insert the DOS operating system disk in Drive A. When the PC boots up, insert the Reflection 4+ operating disk in Drive B, and select Drive B. Enter **R4** to start the Reflection 4+ program.

PC with hard disk running Reflection 4+ for DOS
If you are using a PC with a hard disk, power up the PC. When the PC boots up, switch to the directory which contains the Reflection 4+ program, and enter **R4** to start the program.

Meridian Terminal Emulator

MTE allows you to access Meridian MAX supervisor sessions through your PC. The PC can be an IBM PC, a 100%-compatible AT, or a higher PC.

Note: MTE can be used in a DOS or Windows environment. To use it in a Windows environment, you must have MTE 6, 7, or 8. The Windows environment is described only briefly in this chapter. For details, refer to the *MTE 8 User Guide* (P0853413).

ATTENTION

In this chapter, MTE is described only in a DOS environment. However, Windows and OS/2 offer a DOS full-screen mode or a DOS window mode. MTE can be run in these modes in OS/2 2.1 or DOS under Windows 3.1, with the limitations outlined in this chapter in the "MTE 5.32 or lower with Windows 3.1" and "MTE 5.32 or lower with OS/2 2.1" sections.

It is important to note that these modes are not supported by Nortel. The Supervisor Display Access (SDA) feature should not be used with MTE.

MTE features

In a DOS or Windows environment, MTE has all the functionality of Reflection 4+ with the following capabilities:

- Print data to an ASCII file.

- Print to a local printer attached to your PC.

- Connect to Meridian MAX through a local area network (LAN), a modem, or a serial (RS-232) port.

- Customize the colors of the elements on your supervisor screens.

In a Windows environment, MTE can also be used to do the following:

- Copy text from your Meridian MAX supervisor screens to your Windows clipboard.

- Run Meridian MAX supervisor sessions simultaneously with the MAXcaster forecasting tool.

- Open two Meridian MAX supervisor sessions on a PC running Windows NT or Windows 95.

- Change the size of the font used in the Meridian MAX supervisor screens.

- MTE also provides multiple language support and allows frequently used key sequences to be automated using programmable buttons.

MTE installation requirements — DOS environment

The minimum requirements to use MTE in a DOS environment are

- Microsoft MS-DOS (Version 5 or higher)

- MTE 5.32 or lower

- EGA or VGA card with 256 kbytes and a color monitor

- minimum 384 kbytes of RAM

- a LAN connection (if using a network)

- one serial (RS-232) communication port for connection to the Meridian MAX

- one parallel or serial port for attaching a local printer (optional)

- one 5.25" or 3.5" floppy disk drive

MTE installation requirements — Windows environment

The minimum requirements to use MTE in a Windows environment are

- Meridian MAX 5.27

- MTE 6 or higher

- Windows Release 3.1 (with a 386 DX 20 MHz IBM-compatible PC), or Windows NT Release 3.51 (with a 486 DX 33 MHz IBM-compatible PC)

  MTE 7 and higher also work with Windows 95 (with a 486 DX 33 MHz IBM-compatible PC).

- a VGA card with a color monitor

- 1 Mbyte of available RAM

- 2 Mbytes of available hard disk space

- modem, one serial (RS-232) communication port for connection to the Meridian MAX, or a LAN connection (if using a network). If you are using a LAN connection, you must also have WinSock 1.1 compliant network operating software.

Note: If you are upgrading from MTE 5.32 or lower, your FTP
software must be a minimum of PC/TCP Release 3.0 (OnNet Release
1.1) installed with the Windows VxD kernel.

MTE direct (RS-232) connection

MTE can connect directly to the Meridian MAX with a serial RS-232 using
the COM 1 or COM 2 port on a PC. An unused COM port may be used to
connect to any other serial device, such as a mouse or serial printer. MTE is
required for a direct connection under Windows 3.1 or OS/2 2.1. If a mouse
is using the only COM port in the OS/2 environment, the mouse must be
disconnected and the mouse driver must be disabled in the OS/2
CONFIG.SYS file.

Installing MTE 5.32 or lower in DOS

Follow Procedure 6-1 to install MTE 5.32 or lower in a DOS environment.

Procedure 6-1
To install MTE in a DOS environment

1   Insert the MTE distribution disk in the disk drive.

2   Enter the letter of the disk drive containing the distribution disk followed
    by **install**.

    For example, enter a:\install

3   Press **{RETURN}**.

    The system displays the following message:

    ```
    Please enter the source directory [A:\] :
    ```

    The default source directory is shown in square brackets.

4   Press **{RETURN}** to accept the default source directory. To indicate a
    source directory other than the default, enter the letter of the
    appropriate disk drive followed by **{RETURN}**.

    For example, enter D:\

    The system displays the following message if the default (A:\) is used:

    ```
    The source directory is A:\.
    Please enter the destination directory [C:\MTE] :
    ```

    *The source directory appears in the first line. This may be the default
    directory or the new directory you assigned. The default destination
    directory is shown in square brackets on the second line. This is the
    directory where the MTE files will be transferred.*

5 Press **{RETURN}** to accept the default destination directory. To indicate a destination directory other than the default, enter the appropriate disk drive and directory followed by **{RETURN}**.

For example, enter D:\MTE.

The system displays the following message:

```
Please enter the number corresponding to the version of MTE
that you wish to install.

1.  MTE for MAX 5.25 or lower.
2.  MTE for MAX 5.26 or higher.

Which version do you wish to install [1,2] ?
```

6 Enter **2** followed by **{RETURN}**.

The system displays the following message:

```
You have selected to install MTE for MAX 5.26 or higher
from directory A:\ to directory C:\MTE.
Is this correct [Y,N] ?
```

The source directory and destination directory appear in the message. These may be the defaults or the new directories you assigned.

7 If the information is not correct, go to Step 8. If the information is correct, go to Step 11.

8 If the information is not correct, enter **N** followed by **{RETURN}**.

The system displays the following message:

```
Do you wish to quit [Y,N] ?
```

9 If you want to exit from the MTE installation program, enter **Y** followed by **{RETURN}**. It is not necessary to read the remaining steps.

or

If you want to continue with the MTE installation program, enter **N** followed by **{RETURN}**.

The system displays the following:

```
Please enter the source directory [A:\] :
```

10 Return to Step 4.

11 Enter **Y** followed by **{RETURN}** if the information is correct.

The system displays the following message:

```
    1 file(s) copied
    1 file(s) copied
MTE for MAX 5.26 or higher is now installed in C:\MTE.
```

The MTE program is installed.

Starting and exiting MTE in DOS

Follow Procedure 6-2 to start MTE after it has been installed.

Procedure 6-2
To start MTE

1 Display the DOS prompt.

In Windows and OS/2, this requires going to the DOS full screen. This permits the graphical information to be properly displayed.

2 Change the DOS directory to the one in which you installed the MTE software.

For example: CD C:\MTE

3 Enter **MTE** followed by **{RETURN}.**

Follow Procedure 6-3 to exit from MTE. This procedure is identical regardless of the operating environment being used.

Procedure 6-3
To exit from MTE

1 Simultaneously press **{CONTROL}{ALT}{X}.**

This key combination returns control to the DOS prompt.

MTE 5.32 or lower with Windows 3.1

To use MTE in a Windows environment, you should have MTE 6 or higher. With the limitations outlined in this section, however, you can also use MTE 5.32 or lower to access Meridian MAX under Windows 3.1 in a DOS full-screen mode or a DOS window mode.

Note: Although Windows 3.1 supports concurrent execution of more than one application, it is recommended that no other application be running while MTE is operating. MTE may crash if other applications are running at the same time. Running MTE under Windows can also cause protection violation errors and workstation lockups.

PIF file settings

To run MTE under DOS in Windows, it is recommended that you create
PIF files using the Microsoft Windows PIF Editor. Figure 6-1 and Figure
6-2 provide the recommended settings for the general and advanced PIF
files. For more information on the PIF files, refer to the Microsoft Windows
user guides.

Figure 6-1
MTE 5.32 set-up screen—LAN connection – general

Figure 6-2
MTE 5.32 set-up screen—LAN connection – advanced

Minimum requirements

The minimum requirements for running MTE under DOS in Windows using a direct (RS-232) connection are

- 80386 PC

- 512 kbytes of free memory (for MTE)

- one serial (RS-232) port

- Windows 3.1 and a color VGA display

The minimum requirements for running MTE under DOS with Windows using a LAN connection are

- 80386 PC

- 512 kbytes of free memory (for MTE)

- FTP Software's PC/TCP Network Software for DOS and Windows version 2.1 or higher with a PC/TCP supported LAN card

- Windows 3.1 and a color VGA display

Display

Graphics in MTE, such as the initial graphical display and the graphical report preview, are quicker to view from a DOS full screen than a DOS window mode. The DOS window mode also may not be large enough to view the graphic displays at times.

Colors of graphical reports are different when previewing in a DOS window mode than in a DOS full screen.

Limitations on multiple sessions

It is not recommended that multiple sessions of MTE be run under Windows. However, the following limitations should be remembered if you choose to run multiple sessions:

- Only one MTE session can be used if local printing is required. Local printing does not work when there are multiple MTE sessions running on the same PC, which are connected to the same Meridian MAX through a LAN connection.

- When multiple MTE sessions are started from the same MTE directory, they share the same MTE.CFG file. Any changes made in the MTE set-up screen are not saved unless the [Save] key is pressed. The changes saved in one MTE session may overwrite the changes made by another concurrent MTE session. Changes to the MTE.CFG file do not affect any other active MTE sessions until they are terminated and restarted.

- When multiple sessions are used, multiple copies of MTE.EXE and MTE.CFG should be stored in different directories because there may be different MTE.CFG settings.

- When multiple sessions are used, the same MTE options, font, and programmable button definitions are shared between the sessions. If one of these components is changed in one MTE session, the changes apply to all other MTE sessions running on the same PC.

MTE 5.32 or lower with OS/2 2.1

MTE 5.32 or lower can be used, with some limitations, under OS/2 2.1 in a DOS window mode or a DOS full-screen mode.

Minimum requirements

The minimum requirements for running MTE with OS/2 using a direct (RS-232) connection are

- 80386 PC

- 512 kbytes of free memory (for MTE)
- one serial (RS-232) port
- OS/2 2.1
- color VGA display

The minimum requirements for running MTE with OS/2 using a LAN connection are

- 80386 PC
- 512 kbytes of free memory (for MTE)
- FTP Software's PC/TCP Network Software for OS/2 version 1.3 or higher with a PC/TCP-supported LAN card
- OS/2 2.1
- color VGA display

Display
Colors of graphical reports are different when previewing in a DOS window mode than in a DOS full screen.

Limitations on multiple sessions
It is not recommended that multiple sessions of MTE be run under OS/2. However, the following limitations should be remembered if you choose to run multiple sessions:

- The maximum number of MTE sessions are limited by available system resources in OS/2. If local printing is required, only one MTE session should be connected to the same Meridian MAX.

- When multiple MTE sessions are started from the same MTE directory, they share the same MTE.CFG file. Any changes made in the MTE set-up screen are not saved unless the [Save] key is pressed. The changes saved in one MTE session may overwrite the changes made by another concurrent MTE session. Changes to the MTE.CFG file do not affect any other active MTE sessions until they are terminated and restarted.

- When multiple sessions are used, multiple copies of MTE.EXE and MTE.CFG should be stored in different directories because there may be different MTE.CFG settings.

- When multiple sessions are used, the same MTE options, font, and programmable button definitions are shared between the sessions. If one of these components is changed in one MTE session, the changes apply to all other MTE sessions running on the same PC.

MTE LAN connection

Meridian MAX 8 provides Ethernet and Ethernet 2 frame connectivity for supervisor workstations through the industry-standard TCP/IP protocol. Only FTP Sotware's PC/TCP software is supported.

Customer-supplied hardware

On the Meridian MAX end of the LAN connection, an Ethernet IEEE 802.3 LAN connection is provided by using a 15-pin AUI connector from the I/O panel. A customer-supplied transceiver is then used to connect the AUI connector to the LAN.

Meridian MAX supports any of the following Ethernet backbones: 10Base-T, 10Base2, 10Base5, and 10Base-FL (fiber optics).

Table 6-2 lists the CISPR 22B compliant Ethernet transceivers that were tested and verified by Nortel. However, any transceiver that complies with the CISPR 22B standard, or any other country-specific requirements, is acceptable.

Table 6-2
Ethernet transceivers

Transceiver model	LAN Environment	Mean Time Between Failures (MTBF) in hours
BoseLAN BL-50 Revision 3	10Base-T	250 000
BoseLAN BL-55 Revision 1	10Base5	250 000
BoseLAN BL-70 Revision 2	10Base-FL	250 000
BoseLAN BL-80 Revision 2	10Base2	250 000

Required hardware for LAN connectivity

To have LAN connectivity, the following hardware resources must be available on each PC:

- IBM- or 100%-compatible PC AT or higher

- 6 Mbytes of free disk space for FTP Software's PC/TCP kernel or software, and for the Meridian Terminal Emulator (MTE) software, if MTE is to be installed on the hard disk

- 1 Mbyte of total memory (RAM) with minimum 384 kbytes of free memory (RAM)

- ODI-, NDIS-, or packet driver-compatible Ethernet LAN adapter card

- EGA or VGA card with 256 kbytes and color monitor

Required software for LAN connectivity

LAN connectivity is only supported for PC-based supervisor workstations running MTE. LAN supervisor workstations are available on Meridian MAX 5, 6, 7, and 8 SNN/SNN-E and IPE/IPE-E systems.

Depending on your hardware configuration, an SNN/SNN-E system can have a maximum of 60 LAN-based supervisor workstations, and an IPE/IPE-E system can have up to 20. The total number of configured direct connections plus the number of active LAN sessions cannot exceed 60 (SNN/SNN-E) or 20 (IPE/IPE-E).

To run on a LAN, MTE 5.32 or lower requires one of the FTP Software's PC/TCP network products. The following list identifies the minimum versions of FTP Software's PC/TCP software products which can be used with MTE 5.32 or lower:

- FTP Software's PC/TCP network kernel for DOS, versions 2.05, 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1)

- FTP Software's PC/TCP Network Software for DOS, versions 2.05, 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1)

- FTP Software's PC/TCP Network Software for DOS and Windows, versions 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1)

- FTP Software's PC/TCP Network Software for OS/2 version 1.3

The *FTP Software's PC/TCP User's Guide* references used in this chapter are based on Version 2.2.

> **ATTENTION**
>
> Use FTP Software's PC/TCP network kernel or PC/TCP network software only. If your system has LAN connectivity, you must use either FTP Software's PC/TCP network kernel or PC/TCP network software for DOS, versions 2.05, 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1).
>
> PC/TCP kernel is the minimum requirement for Meridian MAX LAN connectivity. The PC/TCP and the network interface cards must be purchased separately. If you wish to take advantage of other PC/TCP applications, the complete PC/TCP networking software is required. Other LAN O/S versions of TCP/IP also do not work with MTE.

FTP Software's PC/TCP network kernel or network software provide the LAN interface for the supervisor's PC and support multiple types of LAN cards. Meridian MAX 8 provides Ethernet and Ethernet 2 frame connectivity for supervisor workstations through the industry-standard TCP/IP protocol. LAN connectivity is also supported in a Token Ring environment through use of a protocol converter. The Meridian MAX system has no specific hardware dependency on the type of protocol converter used.

Guidelines for installing PC/TCP

The following guidelines should be observed when installing PC/TCP OnNet 1.1 for DOS/Windows and the PC/TCP Network Software 3.0 for DOS/Windows:

- The PC/TCP software must be installed through DOS (TSR kernel) and not Windows (VxD kernel).

- The PC/TCP software offers applications such as FTP, network printing, connection over modems, exchanging messages, and so on. These applications do not need to be installed to operate MTE.

- When installing the PC/TCP, you are prompted to enter a selection regarding network connectivity. When this option appears, you must select the DOS and Windows (TSR kernel) option to allow the software to work properly with MTE.

Configuring a PC in a LAN environment

Perform Procedure 6-4 when configuring each PC connected to the Meridian MAX in a LAN environment.

Procedure 6-4
To set up a PC for using MTE 5.32 or lower in a LAN environment

1   Install the PC network interface card in the PC according to the network interface card manual.

2   Install any software drivers specifically for the PC network interface card according to the network interface card manual.

3   Connect the PC to the network. Contact your LAN administrator for more details.

4   Run diagnostics on the PC network interface card as outlined in the network interface card user's manual. If the diagnostics fail, try different card settings (IRQ, DMA, I/O base address), or replace the card. For details, refer to the user guide for the PC network interface card.

5   Determine the PC's unique IP address on the LAN. Contact the LAN administrator for the unique address for your PC.

6   Install FTP Software's PC/TCP software onto the PC according to FTP Software's *PC/TCP Installation Guide*.

7   Use the ping program included with FTP Software's PC/TCP software, to determine whether you can make a connection to the Meridian MAX system. For example, if the MAX IP address were 47.235.11.15, you would enter: ping 47.235.11.15.

8   If the ping fails, refer to *Meridian MAX 8 Maintenance and Diagnostics* (NTP 553-4001-811), "Fault isolation checklist" chapter.

9   Install the MTE software.

10 Start the MTE software, and press both left and right **{SHIFT}** keys simultaneously to enter the set-up screen.

    a.   Choose LAN for the value in the *CONNECTION TYPE* field.

    b.   Enter the Meridian MAX Hostname or IP address in the *HOST NAME OR IP ADDRESS* field.

    c.   Save these settings. For more information, refer to the "Starting and exiting MTE" section.

11 Exit the set-up screen. MTE connects to the Meridian MAX, and the login screen is displayed.

Meridian MAX setup
Perform Procedure 6-5 to configure Meridian MAX in a LAN environment.

Procedure 6-5
To configure Meridian MAX in a LAN environment

1   Ensure that your system has the LAN connectivity option enabled. For more information, refer to *Meridian MAX 8 Maintenance and Diagnostics* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter, "System parameters" subsection.

2   Set the Meridian MAX IP address and Hostname. For more information, refer to *Meridian MAX 8 Maintenance and Diagnostics* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter, "System parameters" subsection.

3   Physically connect the Meridian MAX to the LAN.

Packet buffers
Before you can use MTE on your LAN, you must ensure that the hardware (the PC's network interface card) and FTP Software's PC/TCP network software are installed and operating correctly.

If you are using MTE on the LAN and experience poor response times, or if you are losing your connection to the Meridian MAX, you may need to increase the number of packet buffers that are set aside for the PC/TCP kernel.

The PC/TCP kernel is a DOS Terminate and Stay Resident (TSR) program which manages your PC's access to the LAN. Packet buffers are storage areas that the PC/TCP kernel uses for sending or receiving information across the LAN.

FTP Software's *PC/TCP User's Guide* outlines the steps required to increase the number of packet buffers. The recommended number of packet buffers for Meridian MAX is 10. This information is outlined in the "Tuning PC/TCP" section of FTP Software's *PC/TCP User's Guide*.

The following steps provide an overview of how to set the number of packet buffers. These steps assume that the location of the FTP Software's PC/TCP software is included in your DOS path.

To increase the number of packet buffers, perform Procedure 6-6.

Procedure 6-6
To increase the number of packet buffers

1   Unload the PC/TCP kernel.
Enter **inet unload {RETURN}**.

2   Restart the kernel.
Enter **<kernel> -p 10 {RETURN}**.

For example, if your PC/TCP kernel is "ethdrv," enter the following at the DOS prompt: **ethdrv -p 10**.

3   Change to the DOS directory where you installed the MTE software.

For example
CD C:\MERIDIAN

4   Start MTE.
Enter **MTE {RETURN}.**

5   If you still experience problems, repeat steps 1 to 4, and increase the number of packets by one each time until the performance improves.

Common LAN functionality

Meridian MAX connectivity

A 15-pin AUI connector is provided to connect the Meridian MAX to the LAN. A customer provided-transceiver is required for connecting to 10Base-5, 10Base-T, or 10Base-2 cabling.

Connecting the Meridian MAX to the LAN is done through an Ethernet or Ethernet 2 frame connection between your local LAN Ethernet port and

- on the SNN hardware platform, the I/O panel's Ethernet connection on the NT7D47EA cable

- on the IPE hardware platform, the LAN connection on the NT1R03AA four-port I/O cable

Token Ring environment

For Token Ring environments, the following items are required:

- Token Ring Adapter LAN Card with an ASI, NDIS, ODI, or packet driver

- Protocol converter

IP Addresses

An IP address is a unique identifier for a device connected on the LAN. The Meridian MAX system requires a unique IP address, as does each PC running MTE. In order to use MTE on a LAN, you need to obtain the IP address for your PC and the Meridian MAX system. This can be obtained from your network administrator.

The IP address is in the format *a.b.c.d*, where *a* falls within the range of 0 to 223 (excluding 127), and *b, c,* and *d* fall within the range of 0 to 254.

FTP Software's *PC/TCP User's Guide*, "Using IP Addresses" section, explains the numbering scheme for IP addresses. You must adhere to the IP addressing scheme.

Once Meridian MAX has a configured IP address, the address can be entered in the *Host Name or IP Address* field on the MTE set-up screen.

Subnet mask

The subnet mask is a 32-bit number used by the network software on a local machine to determine which bits belong to the network or to the host parts of the internet address. This is either the system default or a value assigned by your network administrator. By modifying this number, your network efficiency can be improved. If the system IP address is changed, the default subnet mask changes as well.

The subnet mask is of the form *a.b.c.d* where *a*, *b*, *c*, and *d* are in the range of 0 to 255.

Default router/gateway address

In a networked environment, routers (or gateways) provide connectivity between two networks. The default router/gateway address is used to specify the router or gateway used with Meridian MAX. This is either the system default or an address assigned by your network administrator.

The default router/gateway address is of the format *a.b.c.d*, where *a* is in the range of 0 to 223, and *b*, *c*, and *d* are in the range of 0 to 254.

Hostnames

A Hostname is the name assigned to the Meridian MAX system by the LAN administrator, that provides an alternate to the IP Address. For more information, refer to the FTP Software *PC/TCP User's Guide*, "Using Hostnames" section.

If you are using hostnames on PCs running FTP Software's PC/TCP software, you need to add the Meridian MAX Hostname to the PC/TCP configuration. Refer to the FTP Software"s *PC/TCP User's Guide*, "Creating A Local Hostname Table" section.

Once Meridian MAX has a configured Hostname, the Hostname can be entered in the *Host Name or IP Address* field on the MTE set-up screen.

Network interface cards

FTP Software's PC/TCP software supports various Ethernet and Token Ring LAN adapter cards. Any network interface cards that are compliant with Industry Standard Open Driver Specifications (Packet Driver, NDIS, ODI, and ASI) should work. Ensure that your network interface cards are supported or qualified by your network operating system.

Contact FTP Software to verify the type of adapter cards and drivers that are required for your particular LAN environment.

Consult your LAN administrator to determine what equipment is available in your network.

Keyboard language configuration on PCs

If you are using a language-specific keyboard, you must inform MS-DOS as to which keyboard you are using. The following example applies to both Reflection 4+ and MTE.

AUTOEXEC.BAT changes

The following example shows the changes to the AUTOEXEC.BAT file in order to support a language-specific keyboard.

The following example assumes a German keyboard is being used as specified by the GR option to the KEYB command:

    C:\DOS\KEYB GR

Refer to your MS-DOS user guide for the language code for your keyboard.

Code Page 850 configuration

To provide international support (ISO Latin 1) for MTE, some minor modifications are required to your PC configuration. These changes affect the MS-DOS files named CONFIG.SYS and AUTOEXEC.BAT. In order to make these changes, you require a text editor such as the MS-DOS editor.

MS-DOS comes with different character sets called code pages. Code pages are similar to the character sets used in the DEC terminals.

Each code page consists of 256 characters and is assigned a number that corresponds to a particular country or language. MTE requires your PC to be configured with Code Page 850 which is a multilingual character set.

If you are using a language-specific keyboard, you need to inform MS-DOS which keyboard you are using. Refer to the "Keyboard language configuration on PCs" section for instructions.

The example changes shown below assume that MS-DOS has been installed in the C:\DOS sub-directory and that the files DISPLAY.SYS and COUNTRY.SYS are located in the C:\DOS subdirectory.

CONFIG.SYS changes

The following example shows the changes to the CONFIG.SYS file needed to support the DOS Code Page 850 on a PC.

In this example, the PC is running the code for Germany (country code 049). For your specific country code, refer to your MS-DOS user guide.

            DEVICEHIGH = C:\DOS\DISPLAY.SYS CON:=(ega,850)
            COUNTRY   = 049,850,C:\DOS\COUNTRY.SYS

AUTOEXEC.BAT changes
The following example shows the changes to the AUTOEXEC.BAT file in order to support the DOS Code Page 850 on a PC.

    C:\DOS\MODE CON CP PREPARE=((850) C:\DOS\EGA.CPI)
    C:\DOS\NLSFUNC C:\DOS\COUNTRY.SYS
    CHCP 850

Video display terminal workstations

Five types of video display terminal (VDT) workstations are supported for Meridian MAX:

- DEC VT520

- DEC VT420 (North American model)

- DEC VT420 (Worldwide model)

- DEC VT220

- HP 700/32

    Note: To differentiate between the North American and Worldwide models of the VT420, view your workstation's set-up directory. If there is a keyboard option, you are using the worldwide model. If there is no keyboard option, you are using the North American model.

Other models may be used but they must be 100% compatible with one of the models listed. Setups may differ slightly depending on the version of the workstation.

    Note: Printer setups are not supported for the DEC and HP VDTs. Local printers are only supported on PCs running the Meridian Terminal Emulator (MTE).

To configure your VDT, refer to the "Workstation, HSL, and LML configuration" chapter, "Workstation configuration" section.

DEC VT520 or 100% compatible

Follow Procedure 6-7 to set up the DEC VT520 workstation.

Procedure 6-7
To set up a VT520 or 100%-compatible terminal

1 Power on the terminal.

2 Enter set-up mode by pressing the {**SET-UP**} key located on the top row of function keys. If no key is marked {SET-UP}, press the third key from the left on the top row.

The main set-up window is displayed (see Figure 6-3).

Figure 6-3
VT520 terminal main set-up window

3 Use the up and down arrow keys to highlight the set-up feature which is to be changed (for example, Actions).

4 When the set-up feature is highlighted, use Table 6-3 to select the appropriate settings.

Table 6-3
Navigating the set-up windows

If	then
a solid triangle appears beside the set-up feature	use the right arrow key to automatically display the pop-up window of associated settings. See Figure 6-4 for an example.
a box appears beside the set-up feature	press {**RETURN**} to toggle the setting for the selected feature on or off. A diagonal line appears in the box when the setting is on.
three dots (. . .) appear beside the set-up feature	press {**RETURN**} to display the associated pop-up window. When all fields have been completed, move the cursor to [OK] or [Cancel], and press {**RETURN**} again to activate your choice.

Figure 6-4
VT520 terminal - sample feature pop-up window

```
 ┌─────────────────────────────┐  ┌──────────────────────────┐
 │  Actions              ▷     │  │  Clear display           │
 │  Session              ▷     │  │  Clear communications    │
 │  Display              ▷     │  │  Reset this session      │
 │  Terminal type        ▷     │  │  Restore factory defaults│
 │  (ASCII emulation)    ▷     │  │  ─────────────────────── │
 │  Keyboard             ▷     │  │  Clock                   │
 │  Communication        ▷     │  │  Calculator              │
 │  Modem                ▷     │  │  Show character sets     │
 │  Printer              ▷     │  │  Banner message . . .    │
 │  Tabs . . .                 │  │                          │
 │  Set-Up language      ▷     │  └──────────────────────────┘
 │  ───────────────────────    │
 │ ■ On-line                   │
 │   Save settings             │
 │   Restore settings          │
 │   Exit Set-Up               │
 └─────────────────────────────┘
```

Note: Options shown in parentheses are dimmed on the screen.

5 Configure the terminal to match mandatory settings in Table 6-4. If no setting is specified, select the parameter which best suits your environment.

6 Press {**SET-UP**} again to exit set-up mode.

Table 6-4
VT520 set-up values

Set-up feature	First level	Mandatory setting or description
Actions	Clear display	Press {**RETURN**} to clear the display.
	Clear communications	Press {**RETURN**} to clear communications.
	Reset this session	Press {**RETURN**} to reset this session.
	Restore factory defaults	Press {**RETURN**} to restore the factory default.
	Clock	Press {**RETURN**} to set the VT520 clock.
	Calculator	Press {**RETURN**} to use the VT520 calculator.
	Show character sets	Press {**RETURN**} to display character sets.
	Banner message . . .	Press {**RETURN**} to set the banner message.
Session	Select session	Session 1
	Session name . . .	Optional user text
	Pages per session . . .	04 pages maximum
	Soft char sets/session	Two each S1 and S2
	Save settings for all	
	Restore settings for all	
	Copy settings from	
	Update session	When available
Display	Lines per screen	24, 25, or 26
	Lines per page	24 lines X 04 pages
	Review previous lines	OFF
	Columns per page	80 columns, Clear on change
	Status display	Local status
—**continued**—		

Table 6-4 (continued)
VT520 set-up values

Set-up feature	First level	Mandatory setting or description
Display (continued)	Scrolling mode	Jump
	Screen background	Dark
	Cursor display	Block, Blink
	Cursor coupling	Set to "Vertical" and "Page"
	Cursor direction	Left to right
	Copy direction	Left to right
	Zero	Select style of zero you want to display.
	Auto Wrap	
	New line mode	
	Lock user preferences	
	Show control characters	
	CRT saver	15 minutes
	Energy saver	15 minutes
	Overscan	
	Framed windows	
	Screen alignment	
Terminal type	Emulation mode	VT520 VT420 VT320 VT220
	Terminal ID to host	VT520
	VT default char set	ISO Latin-1
	PC Term character set	PC International (437)
	(7-bit NCRS characters)	
	Transmit 7-bit control	
(ASCII emulation)		
Keyboard	VT Keyboard language	Select appropriate language—North American
—**continued**—		

Table 6-4 (continued)
VT520 set-up values

Set-up feature	First level	Mandatory setting or description
Keyboard (continued)	(PC Keyboard language)	
	Define key . . .	Use Define Key Editor screen to set the following: F1=Hold Ignore Alt F2=Print ,< and .> Keys F3=Setup <> Key F4=Session '~ Key F5=Break
	Save key definitions	
	Recall key definitions	
	Lock key definitions	
	Caps lock function	Caps lock
	Keyclick volume	High
	Warning bell volume	High
	Margin bell volume	OFF
	Keyboard encoding	Character (ASCII)
	Auto Repeat	Fast (30/sec)
	Data processing keys	
	Application cursor keys	
	Application keypad mode	
	(Map PC keyboard to VT)	
	Ignore missing keyboard	
Communication	Port select . . .	See Figure 6-5.
	Word size	8 bits
	Parity	None
	Stop bits	1 bit
	Transmit speed	9600 baud
	Receive speed	Transmit speed
—**continued**—		

Table 6-4 (continued)
VT520 set-up values

Set-up feature	First level	Mandatory setting or description
Communication (continued)	Transmit flow control	XON/XOFF
	Receive flow control	XON/XOFF or XPC
	Flow control threshold	Low (64)
	Transmit rate limit	150 cps
	Fkey rate limit	150 cps
	Ignore Null character	ON
	Local echo	
	Half duplex	
	Auto answerback	OFF
	Answerback message . . .	Enter the answerback message.
	Answerback concealed	
Modem	Enable modem control	
	(Disconnect delay)	
	(Modem high speed)	
	(Modem low speed)	
Printer	Port select . . .	See Figure 6-5.
	Print mode	Normal
	Printer type	DEC ANSI
	DEC/ISO char sets	National only
	(PC character sets)	
	Print extent	Full page
	Print terminator	None
	Serial print speed	4800 baud
	2-way communication	OFF
—**continued**—		

Table 6-4 (continued)
VT520 set-up values

Set-up feature	First level	Mandatory setting or description
Printer (continued)	Transmit flow control	XON/XOFF
	Receive flow control	XON/XOFF
	Word size	8 bits
	Parity	None
	Stop bits	1 bit
Tabs	Tabs Set-Up Screen	
Set-Up language		User dependent
On-line		ON
Save settings		When settings are complete, push <Enter> to save.
Restore settings		
Exit Set-Up		
—**end**—		

Figure 6-5
Port selection for VT520

DEC VT420 or 100% compatible (North American model)

Follow Procedure 6-8 to set up the DEC VT420 (North American model) workstation.

Procedure 6-8
To set up a VT420 or 100%-compatible terminal (North American model)

1   Refer to the vendor's manual for installation instructions.

2   The video display terminal (VDT) is connected to the SNN's VME multiport cable or the IPE's four-port I/O cable using an NT8D96AE (SNN) or NT1R03Ex (IPE) (male to female) cable. Refer to the appropriate port assignment table for valid port assignments.

3   Power on the terminal and press the **{SET-UP}** key.

The VDT manual contains instructions on setting up the workstation's options.

4   Follow the settings in Figure 6-6 to configure a DEC VT420 North American model.

Each directory shown in these figures has its own screen and displays the correct setting for each field. If any of the fields shown differ from those on your screen, cursor to the field and press {RETURN} until the correct information is displayed.

5   To move to the next set-up screen, cursor to *To Next Set-up* and press **{RETURN}.**

6   Move the cursor to *To Directory* and press **{RETURN}**.

7   Move the cursor to *Save* and press **{RETURN}**.

8   To exit after saving the settings, press the **{SET-UP}** key.

Figure 6-6
DEC VT420 workstation (North American model) Version 1.3 or greater set-up

Set-Up Directory
Global   Display   General   Comm   Printer   Keyboard   Tab
Clear Display   Clear Comm   Reset Session   Recall   Save
Default   Screen Align
Enable Sessions   Disable Sessions   Exit

Global Directory
To Next Set-Up   To Directory
On Line   S1 = Comm1   CRT Saver   Printer Shared
70 Hz

Display Set-Up
To Next Set-Up   To Directory   80 Columns   Interpret Controls
No Auto Wrap   Jump Scroll   Dark Screen
No Cursor   Block Cursor Style   No Status Display
Cursor Blink   6X24 pages   24 Lines/Screen
Vertical Coupling   Page Coupling   No Auto Resize Screen

General Set-Up
To Next Set-Up   To Directory   VT400 Mode, 8 Bit Controls   VT420 ID
User Defined Keys Unlocked   User Features Unlocked
Numeric Keypad   Normal Cursor Keys   No New Line
UPSS ISO Latin-1   When Available Update

Communications Set-Up
To Next Set-Up   To Directory   Transmit = 9600   Receive = Transmit
XOFF at 128   8 Bits, No Parity   1 Stop Bit   No Local Echo
Data Leads Only   Limited Transmit
No Auto Answerback   Answerback=   Not Concealed

Keyboard Set-Up
To Next Set-Up   To Directory   Caps Lock
No Auto Repeat   Keyclick High   Margin Bell Off   Warning Bell High
Character Mode   <X] Delete   Local Compose   Ignore Alt
F1 = Hold   F2 = Print   F3 = Set-Up   F4 = Session   F5 = Break
,< and .> Keys   <> Key   '~ Key

DEC VT420 or 100% compatible (Worldwide model)

Follow Procedure 6-4 to set up the DEC VT420 (Worldwide model) workstation.

Procedure 6-9
To set up a VT420 or 100%-compatible terminal (Worldwide model)

1   Refer to the vendor's manual for installation instructions.

2   The video display terminal (VDT) is connected to the SNN's VME multiport cable or the IPE's four-port I/O cable using an NT8D96AE (SNN) or NT1R03Ex (IPE) (male to female) cable. Refer to the appropriate port assignment table for valid port assignments.

3   Power on the terminal and press the **{SET-UP}** key.

The VDT manual contains instructions on setting up the workstation's options.

4   Follow the settings in Figure 6-7 to configure a DEC VT420 Worldwide model.

Each directory shown in these figures has its own screen and displays the correct setting for each field. If any of the fields shown differ from those on your screen, cursor to the field and press {RETURN} until the correct information is displayed.

5   To move to the next set-up screen, cursor to *To Next Set-up* and press **{RETURN}.**

6   Move the cursor to *To Directory* and press **{RETURN}**.

7   Move the cursor to *Save* and press **{RETURN}**.

8   To exit after saving the settings, press the **{SET-UP}** key.

Figure 6-7
DEC VT420 workstation (Worldwide model) set-up

```
Set-Up Directory
  Global    Display    General    Comm    Printer    Keyboard    Tab
  Clear Display    Clear Comm    Reset Session    Recall    Save
  Set-Up = English *    North American Keyboard **    Default
  Enable Sessions    Disable Sessions    Exit    Screen Align

Global Set-Up
  To Next Set-Up    To Directory
  On Line    S1 = Comm1    CRT Saver
  Comm1 = RS–232 ***    70 Hz    Printer Shared

Display Set-Up
  To Next Set-Up    To Directory    80 Columns    Interpret Controls
  No Auto Wrap    Jump Scroll    Dark Screen
  No Cursor    Block Cursor Style    No Status Display
  Cursor Blink    6X24 pages    24 Lines/Screen
  Vertical Coupling    Page Coupling    No Auto Resize Screen

General Set-Up
  To Next Set-Up    To Directory    VT400 Mode, 8 Bit Controls
  User Defined Keys Unlocked    User Features Unlocked    8-bit Characters
  Numeric Keypad    Normal Cursor Keys    No New Line
  UPSS ISO Latin-1    VT420 ID
  When Available Update

Communications Set-Up
  To Next Set-Up    To Directory    Transmit = 9600    Receive = Transmit
  XOFF at 128    8 Bits, No Parity    1 Stop Bit    No Local Echo
  Data Leads Only    Disconnect, 2 s Delay    Limited Transmit
  No Auto Answerback    Answerback=    Not Concealed
  Modem High Speed = Ignore    Modem Low Speed = ignore

Keyboard Set-Up
  To Next Set-Up    To Directory    Typewriter Keys    Caps Lock
  No Auto Repeat    Keyclick Off    Margin Bell Off    Warning Bell High
  Character Mode    <X] Delete    Local Compose    Ignore Alt
  F1 = Hold    F2 = Print    F3 = Set-Up    F4 = Session    F5 = Break
  ,< and .> Keys    <> Key    '~ Key
```

Note: *   This setting specifies the DEC set-up language and does not affect the Meridian MAX screens.

    **   Change this setting to match the keyboard language you are using.

    ***   This setting depends on the port you are using on the back of the terminal. Refer to your terminal guide for more information.

DEC VT220 or 100% compatible

Follow Procedure 6-10 to set up the DEC VT220 workstation.

Procedure 6-10
To set up a VT220 or 100%-compatible terminal

1   Refer to the vendor's manual for installation instructions.

2   The video display terminal (VDT) is connected to the SNN's VME multiport cable or the IPE's four-port I/O cable using an NT8D96AE (SNN) or NT1R03Ex (IPE) (male to female) cable. Refer to the appropriate port assignment table for valid port assignments.

3   Power on the terminal and press the **{SET-UP}** key.

    The VDT manual contains instructions on setting up the workstation's options.

4   Follow the settings in Figure 6-8 to configure a DEC VT220 VDT.

    Each directory shown in Figure 6-8 has its own screen and displays the correct setting for each field. If any of the fields shown differ from those on your screen, cursor to the field and press {RETURN} until the correct information is displayed.

5   To move to the next set-up screen, cursor to *To Next Set-up* and press **{RETURN}.**

6   Move the cursor to *To Directory* and press **{RETURN}**.

7   Move the cursor to *Save* and press **{RETURN}**.

8   To exit after saving the settings, press the **{SET-UP}** key.

Figure 6-8
DEC VT220 workstation set-up

Set-up Directory

| Display | General | Comm | Printer | Keyboard | Tab |

| On Line | Clear Display | Clear Comm | Reset Terminal | Recall | Save |

| Set-Up English | North American Keyboard | Default | Exit |

Display Setup

| To Next Set-Up | To Directory | 80 Columns | Interpret Controls |

| No Auto Wrap | Jump Scroll | Light Text, Dark Screen |

| No Cursor | Block Cursor Style |

General Setup

| To Next Set-Up | To Directory | VT200 Mode, 8 Bit Controls |

| User Defined Keys Unlocked | User Features Unlocked | Multinational |

| Numeric Keypad | Normal Cursor Keys | No New Line |

Communications Setup

| To Next Set-Up | To Directory | Transmit=9600 | Receive=Transmit |

| XOFF at 128 | 8 Bits, No Parity | 1 Stop Bit | Local Echo |

| EIA Port, Data Leads Only | Disconnect, 2 s Delay | Limited Transmit |

Keyboard Setup

| To Next Set-Up | To Directory | Typewriter Keys | Caps Lock |

| No Auto Repeat | No Keyclick | No Margin Bell | Warning Bell | Break |

| No Auto Answerback | Answerback= | Not Concealed |

HP 700/32 or 100% compatible

Perform Procedure 6-11 to set up an HP 700/32 or 100%-compatible workstation.

Procedure 6-11
To set up an HP 700/32 workstation

1   Refer to the vendor's manual for installation instructions.

2   Power on the terminal and press the **{Set-Up}** key. Refer to your HP 700/32 user's manual for instructions on setting up the workstation's options.

To move to the next set-up screen, press **{Next Screen}**. To move to the previous set-up screen, press **{Prev Screen}**.

3   Ensure that the options match the following Global settings:

GLOBAL
- Host Port   1
- Background   Dark
- Screen Saver   15 Min
- Refresh Rate   72 Hz
- Key Click   No
- Keyboard   U.S. *
- Message Translations   English
- Setup Translations   English **
- Clear Display   (not applicable)
- Clear Comm   (not applicable)
- ROM revision   5181-5672-3014 ***

*   Change this setting to match the keyboard language you are using.
**   This setting specifies the language of the HP 700/32 set-up screens, but does not affect the Meridian MAX screens.
***   This setting depends upon the version of terminal you are using.

4   To save the Global settings, press the **[SAVE MENU]** key.

5 Ensure that the options match the following User settings:

USER
- Smooth Scroll — Jump
- Cursor Type — Blink Box
- Cursor — Off
- 2nd Message Line — Off
- Message Line — Off
- Status Line — Off
- On Line — Yes
- Local Echo — Off
- Auto Wrap — Off
- Auto Linefeed — Off
- Display Ctrl Codes — Off
- Display Width — 80
- Display Width Allowed — 80 or 132
- Char Cell Height — 16 Dots
- Clr on Width Change — Yes
- Aux Mode — Off
- Aux To Host — No
- Print Terminator=FF — No
- Logical Page Size — 24
- Number of Pages — 1

6 To save the User settings, press the **[SAVE MENU]** key.

7 Ensure that the options match the following Emulation settings:

EMULATION
- Emulation — VT320
- Terminal Id — VT220
- Control Codes — 8-Bit
- Characters Mode — 8-Bit
- Preferred Char Set — ISO 8859-1 Latin
- Keypad Mode — Numeric
- Cursor Keys — Normal
- Print Scroll Region — Off
- User Features Locked — No
- User Keys Locked — No
- Data Processing Keys — No

8 To save the Emulation settings, press the **[SAVE MENU]** key.

9 Ensure that the options match the following Port 1 settings:

PORT 1
- Communication   Full Duplex
- Data Length   8 bits
- Parity   None
- Stop Bits   1
- Xmit Baud   9600
- Recv Baud   =Xmit
- Xmit Pace   Xon/Xoff
- Recv Pace   Xoff at 128
- Limited Transmit   On
- DSRI   No
- CTS   Ignore
- CD   Ignore
- Break Duration   170 ms
- Disconnect Delay   2 sec
- Aux Printer Type   National

10 To save the Port 1 settings, press the **[SAVE MENU]** key.

11 Ensure that the options match the following KeyBrd Menu settings:

KEYBRD Menu
- Lock Key   Caps Lock
- Kbd Lock Enable   Yes
- Save Tabs   Yes
- Auto Repeat   No
- Margin Bell   No
- Warning Bell   Yes
- Auto Answerback   No
- Answerback=   [blank]
- Conceal Answerback   No
- Clear All Tabs   (not applicable)
- Set 8 Column Tabs   (not applicable)
- Tab Setting   (not applicable)

12 To save the Keybrd Menu settings, press the **[SAVE MENU]** key.

13 To exit the set-up screen, press the **{Set-Up}** key.

Chapter 7: Printers

The following printers can be used by the Meridian MAX:

- DEC LA195 (does not support international languages)

- HP RuggedWriter

- HP LaserJet series II

- HP LaserJet series III

- HP LaserJet series 4

- HP LaserJet series 4 Plus

- HP LaserJet series 5Si MX

- HP PaintJet 3630

- HP DeskJet

- HP DeskJet 500

- HP DeskJet 560C (with serial-parallel converter)

- HP DeskJet 660C (with serial-parallel converter)

Although not supported by Nortel, the Meridian MAX can also work with printers with the following settings:

- XON/XOFF

- 9600 baud

- a serial connector available for the Meridian MAX

- no parity

- 8 data bits

- 1 stop bit

The serial port gender of each printer is a female DB-25 with the exception of the LaserJet 4 Plus. The LaserJet 4 Plus serial port gender is a female DB-9 requiring a 25- to 9-pin serial cable adapter. This adapter can be obtained through HP or one of its distributors.

Obtain the installation instructions from the user's manual for your printer. Ensure that the settings for your printer(s) are correct as described here.

Note 1: Before a printer can be fully disconnected, the printer must be taken off line, and powered off, and the serial interface connector removed. Before a printer is connected and powered up, ensure that the interface is connected and secured, the power cord is installed, the printer is powered on, and the printer is online.

Note 2: Before a printer can be unplugged, the printer must be taken off line and then powered off. When plugging in the printer, insert the plug, power on the printer, and put the printer back online.

Installing a local printer

Local printing provides you with the ability to send a report to a printer locally attached to a supervisor's PC workstation running Meridian Terminal Emulator (MTE).

Use Procedure 7-1 to install a local printer. Before beginning, make sure your PC is connected to the Meridian MAX system.

Note: Local printers are not assigned through the Meridian MAX Communication Port Assignment screen. Local printers appear on the port assignment screen after they are assigned through the local printer control window shown in Figure 7-2. Local printers should only be used for small print jobs such as ad hoc printing.

Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter, "Configure Meridian MAX system" section, "MAX Hardware Configuration" subsection, for more information on the Meridian MAX Communication Port Assignment screen.

Procedure 7-1
To install a local printer

1   Decide which printer you want to use as your local printer.

2   Decide if you want to connect the printer to the PC through a serial
       RS-232 connection or through a parallel connection.

       For a serial connection you need either a DB-9 female to DB-25 male
       cable, or a DB-25 female to DB-25 male cable.

       For a parallel connection, you need a DB-25 female to Centronics cable
       (also known as a PC parallel printer cable).

3   Configure your printer based on the individual configuration procedures.

       Refer to the subsection on your selected printer in the "Printers"
       chapter.

If you are running MTE 5.32 or lower, use Procedure 7-2 to set up local
printing.

If you are running MTE 8, refer to the *MTE 8 User Guide* (P0853413) for
information on setting up a local printer with MTE 8.

Procedure 7-2
To set up local printing with MTE 5.32 or lower

1   Install and start the MTE software.

       Refer to the "Workstations" chapter, "Meridian Terminal Emulator"
       section, "Meridian Terminal Emulator (MTE) 5.32 or lower" subsection,
       for the software installation procedure for MTE 5.32 or lower.

2   Notify MTE that a local printer is being used by pressing both left and
       right {**SHIFT**} keys simultaneously. This displays the terminal set-up
       screen shown in Figure 7-1.

Figure 7-1
Meridian Terminal Emulator set-up screen

```
┌─────────────────────────────────────────────────────────────────────┐
│                                                                       │
│   ┌───────────────────────────────────────────────────────────────┐  │
│   │          TERMINAL SETUP SCREEN – V05.07                        │  │
│   ├───────────────────────────────────────────────────────────────┤  │
│   │      CONNECTION SETUP                    PRINTER SETUP          │  │
│   │  CONNECTION TYPE:  SERIAL          PORT     :    LPT3           │  │
│   │                                    BAUD RATE :   N/A            │  │
│   │      SERIAL PORT SETUP             STOP BITS :   N/A            │  │
│   │      PORT      :   COM1            PARITY    :   N/A            │  │
│   │      BAUD RATE :   9600                                        │  │
│   │                                                                │  │
│   │     LAN CONNECTION SETUP                                       │  │
│   │     HOST NAME OR                                               │  │
│   │      IP ADDRESS  :    N/A                                      │  │
│   │                                                                │  │
│   │      TERMINAL SETUP SCREEN                                     │  │
│   │      LANGUAGE    :   English                                  │  │
│   ├───────────────────────────────────────────────────────────────┤  │
│   │   F1        F2        F3        F4      F5      F6      F7    F8 │  │
│   │   NEXT      PREV                SAVE                        EXIT │  │
│   │   CHOICE    CHOICE              CONFIG                     SETUP│  │
│   └───────────────────────────────────────────────────────────────┘  │
│                                                                       │
└─────────────────────────────────────────────────────────────────────┘
```

3   Use your arrow keys to cursor to the Port field under Printer Setup.
     Press **[NEXT CHOICE]** to choose the type of connection you wish to
     use.

     If you want a serial connection, choose either COM1 or COM2. Set
     Baud Rate to 9600, Stop Bits to 1, and Parity to NONE. These are the
     default values and should not be changed.

     If you want a parallel connection, choose either LPT1 or LPT2.

4   Press **[SAVE CONFIG]** to save your changes.

5   Press **[EXIT SET-UP]** to exit the set-up screen.

6   Notify Meridian MAX that the PC has a local printer by logging in to the
     system as a supervisor and pressing **{CTRL}{P}** to display the local
     printer control window, as shown in Figure 7-2.

Figure 7-2
Local printer control window


```
                                                                    12: 00: 00
 ┌─ SUPERVISOR 1000 ──────────────────────────────────────────────────────┐
 │                                                                          │
 │                                                                          │
 │              1. Profile Maintenance                                      │
 │              2. Queue Statistics Display                                 │
 │              3. Agent Status Display                                     │
 │              4. Monitor Another Supervisor                               │
 │              5. Report Definition                                        │
 │              6. Report Preview                                           │
 │         ┌─ Local  Printer  Control  Window ──────────────┐              │
 │         │                                                 │              │
 │         │  PRINTER TYPE:  HP DESKJET                      │              │
 │         │  PRINTER NAME:  LOCAL PRINTER                   │              │
 │         └─────────────────────────────────────────────────┘              │
 │             12. Logout                                                   │
 │                                                                          │
 │                                                                          │
 │         Use up and down arrows to move among menu items                 │
 │               and press ENTER to make a selection.                      │
 │                                                                          │
 └──────────────────────────────────────────────────────────────────────────┘
  HELP = Help
```
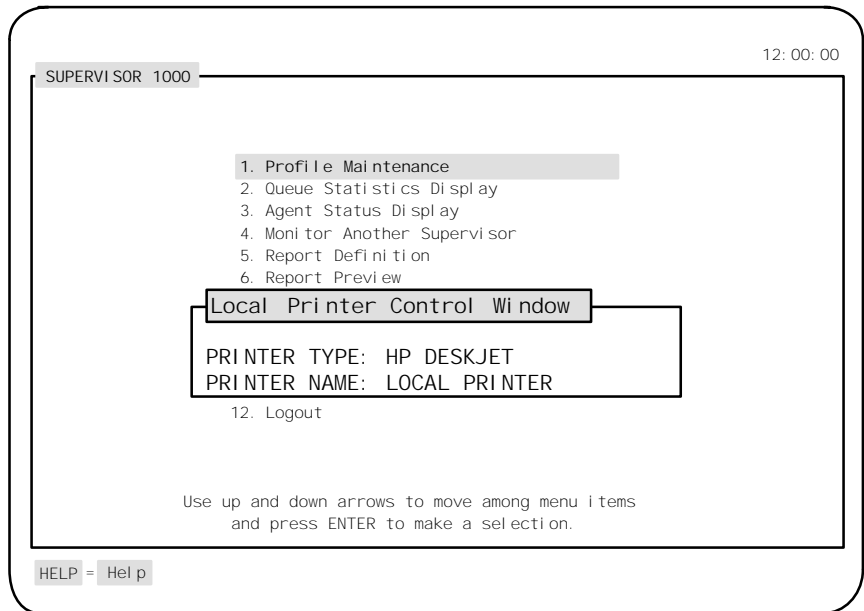
7   Enter a printer type by selecting a printer from the [Options] menu. Type
in a printer name of your choice. This name appears on all printer
menus. Select "Save changes and exit" from the [Commands] menu.

> **⚠ CAUTION**
> **Risk of printer interruption**
> If a new local printer is added, all print jobs on all
> printers are stopped and reprinted in their entirety
> after the new printer is added. To avoid printer
> interruptions, add local printers during off-hours
> or when the printers are in minimal use.

8   At this point, a warning pop-up notice appears notifying you that print
jobs on all printers are stopped and reprinted in their entirety after your
local printer is added. The system prompts you to proceed. Enter **y**.

Serial-parallel converter

A serial-parallel converter (A0621070) is required for printers that use parallel connections instead of serial connections. The converter uses a 36-pin parallel connector at one end to connect to the printer, and a 25-pin female connector at the other end to connect to the serial cable. The converter requires no external power supply because it is powered by the RS-232 interface. Figure 7-3 shows the correct DIP switch settings for use with the Meridian MAX.

Figure 7-3
Serial-parallel converter DIP switch settings
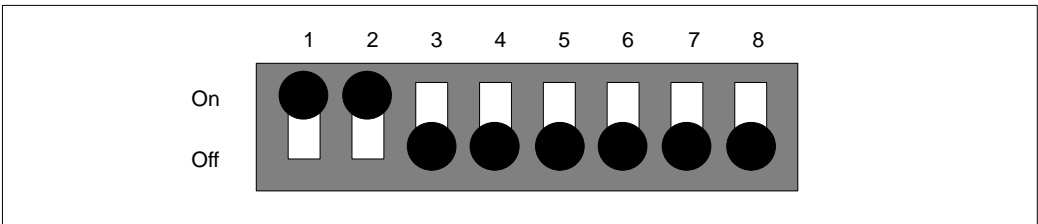
Note: To avoid service interruptions, never use pencils or other graphite tools when changing the position of the DIP switches. Flakes of graphite can enter the switch and damage the printer.

DEC LA195

The DEC LA195 is a dot-matrix printer. This printer can be configured in Epson mode as configured in the VuePrint Menu System. Epson mode does not support the international character set but provides faster printing of reports. Table 7-1 lists the correct system setup for use with the Meridian MAX system. Figure 7-4 shows the correct DIP switch settings for use with the Meridian MAX.

Table 7-1 DEC LA195 system set-up	
Function	**Setting**
Install 1:	
Ribbon	Normal
A.S.F.	Off
Emulation	Epson
Print style:	
Font	Draft
Emphasized	Off
Pitch	10 CPI
Font lock	Off
Page layout:	
Quarter	Off
Line spacing	6 LPI
Form length	Letter
Page skip	Off
Print mode:	
Text dir	Bi-dir
Graphic dir	Uni-dir
AGM mode	Off
—continued—	

Table 7-1 (continued) DEC LA195 system set-up	
Function	**Setting**
Character:	
Slash zero	Off
Character set	Italics
Intl char set	USA
Character set	Set 1
Code page	USA
Install 2:	
Tear off	On
Paper out	Enable
Auto CR	On
Auto LF	Off
Copy mode	Off
Envelope	Off
Language	English
—end—	

Figure 7-4
DEC LA195 DIP switch settings
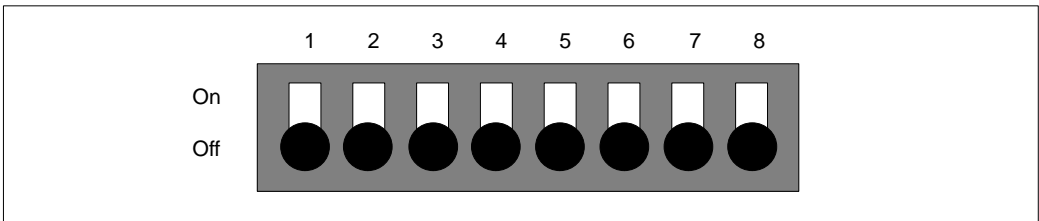
HP RuggedWriter

The RuggedWriter is a dot-matrix printer. This printer can be configured in HP PCL mode or in Epson mode as configured in the Bank B switches. HP PCL mode provides ISO Latin-1 international support as well as higher quality graphics. Epson mode does not support the international character set but provides faster printing of reports. Table 7-2 shows the correct option settings, and Figure 7-5 shows the correct DIP switch settings.

Table 7-2
RuggedWriter option switch settings

Function	Setting	Switch	Switch position
Bank A switches:			
Pitch	10 cpi	1	Down
Default MAX	–8	2	Down
Character set		3	Down
		4	Down
		5	Down
Paper path	z-fold	6	Down
Page length	11 inches	7	Down
Print quality	Draft	8	Down
Bank B switches:			
Command set	EPSON	1	Up
	HP PCL	1	Down
RAM allocation	Buffer	2	Down
Perforation skip	Disabled	3	Down
Handshaking	XON / XOFF	4	Down
Parity	None	5	Down
		6	Down
Baud	9600	7	Down
		8	Down

Figure 7-5
RuggedWriter DIP switch settings
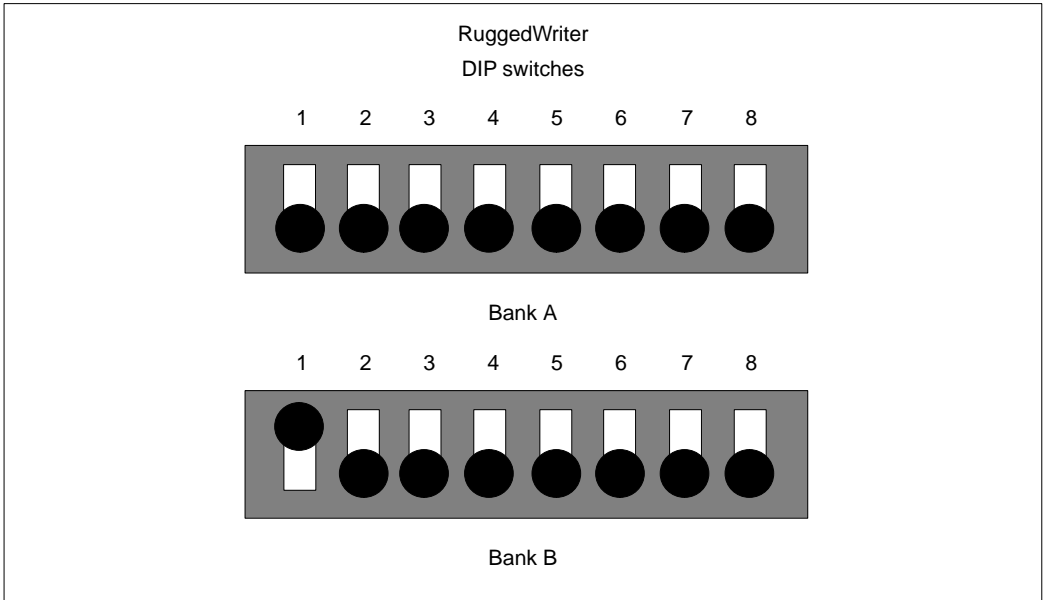
HP LaserJet series II, III, 4, 4 Plus, and 5Si MX

The LaserJet series II, III, 4, 4 Plus, and 5Si MX are laser printers. Table 7-3 shows the option settings for the LaserJet series II. Table 7-4 shows the option settings for the LaserJet series III. Table 7-5 shows the option settings for the LaserJet series 4. Table 7-6 shows the option settings for the LaserJet series 4 Plus. Table 7-7 shows the option settings for the LaserJet series 5Si MX.

Use the {Menu} key on the front panel to check/set the options. Switch the printer off-line, then press the {Menu} key to access the first group of settings. Hold the {Menu} key down for about five seconds (when the printer is off-line) to access the second group of settings. Press the {+} or {−} key until the correct setting appears to change an option. Press the {Enter/Reset Menu} key to save a selection. Press the {Menu} key to continue. Press the {On-line} key to exit the menu.

Note 1 : The HP LaserJet 4 Plus requires a specific HP cable when connecting the printer to a 9-pin serial connector. Contact Hewlett-Packard for more information regarding this cable.

Note 2: To connect a LaserJet series 5Si MX printer to the Meridian MAX, you must select the LaserJet series 4 option from the Meridian MAX menu.

Note 3: If you wish to connect another type of HP LaserJet series 5 printer to the Meridian MAX, verify with your HP distributor that it will be compatible.

Table 7-3 **LaserJet series II printer option settings**
Press {Menu} key to view Printing menu
COPIES = 01
MANUAL FEED = OFF
FONT SOURCE = 1
FONT NUMBER = 00
FORM = 066 LINES
Hold {Menu} key five seconds to view Configuration menu
SYM SET = IBM – US
AUTO CONT = OFF
I/O = SERIAL
BAUD RATE = 9600
ROBUST XON = ON
DTR POLARITY = HI

Table 7-4
LaserJet series III printer option settings

Press {Menu} key to view Printing menu

COPIES = 1

FONT SOURCE = 1

FONT NUMBER = 00

PAPER = LETTER

ORIENTATION = P

FORM = 066 LINES

MANUAL FEED = OFF

SYM SET = ROMAN8

Hold {Menu} key five seconds to view Configuration menu

AUTO CONT = OFF

I/O = SERIAL

SERIAL = RS-232

BAUD RATE = 9600

ROBUST XON = ON

DTR POLARITY = HI

RET = DARK

PAGEPROTECT = OFF

Table 7-5 **LaserJet series 4 printer option settings**
Press {Menu} key to view Printing menu
COPIES = 1
PAPER = LETTER
ORIENTATION = P
FORM = 66
MANUAL FEED = OFF
RET = DARK
Press {Menu} key once to view PCL menu
FONT SOURCE = I
FONT NUMBER = 45
SYM SET = ISO L1
PAGEPROTECT = OFF
RESOLUTION = 300
*TIMEOUT = 15
Press {Menu} key twice to view Configuration menu
MP TRAY = CLASS
LOCK = NONE
CLR WARN = ON
AUTO CONT = ON
DENSITY = 3
LOW TONER = ON
Press {Menu} key three times to view Printing menu
SERIAL = RS-232
PACING = XON/XOFF
BAUD RATE = 9600
ROBUST XON = ON
DTR POLARITY = HI

Table 7-6 **LaserJet series 4 Plus printer option settings**
Press {Menu} key to view Printing menu
COPIES = 1
PAPER = LETTER
ORIENTATION = P
FORM = 60
MANUAL FEED = OFF
RET = MEDIUM
ECONOMODE = OFF
Press {Menu} key once to view PCL menu
FONT SOURCE = I
FONT NUMBER = 0
PITCH = 10.00
SYM SET = ROMAN –8
Press {Menu} key twice to view Job menu
RESOLUTION = 600
IO TIMEOUT = 15
PWRSAVE MODE = 30 MIN
Press {Menu} key three times to view Configuration menu
MP TRAY = CLASS
LOCK = NONE
CLR WARN = ON
AUTO CONT = OFF
DENSITY = 3
LOW TONER = CONT
—continued—

Table 7-6 (continued)
LaserJet series 4 Plus printer option settings

Press {Menu} key four times to view Memory configuration menu

IO BUFFER = AUTO

Press {Menu} key five times to view Parallel menu

HIGH SPEED = YES

ADV FNCTNS = OFF

Press {Menu} key six times to view Serial menu

PACING = XON/XOFF

BAUD RATE = 9600

ROBUST XON = ON

DTR POLARITY = HI

—end—

Table 7-7 **LaserJet series 5Si MX printer option settings**
Press {Menu} key to view Job Control menu
PAPER DESTINATION = TOP
ORIENTATION = PORTRAIT
AUTO CONTINUE = ON
TONER LOW = STOP
BINDING = LONG EDGE
Press {Menu} key once to view Print Quality menu
ECONOMODE = OFF
RESOLUTION = 600 DOTS PER INCH
ENHANCEMENT = ON
PRINT DENSITY = 3
Press {Menu} key twice to view IO menu
PARALLEL IO SPEED = HIGH
IO TIMEOUT = 15 SEC

HP PaintJet 3630, DeskJet, DeskJet 500, DeskJet 560C, and DeskJet 660C

The PaintJet 3630, DeskJet, Deskjet 500, DeskJet 560C, and DeskJet 660C are inkjet printers. The DeskJet 660C printer does not contain DIP switches. Figure 7-6 shows the correct DIP switch settings for the PaintJet 3630, DeskJet, Deskjet 500, and DeskJet 560C printers.

Note: The DeskJet 560C and 660C must be used with a serial-parallel converter. See the "Serial-parallel converter" section for more details.

Figure 7-6
HP PaintJet 3630, DeskJet, DeskJet 500, DeskJet 560C, and DeskJet 660C DIP switch settings
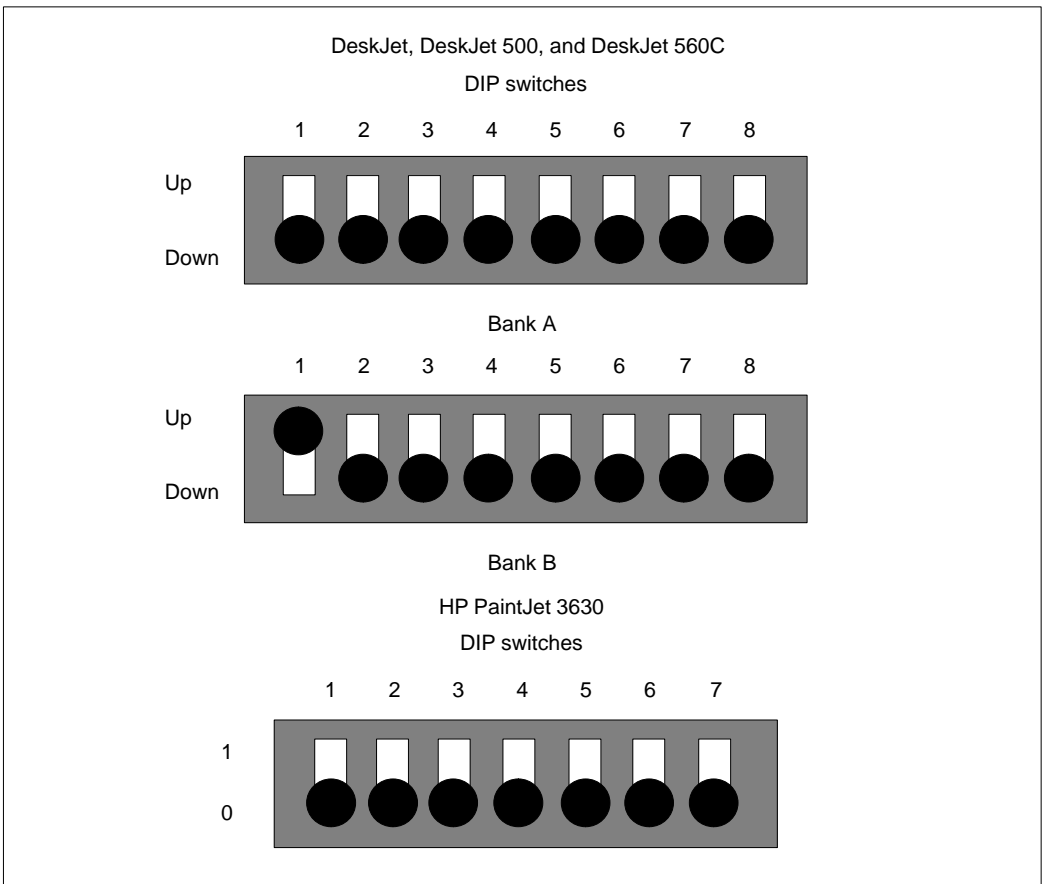
Chapter 8: Meridian 1 circuit card configuration

SDI configurations for Meridian MAX

Meridian MAX Application Module

Because there are several different SDI packs that can be connected to the Meridian MAX's High-Speed Link, detailed configuration instructions for the SDI packs are required.

The HSL is implemented by connecting the NT6D51AA transition module on the Meridian MAX to a supported SDI pack on the MSL1. The following SDI packs are supported: QPC139, QPC841, and the NT8D41. Each type of SDI pack requires a specific HSL cable which then connects to the NT6D51AA through a multiport cable (NT8D96AE). Detailed instructions for configuring the HSL connections are provided below.

The Meridian MAX NT6D51AA transition module does not require configuration. It is configured as a DCE device; that is, it behaves like a modem. Consequently, all SDI ports must be configured as DTE devices.

The QPC139 Serial Data Interface (SDI) operates as a DTE device. Set the QPC139's "Output Device" to "DCE mode (modem)". The Port 1 jumper plug is set to location A13. The Port 2 jumper plug is set to location A25.

The QPC841 Serial Data Interface (SDI) operates as a DTE device. Set the QPC841's "DTE/DCE mode selection" to "DCE mode (modem)."

- Port 1 SW8 is set all to OFF.
- Port 1 SW9 is set all to ON.
- Port 2 SW6 is set all to OFF.

- Port 2 SW7 is set all to ON.

- Port 3 SW4 is set all to OFF.

- Port 3 SW5 is set all to ON.

- Port 4 SW2 is set all to OFF.

- Port 4 SW3 is set all to ON.

The High-Speed Link (HSL) cable or Load Management Link (LML) cable used with the QPC841 SDI and the QPC139 SDI link is part number NT1R03Dx, where x can be B, D, F, L, T, V, depending on the length of the cable. This cable connects the Meridian MAX to the Meridian 1 and can be used as the High-Speed Link or Load Management Link. Refer to the "Hardware installation: Intelligent Peripheral Equipment (IPE) module" chapter, "Cables" section, to see the cabling arrangement for the NT1R03Dx cable.

> *Note:* The Configuration Control feature uses a Load Management Link that is also referred to as a Configuration Control Link.

The NT8D41 Serial Data Interface (XSDI) operates as a DTE device. Set the NT8D41's "DTE/DCE mode selection" to "DCE mode (modem)."

- Port 1 SW5 is set all to OFF.
- Port 1 SW6: dipswitches 1, 3-6 are set to ON; dipswitch 2 is set to OFF.
- Port 2 SW7 is set all to OFF.
- Port 2 SW8: dipswitches 1, 3-6 are set to ON; dipswitch 2 is set to OFF.

The High-Speed Link (HSL) cable or Load Management Link (LML) cable used with the NT8D41 SDI is part number NT8D93Ax , where x can be J or W depending on the length of the cable. This cable connects the Meridian MAX to the Meridian 1 and can be used as the High-Speed Link or Load Management Link. Refer to the "Hardware installation: Application Module (SNN/SNN-E)" chapter, "Cables" section, for the cabling arrangement for the NT8D93Ax cable.

Meridian MAX IPE/IPE-E module

Option 11

When connecting to Option 11, ensure that the Option 11 system is equipped with either a TDS/DTR two-port serial I/O card (NTAK03BA) and a connecting two-port serial cable (NTAK19AA), or an SDI/DCH four-port serial I/O card (NTAK02AA) and a connecting four-port serial cable (NTAK02BA). They are used to interface both the HSL and LML between the Option 11 and the Meridian MAX IPE/IPE-E four-port I/O cable. For a direct connection, the distance between the serial cable used by Option 11 and the four-port I/O cable used by the Meridian MAX IPE/IPE-E must not exceed 15 meters (50 feet). Otherwise, limited distance modems must be used.

Option 21–81

Because there are several different SDI packs that can be connected to the Meridian MAX IPE-E High-Speed Link, detailed configuration instructions for the SDI packs are required.

The HSL is implemented by connecting the NT1R03BA cable (Port 8) on the Meridian MAX IPE/IPE-E to a supported SDI pack on the Meridian 1. The following SDI packs are supported: QPC139, QPC841, and NT8D41. Each type of SDI pack requires a specific HSL cable which then connects to the NT1R03BA cable (Port 8). Detailed instructions for configuring the HSL connections are provided below.

The Meridian MAX IPE/IPE-E HSL port does not require configuration because it is preconfigured as a DCE port. Consequently, all SDI ports must be configured as DTE ports in order for the two ports to communicate.

The QPC139 Serial Data Interface (SDI) operates as a DTE device. Set the QPC139's Output Device to Modem. The Port 1 jumper plug is set to location A13. The Port 2 jumper plug is set to location A25. Refer to *SL-1 Circuit Card Installation and Testing* (NTP 553-3001-211) for more information.

The QPC841 Serial Data Interface (SDI) operates as a DTE device. Set the QPC841 DTE/DCE mode selection to DCE mode (modem).

- Port 1 SW8 is set all to OFF.
- Port 1 SW9 is set all to ON.
- Port 2 SW6 is set all to OFF.
- Port 2 SW7 is set all to ON.
- Port 3 SW4 is set all to OFF.
- Port 3 SW5 is set all to ON.
- Port 4 SW2 is set all to OFF.
- Port 4 SW3 is set all to ON.

The High-Speed Link (HSL) cable or Load Management Link (LML) cable used with the QPC841 SDI and the QPC139 SDI link is referred to as part number NT1R03Dx, where x can be B, C, F, P, or V depending on the length of the cable. This cable connects the Meridian MAX to the Meridian 1 and can be used as the High-Speed Link or Load Management Link.

> *Note:* The Configuration Control feature uses a Load Management Link that is also referred to as a Configuration Control Link.

The NT8D41 Serial Data Interface (XSDI) operates as a DTE device. Set the NT8D41 DTE/DCE mode selection to DCE mode (modem).

- Port 1 SW5 is set all to OFF.
- Port 1 SW6: dipswitches 1, 3-6 are set to ON; dipswitch 2 is set to OFF.
- Port 2 SW7 is set all to OFF.
- Port 2 SW8: dipswitches 1, 3-6 are set to ON; dipswitch 2 is set to OFF.

The High-Speed Link (HSL) cable or Load Management Link (LML) cable used with the NT8D41 SDI is referred to as part number NT8D93Ax, where x can be J or W, depending on the length of the cable. This cable connects the Meridian MAX IPE/IPE-E to the Meridian 1 and can be used as the High-Speed Link or Load Management Link.

Configuring the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link

To configure the Multi-purpose Serial Data Link card (MSDL) for use with the High-Speed Link (HSL) or the Load Management Link (LML) on the Meridian 1, follow the steps in Procedure 8-1.

Before configuring your MSDL card on the Meridian 1 for use with the HSL or LML, contact your Meridian 1 administrator to ensure the following criteria is met:

- Switch settings on the MSDL card must be correct for HSL and LML configuration.

- Port 0 on the MSDL card is an asynchronous port. It must be available for the configuration of the HSL or the LML. The HSL and LML must be configured on separate MSDL cards.

Procedure 8-1
To configure the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link

1   If there are no MSDL cards installed on your current system, refer to the *Circuit Card Installation and Testing Guide* (NTP 553-3001-211) for information on installing MSDL circuit cards, and continue with this procedure.

If MSDL cards are already installed on your current system, go to Step 11.

2   Configure the MSDL card using the Meridian 1 maintenance terminal. Use the document *X11 System Management Applications Guide* (NTP 553-3001-301) and the following guidelines. For prompts not listed, press {**ENTER**} to select the default value.

Note: Ensure "Caps Lock" on your keyboard is set to "on".

Enter **LD 22** to access Overlay program 22 to verify that MSDL (222) and MSDL SDI (227) software is loaded on your system.

The system displays the following prompt:

REQ

3   Enter **PRT** to access the program's print function.

The system displays the following prompt:

TYPE

4   Enter **PKG** to print the X11 software packages equipped on the
Meridian 1. If these packages are not equipped on your system, contact
your distributor.

The system displays the following prompt:

REQ

5   Enter ******** to exit Overlay program 22.

6   Check your system for existing MSDL cards that can be used for HSL
and LML. Verify that the switch settings of the MSDL card number
(DNUM) do not conflict with other I/O devices.

7   At this point, your Meridian MAX HSL or LML cable, NT7D58Ax, should
be disconnected from the MSDL card's NTND27 cable. Once the card
is configured for the HSL or LML, the cables can be connected.

8   If you have a new MSDL card, go to Step 11.

If you have an existing TTY configured on Port 0 of the MSDL card that
you want to use for the HSL or LML, use Overlay program 37 to disable
that TTY port. Contact your Meridian 1 administrator for assistance.

Enter **LD 37** to access Overlay program 37 to disable the TTY port.

9   Enter **DIS TTY xx**. The available TTY is represented by xx.

10   Enter ******** to exit Overlay program 37.

11   Enter **LD 17** to access Overlay program 17 to define the HSL or the
LML on Port 0 of the MSDL card.

The system displays the following prompt:

REQ

12   Enter **CHG** to change the configuration on Port 0.

The system displays the following prompt:

TYPE

13   Enter **CFN** to access the configuration record.

The system displays the following prompt:

ADAN

14   Enter **NEW TTY xx** to add a new MSDL TTY port, or enter **CHG TTY
xx** to change an existing MSDL TTY port. The device number is
represented by xx.

The system displays the following prompt:

CTYP

15   Enter **MSDL**.

The system displays the following:

PORT 0

DES

Note: Port 0 is the only port which may be configured as an HSL or LML.

16 Label the port by entering a name of up to 16 alphanumeric characters in length.

The system displays the following prompt:

BPS

17 Enter **9600** to set the baud rate.

The system displays the following prompt:

PARY

18 Enter **NONE** to set the parity type.

The system displays the following prompt:

BITL

19 Enter **8** to set the data bit length.

The system displays the following prompt:

PARM

20 Enter **R232 DTE** to set the interface and transmission mode.

The system displays the following prompt:

FUNC

21 Enter **{RETURN}** to set the MSDL card function.

The system displays the following prompt:

USER

22 Enter **HSL** to designate the port and set the output message types for HSL, or enter **ACD** to designate the port and set the output message types for LML.

If you designate the port for the HSL, go to Step 26.

If you designate the port for the LML, the system displays the following prompt:

CUST

23 Enter **zz**. The customer number of the Meridian MAX node is represented by zz.

The system displays the following prompt:

SSUP

24 Enter **YES**.

The system displays the following prompt:

APRT

25 Enter **NO**.

26 The system displays the following prompt:

ADAN DATA SAVED
ADAN

27 Enter ******** to exit Overlay program 17.

28 Enter **LD 48** to access Overlay program 48 to disable all other applications running on the MSDL card.

29 Enter **DIS MSDL xx ALL** to disable all ports on the MSDL card. The device number is represented by xx.

A red light appears on the MSDL card. At this point, the card can be removed to check the DIP switch settings. Ensure that the settings are set correctly for RS-232 and that the MSDL card is reinstalled correctly before continuing with this procedure. Refer to the *Circuit Card Installation and Testing Guide* (NTP 553-3001-211) for information on MSDL DIP switch settings and MSDL card installation.

30 Enter **ENL MSDL xx FDL** to download the resident memory on the Meridian 1 to the MSDL firmware. The device number is represented by xx.

31 Enter **ENL MSDL xx ALL** to reenable all ports on the MSDL card. The device number is represented by xx.

32 Enter ******** to exit Overlay program 48.

33 Connect your Meridian MAX HSL or LML cable, NT7D58Ax to the NTND27 MSDL faceplate cable.

34 Check the Meridian MAX Error Log for indication of an HSL or LML connection. Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Diagnostics" section, for more information on the Meridian MAX Error Log.

Chapter 9: Meridian MAX system configuration

During a software installation procedure, you will be referred to this chapter to assign the Meridian MAX ports, adjust the system parameters, and define the capacity configurations.

All the sections in this chapter should be completed in the following order:

1   Assign the ports.

Refer to the "Assigning the ports" section.

2   Assign the system parameters.

Refer to the "Adjusting the system parameters" section.

3   Assign the MSI or MEI links.

Refer to the "Assigning MSI or MEI links" section.

4   Assign the capacity configurations.

Refer to the "Setting the capacity configurations" section.

5   Return to your previous software installation procedure.

Assigning the ports

Port assignment must be completed during a software installation or operating modes procedure.

Fixed port assignments

Table 9-1 provides a list of predefined ports on the SNN/SNN-E and IPE/IPE-E platforms. These ports cannot be changed.

Table 9-1
Meridian MAX ports

Platform	Maximum number of ports	Predefined ports
SNN/SNN-E	8/16/24/32/40	Card 2, Connection 1A is permanently assigned to the High-Speed Link and cannot be changed by the user. The LAN connection is located at the Ethernet port on the I/O panel.
IPE/IPE-E	8	The High-Speed Link is fixed on Port 8, the console port is fixed on Port 1, and the diagnostic modem is fixed on Port 2. The maintenance console and remote diagnostics modem may also be used as a supervisor display through Supervisor Display Access (SDA). The LAN connection is located at the Ethernet port on the NT1R03AA four-port I/O cable.

Required port assignments

Not all ports must be assigned. However, certain devices must be configured to the Meridian MAX. Table 9-2 provides a list of these other devices.

Table 9-2 **Required ports assignments**	
Devices	**Comments**
Supervisor workstations and printers	If there are no active LAN supervisor sessions, a minimum of one supervisor workstation and one printer must be assigned on the Meridian MAX.
Load Management Link	If the Meridian MAX has Configuration Control, the Load Management Link must be assigned. Only one Load Management Link is allowed per system. This device can be assigned to any port except the High-Speed Link port on the SNN/SNN-E systems, or on ports 1, 2, and 8 on the IPE/IPE-E systems.
Network Link	If the Meridian MAX has NAC Connectivity enabled, the Network Link must be assigned. Only one Network Link is allowed per system. The device may be assigned to any port except the High Speed Link port on the SNN/SNN-E systems, or ports 1, 2, and 8 on the IPE/IPE-E systems.

Retained port assignments

All port assignments are retained if:

- you are performing an upgrade without a hardware platform change and the new ports are equal to or greater than the number of ports on the previous system

All ports must be reassigned if

- you are performing an installation upgrade that involves a change in hardware platform

- the number of available ports on the new system is less than the number of available ports on the old system

If you want to change your port assignments after the installation is complete, you must alter the port assignments through maintenance. Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" or "Maintenance and administration programs: system shutdown" chapters, "Configure Meridian MAX System" section, "MAX Hardware Configuration" subsection, for more information.

Port assignment procedure

Perform the procedures in this chapter only if you were referred to it by a software installation or operating modes procedure. For operating modes, only the port assignment section is required. Once you have completed the procedures, return to the software installation or operating modes procedure you were performing.

Procedure 9-1
To assign Meridian MAX ports

1   Ensure that you have completed your software installation procedure up until the point where the Meridian MAX Hardware and System Parameters menu appears and you are referred to this chapter.

Figure 9-1
Meridian MAX Hardware and System Parameters
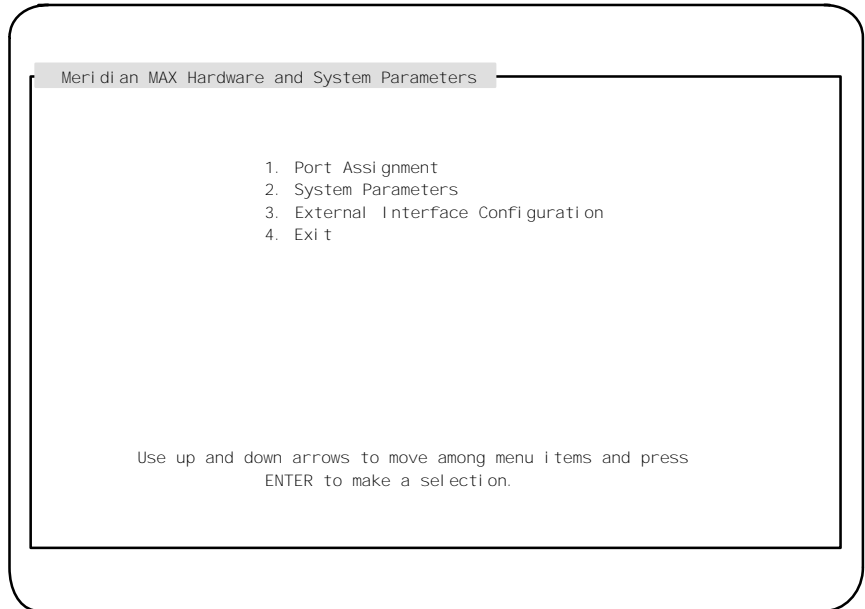
```
 Meridian MAX Hardware and System Parameters

                    1. Port Assignment
                    2. System Parameters
                    3. External Interface Configuration
                    4. Exit




        Use up and down arrows to move among menu items and press
                    ENTER to make a selection.
```

Note: The External Interface Configuration feature only appears on this menu if the MSI option or MEI option, or both, are enabled.

2   To enter your port assignments, enter **1**, followed by **{RETURN}** or highlight the field using the cursor keys, followed by **{RETURN}**.

The Meridian MAX Communication Port Assignment screen appears.

Figure 9-2
Meridian MAX Communication Port Assignment

```
    Unassigned Displays/Printers: #
    Meridian MAX Communication Port Assignment


    Port                 Device              Connect  Baud  Name/Comment
    Card 2, Conn1A       High Speed Link     Direct   9600
    Card 2, Conn1B
    Card 2, Conn1C
    Card 2, Conn2A
    Card 2, Conn2B
    Card 2, Conn2C
    Card 2, Conn3A
    Card 2, Conn3B
    Card 3, Conn1A
    Card 3, Conn1B
    Card 3, Conn1C
    Card 3, Conn2A
    Card 3, Conn2B
    Card 3, Conn2C
    Card 3, Conn3A
    Card 3, Conn3B

 PF1 = Commands  PF2 = Options  REMOVE = Erase field  F6 = Update default printers
```

*The screen shown in this procedure is only an example of an SNN
system with no ports assigned.*

3   Complete the Meridian MAX Communication Port Assignment screen
using the "Fields" and "Function keys" sections described at the end of
this procedure.

4   When the screen is finished, press **{PF1}** and select the "Save changes
and exit" command.

*The communication port assignment information is saved. The Meridian
MAX Hardware and System Parameters screen appears.*

5   Go to the "Adjusting the system parameters" section.

Function keys

PF1=Commands

The following commands are available after pressing [Commands]:

Exit (without saving changes)

This command returns the system to the Meridian MAX Hardware and System Parameters menu without saving any changes.

Save changes and exit

This command saves the changes and returns the system to Meridian MAX Hardware and System Parameters menu.

PF1=Select no command

This function key removes the Commands pop-up window from the screen.

PF2=Options

This function key displays a description or list of valid entries for the field. Press this key when the cursor is on the *Device* field to view a pop-up menu of the devices available for your system.

PF2=Select no options

This function key removes the Options pop-up menu from the screen.

Remove=Erase field

This function key removes the contents of a field. To delete an existing entry, move the cursor to the line on which the device is located. Press **{REMOVE}** and the device is removed.

F6=Update default printers

This function key allows you to view or change the default printers. When all of the peripherals are assigned to ports, press **{F6}**. The system displays the Customer Default Printer Information pop-up window which contains the Customer Default Tabular Printer name and the Customer Default Graphic Printer name. To modify the *Customer Default Tabular Printer* field, highlight this field and press **{PF2}** to select the name of the printer you want to use as the default tabular printer. This printer is now the destination for all tabular reports whenever the default output device is selected. To modify the *Customer Default Graphic Printer* field, highlight this field and press **{PF2}** to select the name of the printer you want to use as the default graphic printer. This printer is now the destination for all graphic reports whenever the default output device is selected.

Fields

Unassigned Displays/Printers

This field, which appears at the top of the screen, indicates the number of available printers and displays that may be assigned to available ports. This number is represented by the number sign (#) in the sample screens.

Port

This field lists the ports.

For an SNN/SNN-E system, the ports are listed according to their card number, and connection number and letter. The card number refers to the card slot number in which the card is located. The card number begins at Card 2, Connection 1A because the CPU resides in the first card slot. The connection number refers to the port connection on the generic Input/Output panel. The connection letter refers to the specific port to which the devices are attached. An SNN/SNN-E system can have 8, 16, 24, 32, or 40 ports. If the system has more than 16 ports, all of the ports cannot be viewed on a single screen. Use the up and down arrow keys to scroll the screen to view the rest of the ports.

For an IPE/IPE-E system, the ports are listed numerically. In an IPE/IPE-E system, a maximum of eight ports can be assigned.

Not every port has to be assigned but you must assign at least one printer and one supervisor workstation.

Device

This field is used to assign devices to the ports. To assign a device, move the cursor to the next available *Device* field and press **{PF2}** to view a pop-up menu of the devices available for your system. The following screen is an example. Your system's menu may differ.

Figure 9-3
Device options on the Meridian MAX Communication Port Assignment screen

```
 Unassigned Displays/Printers: #
 Meridian MAX Communication Port Assignment
                                              ┌─Device────────────────┐
                                              │ 1. High Speed Link     │
                                              │ 2. Load Management Link │
                                              │ 3. Network Link         │
 Port               Device              Conn  ├─DISPLAYS───────────────┤
 Card 2, Conn1A     High Speed Link     Dire  │                         │
 Card 2, Conn1B                               │ 4. MTE on PC            │
 Card 2, Conn1C                               │ 5. Reflection 4+ on PC  │
 Card 2, Conn2A                               │ 6. VT420 or Compatible  │
 Card 2, Conn2B                               │ 7. VT220 or Compatible  │
 Card 2, Conn2C                               │ 8. Unknown Display      │
 Card 2, Conn3A                               ├─PRINTERS───────────────┤
 Card 2, Conn3B                               │                         │
 Card 3, Conn1A                               │ 9. HP DeskJet          │
 Card 3, Conn1B                               │ 10. HP DeskJet 560C     │
 Card 3, Conn1C                               │ 11. HP LaserJet         │
 Card 3, Conn2A                               │ 12. HP PaintJet         │
 Card 3, Conn2B                               │ 13. HP RuggedWriter-Epson│
 Card 3, Conn2C                               │ 14. HP RuggedWriter-PCL │
 Card 3, Conn3A                               │ 15. Data Stream         │
 Card 3, Conn3B                               │ 16. DEC LA195-Epson     │
                                              └─────────────────────────┘
 PF2 = Select no option    F6 = Update default printers
```

The following list contains important notes regarding the *Device* field:

- Refer to Table 9-1 for a list of predefined ports on the Meridian MAX. Refer to Table 9-2 for a list of other devices which must be assigned to the ports.

- If your system is an IPE/IPE-E, the *Device* field can have up to seven different entries: Load Management Link, supervisor display, printer, console port, diagnostic modem, network link, and High-Speed Link.

- If your system is an SNN/SNN-E, the *Device* field can have up to five different entries: Load Management Link, supervisor display, printer, network link, and High-Speed Link.

- In Meridian MAX 8, the diagnostic modem port speed has been increased from 2400 baud to 9600 baud. The diagnostic modem port speed can only be modified by continuously hitting the {BREAK} key when the modem connects. The maximum speed is 9600 baud. The diagnostic modem is used by personnel providing remote support.

The diagnostic modem is connected to the second serial port on the CPU card. This port is only shown on the display if you have an IPE/IPE-E platform.

- If you are using a VT520 display, select VT420 when you press **{PF2}** while in the *Device* field.

- If you are using an HP DeskJet 660C printer, select HP DeskJet 560C when you press **{PF2}** while in the *Device* field.

- Each time a printer is selected, a message appears at the bottom of the screen asking the installer to enter a printer name for the assigned port in the *Name/Comment* field. Enter a unique name in the *Name/Comment* field that identifies the printer. For example, if a tabular printer is assigned, the name TabPrint could be used. Every printer must have a unique name.

- The default printer must be assigned before you are allowed to exit this screen.

- Printer models are listed when you press **{PF2}** while in the *Device* field. Select the model appropriate to the printer connected to the assigned port.

- An arrow appears on the right-hand side of the pop-up menu if all of the devices could not fit onto the screen. Use the up and down arrow keys to move through the menu. Select the desired device from the list presented. To enter a selection, either move the cursor to the selection and press **{RETURN}**, or enter the corresponding selection number and press **{RETURN}**. If a device name is dimmed, it cannot be selected.

Connect
This field provides the connection type for each device. This entry must be selected from one of the choices that appear in a pop-up window. The choices for this field are "Direct," "Modem," and "To PC." Depending upon the device assigned, this field may be filled in automatically by the system.

Baud

This field indicates the baud rate. Each time an unknown display or network link is selected, a baud rate must also be assigned. The choices are 2400 or 9600. You can, however, change the baud rate of the High-Speed Link port from 9600 to 19 200 and vice versa while the system is shut down. The default baud rate of the High-Speed Link is 9600. For other devices, the baud rate is assigned automatically by the system (except for the network link and unknown displays). The baud rate for the Meridian MAX High-Speed Link must match the baud rate of the High-Speed Link on the Meridian 1.

Name/Comment

This field displays the name given to an assigned printer, or comments made on other devices configured on the system. Press **{PF3}** to edit the *Name/Comment* field for a specific device.

Adjusting the system parameters

After the ports have been assigned, the system parameters must be defined or modified.

System parameters procedure

Perform this procedure to assign the system parameters. This is done after the ports are assigned.

Procedure 9-2
To assign system parameters

1   Display the Meridian MAX Hardware and System Parameters menu.

Figure 9-4
Meridian MAX Hardware and System Parameters
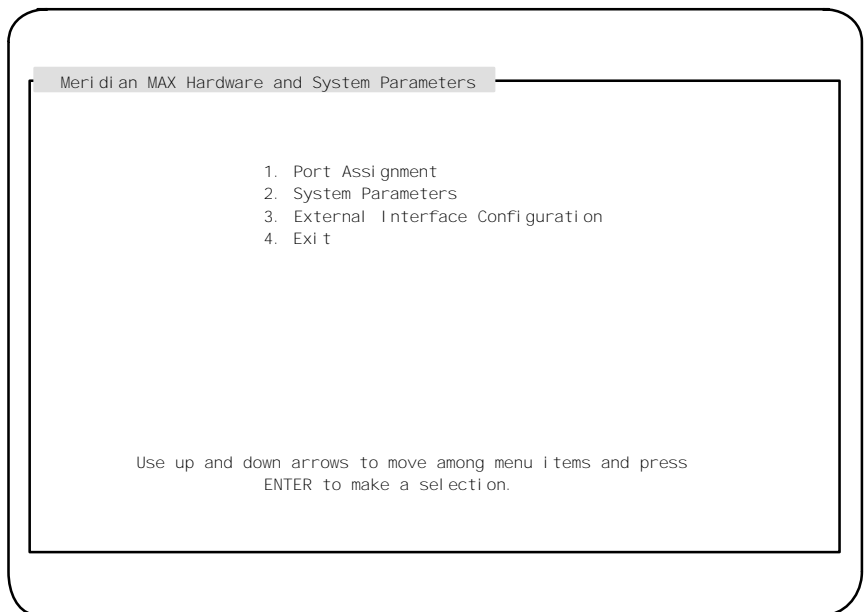
```
  Meridian MAX Hardware and System Parameters


                    1.  Port Assignment
                    2.  System Parameters
                    3.  External Interface Configuration
                    4.  Exit






        Use up and down arrows to move among menu items and press
                    ENTER to make a selection.
```

Note: The External Interface Configuration feature only appears on this menu if the MSI option, or MEI option, or both, are enabled.

2   To assign system parameters, enter **2**, followed by **{RETURN}** or highlight the field using the cursor keys, followed by **{RETURN}**.

The Meridian MAX System Parameters screen appears.

Figure 9-5
Meridian MAX System Parameters

```
  Meridian MAX System Parameters

    Customer Name                             :  Northern Telecom
    System Administrator Password             :  sysadmin
    Meridian 1 Network Node Address           :  888
    NAC to MAX Login Password                 :  ntacdmax

    MAX Hostname                              :  MAX02
    MAX IP Address                            :  47.235.5.92

    MAX Subnet Mask                           :  Default
    MAX Default Router/Gateway Address        :  Default
```

PF1 = Commands PF2 = Options PF3 = Edit field Remove = Erase field

All of the fields shown on this screen will only appear if your system has NACD, NAC, and LAN connectivity options enabled. If these are not enabled, only the Customer Name and System Administrator Password fields will appear.

3 Complete the Meridian MAX System Parameters using the "Fields" and "Function keys" sections described at the end of this procedure.

4 When the screen is finished, press **{PF1}** and select the "Save changes and exit" command.

The system parameters are saved. The Meridian MAX Hardware and System Parameters screen appears.

5 If MSI or MEI is enabled on your system, go to the "Assigning MSI or MEI links" section. Otherwise, go to the "Setting the capacity configurations" section.

Function keys
PF1=Commands
The following commands are available after pressing [Commands]:

Exit (without saving changes)
This command returns the system to the Meridian MAX Hardware and System Parameters menu without saving any changes.

Save changes and exit
This command saves the changes and returns the system to Meridian MAX Hardware and System Parameters menu.

PF1=Select no command
This function key removes the Commands pop-up window from the screen.

PF2=Options
This function key displays a description or list of valid entries for the field.

PF2=Select no options
This function key removes the Options pop-up window from the screen.

PF3=Edit field
This function key allows you to edit the contents of a field.

Remove=Erase field
This function key removes the contents of a field.

Fields
Customer Name
This field shows the name of your organization.

System Administrator Password
This field shows the password used by the system administrator to log in to the system.

Meridian 1 Network Node Address
This field shows the Home Location Code for the Meridian 1. It only appears if your system has Network Automatic Call Distribution (NACD).

It is used in reports showing network call traffic. If it is necessary to query the Meridian 1 for the Meridian 1 network node address, load Overlay 21 on the Meridian 1, and print the Customer Data Block.

The value of the Home Location Code is the value you should enter for the Meridian 1 network node address on the System Parameters screen. If your system has NAC, the Meridian 1 network node address is used by NAC for logging on. On the NAC's Network Definition/Installation screen, the *Node Address* field must match the *Meridian 1 Network Node Address* field in the Meridian MAX system.

The Meridian 1 network node address can only contain numbers and decimals. It must also match the node address assigned to the Meridian 1. If no address was assigned to the Meridian 1, the default value is **338**.

NAC to MAX Login Password
This field shows the password required for the NAC supervisor to log in to the MAX. The password shown must match the password used on the NAC.

This field only appears if your system has NAC connectivity enabled.

MAX Hostname
This field shows the name assigned to your Meridian MAX. This field only appears if your system has at least one LAN session defined, or the MSI option or MEI option enabled.

MAX IP Address
This field shows the LAN address assigned by your LAN administrator to your Meridian MAX. Only numeric characters and decimal points can be used in this field.

The IP address is in the format *a.b.c.d*, where *a* falls within the range of 0 to 223 (excluding 127), and *b, c,* and *d* fall within the range of 0 to 254.

This field only appears if your system has at least one LAN session defined, or the MSI option or MEI option enabled.

MAX Subnet Mask
This field shows the subnet mask of the network. This field is either the system default or a value assigned by your network administrator.

If the system IP address is changed, the default subnet mask changes as well.

The subnet mask is in the format *a.b.c.d*, where *a, b, c,* and *d* fall within the range of 0 to 255.

The subnet mask is a 32-bit number used by the network software on a local machine to determine which bits belong to the network or to the host parts of the internet address. An improper subnet mask can result in high collision rates and reduced network efficiency.

CAUTION
Risk of high collision rates and reduced network efficiency

An improper subnet mask can result in high collision rates and reduced network efficiency.

If the system default is not used, ensure that the subnet mask entered has been obtained from your network administrator.

The MAX subnet mask is not needed to connect to the network. If the subnet mask needs to be changed, obtain the mask from your LAN administrator.

This field only appears if your system has at least one LAN session defined, the MSI option enabled, or the MEI option enabled.

MAX Default Router/Gateway Address
This field shows the address of the default router currently connected to the Meridian MAX. This field is either the system default or an address assigned by your network administrator.

The address is in the format *a.b.c.d*, where *a* falls within the range of 0 to 223 (excluding 127), and *b, c,* and *d* fall within the range of 0 to 254.

In a networked environment, routers (or gateways) provide connectivity between two networks.

The MAX Default Router/Gateway Address is not needed to connect to the network. If the router/gateway address needs to be changed, obtain the address from your LAN administrator.

This field only appears if your system has at least one LAN session defined, or the MSI option or MEI option enabled.

Assigning MSI or MEI links

For each MEI and MSI link, you must enter the port number which the third party vendor will use to connect to the Meridian MAX. You must also enable or disable the links. This is done on the Meridian MAX External Interface Configuration screen.

For more information on MSI and MEI, refer to the *Meridian MAX 8 MSI/MEI Protocol Reference Guide* (P0853414).

MSI or MEI link procedure

Perform this procedure after assigning the ports and setting the system parameters.

Procedure 9-3
To assign the MSI or MEI links

1   Display the Meridian MAX Hardware and System Parameters menu.

Figure 9-6
Meridian MAX Hardware and System Parameters
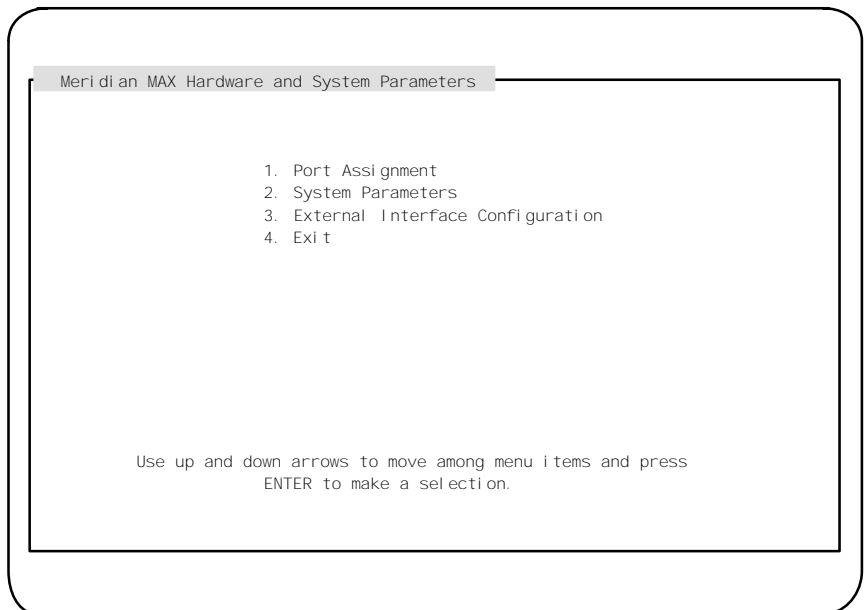
```
    Meridian MAX Hardware and System Parameters

                    1. Port Assignment
                    2. System Parameters
                    3. External Interface Configuration
                    4. Exit




          Use up and down arrows to move among menu items and press
                        ENTER to make a selection.
```

Note: The External Interface Configuration feature only appears on this menu if the MSI option or MEI option, or both, are enabled.

2   To assign the MSI or MEI links, enter **3**, followed by **{RETURN}** or highlight the field using the cursor keys, followed by **{RETURN}**.

The Meridian MAX External Interface Configuration screen appears.

Figure 9-7
Meridian MAX External Interface Configuration

```
┌──────────────────────────────────────────────────────────────────────
│
│   ┌─ Meridian MAX External Interface Configuration ─┐
│   │
│      Link Type          Port Number     Enabled/Disabled
│
│      MSI                44247           Disabled
│      MEI-Network        45555           Enabled
│      MEI-Observe        44300           Enabled
│      MEI-Observe        44301           Enabled
│      MEI-Observe        44302           Enabled
│
│
│
│
│
│
│
│
│   PF1 = Commands  PF2 = Options   Remove = Erase field
│
└──────────────────────────────────────────────────────────────────────
```

All of the fields appear only if your system has MSI and the maximum number of MEI options installed.

If you are entering this screen for the first time during a new installation, default values are assigned to the Port Number fields of each link.

3   Complete the Meridian MAX External Interface Configuration screen using the "Fields" and "Function keys" sections described at the end of this procedure.

4   When the screen is finished, press **{PF1}** and select the "Save changes and exit" command.

The settings are saved. The Meridian MAX Hardware and System Parameters screen appears.

5   Go to the "Setting the capacity configurations" section.

Function keys

PF1=Commands
The following commands are available after pressing [Commands]:

Exit (without saving changes)
This command returns the system to the Meridian MAX Hardware and System Parameters menu without saving any changes.

Save changes and exit
This command saves the changes and returns the system to Meridian MAX Hardware and System Parameters menu.

PF1=Select no command
This function key removes the Commands pop-up window from the screen.

PF2=Options
This function key displays a description or list of valid entries for a field.

PF2=Select no options
This function key removes the Options pop-up window from the screen.

Remove=Erase field
This function key removes the contents of a field.

Fields

Link Type
This field shows whether MSI or MEI links are installed on your system. These links transmit data from the Meridian MAX to the third-party vendor application.

Up to four MEI connections and one MSI connection are allowed to the Meridian MAX at any time. The MSI and MEI connections are logical LAN connections, however; there is only one physical LAN port. Of the four MEI connections, only one MEI-Network connection is allowed at any time. The remaining three can be MEI-Observe connections.

MEI-Network messages are designed for third-party vendor applications wishing to route calls through the public switched network on a real-time basis. The MEI-Observe messages are designed for vendors wishing to monitor agent performance.

Port Number
This field shows the port number which the third-party vendor will use to connect to the Meridian MAX. The port numbers must be in the range of 44 245 to 50 000. Each link from the same Meridian MAX to a third-party vendor must have different port numbers. The same port numbers, however, can be used on different Meridian MAX systems linked to third-party vendors.

Enabled/Disabled
This field enables or disables the link from the Meridian MAX to the third-party vendor application.

Setting the capacity configurations

The Capacity Configuration feature is described in five parts:

- Introducing the Capacity Configuration feature

- Estimating time to completing operations and maintenance routines

- Configuring the system database

- Basic Capacity Configuration procedure

- Advanced Capacity Configuration procedure

Introducing the Capacity Configuration feature

The Capacity Configuration feature allows you to customize your Meridian MAX system parameters, making the most efficient use of your system database storage and system memory. You can control the amount of historical data storage, as well as the amount of ACD data that is being presented on the real-time statistics displays. This information is displayed on the Basic Capacity Configuration screen and the Advanced Capacity Configuration screen.

ATTENTION

Consult with your vendor's telecommunication engineer before attempting to configure the system database. If the system is configured incorrectly, a subsequent system reconfiguration could take between 15 minutes and 14 hours depending on database size. It typically takes between one to three hours.

Ensure you receive the completed and approved Capacity Configuration worksheets from the telecommunication engineer, who has determined your configuration requirements using the MAX Capacity Configuration Calculator. This preparation must be done before starting your software installation. Failure to take this preparation before configuring the system database could result in an improper configuration and an extended installation time. Because of the large number of interdependent field values that affect database storage, the telecommunication engineer must be consulted.

Functionality
Capacity Configuration allows you to

- configure the Meridian MAX to the desired and expected ACD data acquisition workload, and the ACD historical data database storage capacity

- define basic desired or predicted Capacity Configuration parameters

- utilize your available hardware resources more efficiently

- monitor the ACD data acquisition and storage capacity usage patterns online to more accurately define the Meridian MAX Capacity Configuration parameters

Historical database
As an increasing amount of data is saved in the Meridian MAX database, the historical database tables may become full. Meridian MAX has two conditions under which the a historical database table is considered full.

1   The first condition occurs when one or more database tables reach the expected disk space limit for the Meridian MAX. In this case, Meridian MAX deletes the oldest data stored in its memory. The deleted data could be a day of daily data or interval data, a week of weekly data, or a month of monthly data. The current data is not lost.

The dates of the data stored in the tables always remains consistent. For example, if the two oldest dates of data are deleted from one table, the data for those dates are removed from all tables.

2   The second condition occurs when the following criteria is reached simultaneously:

- The database table is full.

- The oldest data is within the minimal data duration, as defined in the Capacity Configuration. The minimal data duration includes two days of interval and agent event log data, and one day, one week, or one month of daily, weekly, or monthly data, respectively.

In this case, Meridian MAX cannot store even the latest data into the historical database.

Under these conditions, the Meridian MAX system administrator or system operator should reconfigure the Meridian MAX Capacity Parameters more accurately, and as soon as possible.

Impact of Meridian MAX 8 on the historical database

Most of the features introduced in Meridian MAX 8 require a small amount of extra disk space and memory. Three of the features, however, do require additional historical database storage space. If your historical database disk is at or near its storage limit, you may need to reduce some of your other capacity configuration parameters to accommodate these new features.

Depending on the capacity configuration parameters, the three features and the additional space they require include the following:

- Nine-Digit DNIS Reporting (0.1 Mbyte to 1 Mbyte)

- DNIS-CCR Treatment Reporting (2 Mbyte to 15 Mbyte)

- Agent Activity Code Reporting (60 Mbyte to 500 Mbyte without MQA, and 200 Mbyte to 1400 Mbyte with MQA)

Factors influencing midnight routines

The time for the midnight routines (excluding midnight backup) depends on the database size of the interval data collected for one day, the system's processor, and the demand on input/output devices. The call rate is a major factor. This value varies depending on the capacity configuration parameters.

Interval data means historical data records kept for each 30-minute interval. Interval data records typically occupy 50 percent of the historical database size. The amount of the interval data is the single largest factor contributing to the time for the midnight routines (excluding midnight backup).

The midnight backup time depends largely on the disk space occupied by the historical database.

Configuring the system database

The Capacity Configuration feature can be used to

- configure a new historical database

- configure a historical database using a previously existing Meridian MAX database

- reconfigure the historical database through the Meridian MAX 8 maintenance and administration programs

Your Meridian MAX database should only need to be configured once. This can be done during the initial software installation, an installation upgrade, or an application upgrade.

A well-planned database configuration (completed before the system software installation) and a provision for system growth are essential to maximize your system's efficiency. Not taking these measures could result in the need for a system database reconfiguration which, depending on its size, can take between 15 minutes to 14 hours.

Configuring a new system database

If you are configuring a new historical database, you need to receive the completed and approved Capacity Configuration worksheets from your telecommunications engineer. These worksheets instruct you as to the values which should be entered on your Basic Capacity Configuration and Advanced Capacity Configuration screens.

Modifying system capacities

Once you enter the Capacity Configuration feature, you should further modify your system capacities. The system displays the Basic Capacity Configuration screen. Pressing the {F6} function key allows you to access the Advanced Capacity Configuration screen. Both screens display the transferred values from the previous Meridian MAX historical database in their respective fields.

At this point, you are still able to affect changes to your Meridian MAX 8 capacity configuration. The value for each field can be altered by moving the cursor to the field you want to change and entering the new value. Use your completed and approved Basic Capacity Configuration worksheet, seen in Table 9-3, and Advanced Capacity Configuration worksheet, seen in Table 9-4, to modify the values in any affected field.

Note: While changing the field values, closely monitor the amount of available disk space. This value changes with every modification to the screens. Ensure that the amount of "Expected" disk space does not exceed the amount of "Available" disk space.

System reconfiguration

If you must reconfigure your Meridian MAX 8 system, this process can be done through the maintenance and administration programs.

Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter, for more information.

Capacity Configuration worksheets

Use the Basic Capacity Configuration worksheet and the Advanced Capacity Configuration worksheet when you create your Meridian MAX 8 system database. Obtain the completed worksheets from your telecommunications engineer.

First, enter the system capacities of your current Meridian MAX system database into the "Actual Value" column. Second, determine field values that allow for future system growth. Enter this number in the "Expansion Value" column and use it as the capacity configuration parameter for your Meridian MAX system.

The amount of period data on a printed report depends on the amount of daily data. The amount of shift data on a printed report depends on the amount of interval data.

Table 9-3			
Basic Capacity Configuration worksheet			
Field name	**Subfield name**	**Actual value**	**Expansion value**
M1 Positions	N/A		
M1 Supervisors	N/A		
Agent ID	N/A		
DNIS	N/A		
Activity Code	N/A		
Avg. Calls per Hour	N/A		
Queues	ACD-DNs		
	CDNs		
	IVR/MAIL		
ACD Trunk Level Reporting	N/A		
Routes	RAN		
	ACD Auto Terminate (AT)		
	ACD Non AT		
ACD Trunks	Auto Terminate (AT)		
	Non AT Trunks		
Operation Hours	Agent Shifts Per Day		
	Hours Per Day		
	Days Per Week		
—continued—			

Table 9-3 (continued)
Basic Capacity Configuration worksheet

Field name	Subfield name	Actual value	Expansion value
Storage Duration	Interval Data (days)		
	Daily Data (days)		
	Weekly Data (weeks)		
	Monthly Data (months)		
	Event Log Data (days)		
—end—			

Note: Before any changes can be saved in the Basic Capacity Configuration screen, the user is required to view the Advanced Capacity Configuration screen by pressing {F6}. Once this screen is viewed and any additional changes are made, return to the Basic Capacity Configuration screen to save all of the changes.

Table 9-4
Advanced Capacity Configuration worksheet

Field name	Subfield name	Actual value	Expansion value
ACD Queue Operations (per int.)	Dest. Qs per CDN		
	Dest. Qs per ACD-DN		
	Rem. Src. Qs per ACD-DN		
	Primary Answering Qs		
—continued—			

Table 9-4 (continued) Advanced Capacity Configuration worksheet			
Field name	**Subfield name**	**Actual value**	**Expansion value**
Trunk Reassignment (per int.)	AT Trunk to Queue		
	Qs Receiving Transfers		
Position Reassignment (per int.)	Pos. to Supervisor		
	Pos. to Queue		
Activity Code Usage (per int.)	Activity Codes per Q		
Qs Logged in per Agent	N/A		
Agent Events (per day)	Logins per Agent		
	Walkaways per Agent		

Note: Once any changes have been made in the Advanced Capacity Configuration screen, the user is required to return to the Basic Capacity Configuration screen where the changes can then be saved.

Basic Capacity Configuration procedure

Perform this procedure after assigning the ports, setting the system parameters, and assigning the MSI and MEI links.

Procedure 9-4
To assign the basic capacity configurations

1   Follow the procedures described in this chapter to assign the ports, system parameters, MSI links, and MEI links.

2   Display the Meridian MAX Hardware and System Parameters menu.

Figure 9-8
Meridian MAX Hardware and System Parameters

```
  Meridian MAX Hardware and System Parameters



                      1.  Port Assignment
                      2.  System Parameters
                      3.  External Interface Configuration *
                      4.  Exit






          Use up and down arrows to move among menu items and press
                       ENTER to make a selection.

   *   Note:  The External Interface Configuration feature only appears if MSI
              or MEI is enabled.
```
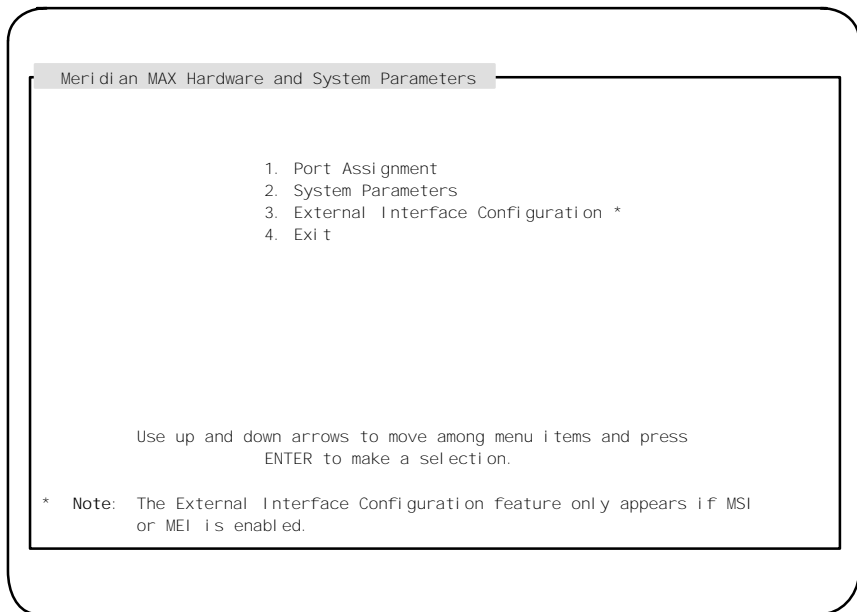
3   Enter **4**, followed by **{RETURN}** to exit.

4   If you are performing an operating mode procedure (such as switching from Training to Precutover, or from Precutover to Product), return to that operating mode.

5   Wait for the system to display the Basic Capacity Configuration screen.

   This is only a sample. Your values may differ.

Figure 9-9
Basic Capacity Configuration

```
Basic Capacity Configuration
                  Expected   Measured    Eff. Date 1996/07/06              NEW
M1 Positions          800      1200
M1 Supervisors         50       100
Agent IDs            1500      2400     Disk Space
DNIS                  200       500       Available          460 MB
Activity Codes        100       500       Expected           345 MB
Avg. Calls per Hour  9000     20000


Queues      ( 110)            240                          Expected   Maximum
  ACD-DNs             80               Operation Hours
  CDNs                20                 Agent Shifts Per Day    2         5
  IVR/MAIL            10                 Hours Per Day          14        24
Routes      ( 251)           256         Days Per Week           5         7
  RAN                 20
  ACD Auto Term (AT) 120               Storage Duration
  ACD Non AT         111                 Interval Data (days)    8
ACD Trunk Level Rpt  OFF                 Daily Data (days)      31
ACD Trunks    (1800)        1800         Weekly Data (weeks)    56
  Auto Termin (AT)   600                 Monthly Data (months)  36
  Non AT            1200                 Event Log Data (days)   4

Help = Help PF1 = Commands PF2 = Options Remove = Erase field PF6 = Advanced Capacity
```

6 Complete the Basic Capacity Configuration screen using the "Fields" and "Function keys" sections described at the end of this procedure.

   The Basic Capacity Configuration screen displays limits or maximums for the various capacity configuration parameters. These limits are either configured by the user, or imposed by the hardware or by the purchased options.

   Note 1: When configuring Meridian MAX 8, allow for a larger system database. Meridian MAX 8 uses more database space for a given configuration than previous releases of Meridian MAX.

   Note 2: If you change your terminal type by pressing {CONTROL}{T}, all unsaved changes on the screen are lost. If you do not want to lose your changes, choose the same terminal type after pressing {CONTROL}{T}.

7 After the Basic Capacity Configuration screen is completed, press **{PF6}** to display the Advanced Capacity Configuration screen.

8 Go to the "Advanced Capacity Configuration" procedure.

Function keys

PF1 = Commands

The following commands are available after pressing [Commands]:

Exit (without saving changes)

This command exits without saving changes.

View Current Configuration

If enabled, this command displays the Basic Capacity Configuration screen of the current configuration when the Meridian MAX is shut down.

Restart with Initial Values

This command restores the starting values of a new configuration in the "Expected" column and restarts the editing session. This option is available only if a new configuration is displayed on the screen.

Return to New Configuration

This command returns you to the new configuration of the Basic Capacity Configuration screen. This option is available only when viewing the current configuration, and Meridian MAX is shut down.

Print Current Configuration

This command prints a report of the "Current" configuration to the default printer. This option is available only when viewing the current configuration.

Save Configuration and Exit

This command saves the new configuration and exits. This selection is only available if a new configuration is shown on the screen.

PF2 = Options

This function key shows valid field ranges.

Remove = Erase field

This function key resets an entered value in the selected field to the minimum value allowed.

PF6 = Advanced Capacity

This key changes the display to the Advanced Capacity Configuration screen of the new configuration.

PF7 = Validate fields

This key validates the field values. If there are any errors, a window appears in the upper right-hand corner of the screen, describing the error. Once the error is corrected, the error pop-up window disappears or another error message appears. If there are no errors, the following message is displayed at the bottom of the screen: "Validation is complete. There are 0 errors."

Whenever you press the [Validate fields] key during an upgrade or capacity reconfiguration, the following message appears:

```
Checking for any potential loss of data...
```

If no potential loss of data occurs, the system continues.

If a potential loss of data does occur, the following message appears in a pop-up window:

```
Warning—Potential Data Loss The new configuration will retain
    XX of YY days of existing interval data
    XX of YY days of existing daily data
    XX of YY weeks of existing weekly data
    XX of YY months of existing monthly data
    XX of YY days of existing event log data
```

(where XX represents the number of the data units that will be retained, and YY represents the number of data units currently stored in the database)

This message is followed by another message that explains what fields need to be adjusted to avoid data loss. For example, the following message explains the potential trunk data loss:

```
If you do not wish to lose data, please adjust storage duration
fields, avg. calls per hour or trunk level report. If trunk
level report is OFF, you may also adjust the number of routes.
If it is ON, you may adjust the number of trunks, the trunk
reassignment percentage, the number of call transfers received
per queue or the number of primary answering queues.

For more information, refer to the Meridian MAX Maintenance and
Diagnostics Guide.

Press ENTER to continue.
```

Press **{RETURN}** to return to the Basic Capacity Configuration screen. Change the fields listed in the message and repeat the validation until no data loss occurs.

Column headings

Expected

This column shows the expected or required capacity for your system. This column is filled with default values for a new installation, or from the previous expected values for a Meridian MAX upgrade or a capacity reconfiguration. During a new configuration these values can be changed. The values become view-only once the new configuration is saved. It is recommended that you enter the maximum capacity you expect each of these fields to reach by the end of one year.

Measured/Maximum

If you select the "Current" configuration view (if enabled), this column shows the measured values of the current Capacity Configuration parameters which are the capacity maximums reached in a previous Meridian MAX operation.

Note: Detailed field descriptions for the Basic Capacity Configuration screen's measured values are shown in Table 9-5.

If you are configuring a new system, this column shows the "*Maximum*" values of the capacities set by the system. You cannot change the values in this column.

For fields where no artificial maximum applies, a blank is displayed. Queues, routes, and trunks only have a maximum for their totals, not for their components.

Hint

This column appears next to the Storage Duration fields only when the expected disk space exceeds the amount of available disk space. This column is used to indicate suggested values for each storage duration field that would reduce the expected disk space to a size that would fall within the amount of available disk space if possible. Once that is done, the "Hint" column disappears.

> *Note:* As the field values for the storage duration are changed, the suggested values for the others in the "Hint" column can change as well to indicate that further modification is needed.

Fields

Eff. Date
This field shows the date on which the configuration occurs. This field can be viewed but not changed.

New/Current
This field shows the configuration status of the Basic and Advanced Capacity Configuration screens. If you are configuring a new capacity, the field displays NEW. If you are viewing a current configuration, the field displays CURRENT.

Disk Space
These fields show the disk space measured in megabytes (1 048 576 bytes). It is recommended that you keep a careful eye on these fields as you adjust the other fields on the screen to ensure that the system does not become overburdened.

Available
This field shows the amount of disk space available to store historical data. The disk capacity is 460 Mbytes for the SNN/SNN-E, 250 Mbytes for IPE-E, and 90 Mbytes for the IPE.

Expected
This field shows the forecasted disk space required by the configuration entered on this screen. Each time a field is changed, this expected disk space is automatically changed to show the amount of disk space the change will require.

M1 Positions
This field shows the total number of agent and supervisor positions defined on the Meridian 1 that are reported on by Meridian MAX. The range for this value is from one to the maximum number of positions defined as the system limit. It is recommended that you set this to the maximum number of expected positions.

The number of M1 positions must not exceed the number of agent IDs.

M1 Supervisors
This field shows the total number of supervisors defined on the Meridian 1 that are reported on by Meridian MAX. It is recommended that you increase the current number of supervisors by 20 percent and enter the total in this field. This is done to anticipate growth.

The total of the *M1 Supervisors* field and the *Agent IDs* field cannot exceed the figure entered in the *M1 Positions* field. This is because the *M1 Supervisors* field and the *Agent IDs* field are subsets of the *M1 Positions* field.

Agent IDs

This field shows the total number of agents. The range for this value is from one to the maximum number of agents defined as the system limit if Meridian MAX is in agent-ID mode. It is recommended that this be set to the expected maximum.

If Meridian MAX is in position mode, the number of agents cannot be edited and is set to be equal to the number of positions.

DNIS

This field shows the total number of Dialed Number Identification Services (DNIS). The range for this value is from one to the maximum number of DNIS defined as the system limit. It is recommended that you enter a figure which anticipates growth in the system.

Activity Codes

This field shows the total number of activity codes expected to be used. The range for this value is from one to the maximum number of activity codes defined as the system limit. It is recommended that you enter a reasonable number which anticipates growth. Remember to allow for wrong numbers.

The number of activity codes used at each queue is defined on the Advanced Capacity Configuration screen.

Avg. Calls per Hour

This field shows the average number of simple calls received per hour by the Meridian 1 over a 24-hour period. The range for this value is from two to the maximum number of calls per hour defined as the system limit. The average number of calls per hour must be an even number. It is recommended that this field be set high enough to take into consideration the busiest hour expected on the busiest day along with future increases in call rates.

Queues

This field shows the total number of ACD-DN, CDN, and IVR queues with RPRT set to "Yes" on the Meridian 1. The value in the round brackets, next to the "Queue" heading, is the total number of queues specified in the three fields. If one of the queue values is changed, the total number is updated.

The total number of queues must be greater than zero and cannot exceed the maximum number of queues allowed.

It is recommended that each of the queue fields show a 20 percent increase over the number of queues being currently used. Do not overestimate these figures because they use a large amount of disk storage space.

ACD-DNs
This is the number of ACD queues. The range for this value is from one to the maximum number of ACD queues minus the total number of CDN and IVR queues.

CDNs
This is the number of CDN queues. The range for this value is from zero to the maximum number of ACD queues minus the number of ACD-DN and IVR queues. If zero is entered, no CDN report is generated by the Meridian MAX.

IVR/MAIL
This is the number of IVR queues. The range for this value is from zero to the maximum number of ACD queues minus the number of ACD-DN and CDN queues.

Routes
This field shows the total number of routes excluding the internal route. This total includes RAN, ACD AT, and ACD Non AT routes. The value in the round brackets, which appears next to the "Route" heading, is the total number of ACD routes specified in the three fields. If one of the route values is changed, the total number is updated.

It is recommended that each of these fields be increased to anticipate for growth.

The total number of routes must be greater than zero.

RAN
This field shows the number of RAN routes. The range for this value is from zero to the maximum number of routes minus the number of ACD Auto Terminate (AT) and ACD Non AT routes.

ACD Auto Term (AT)
This field shows the number of ACD AT routes. The range for this value is from zero to the maximum number of routes minus the number of RAN and ACD Non AT routes.

The number of AT routes must be less than or equal to the number of AT trunks. Also, the number of AT routes and the number of AT trunks must both be equal to zero or both be greater than zero.

ACD Non AT

This field shows the number of ACD Non AT routes. The range for this value is from zero to the maximum number of routes minus the number of RAN and ACD AT routes. The number of ACD Non AT routes must be less than or equal to the number of Non AT trunks. The number of ACD Non AT routes and the number of Non AT trunks must both be equal to zero or both be greater than zero.

ACD Trunk Level Rpt

This field indicates whether the ACD trunk level detailed reporting is turned on or off.

It is recommended that the ACD Trunk Level Reporting field be turned off. This saves disk space and also improves the performance of the Meridian MAX system. If an error message appears in the system error log indicating that the process table is full, the system load is too high. Trunk Level Reporting should then be turned off if it is not already so.

> *Note:* Data will be lost if the Trunk Level Reporting is turned off at this point.

ACD Trunks

This field shows the total number of trunks. This total includes ACD AT and ACD Non AT trunks. The value in the round brackets, which appears next to the "ACD Trunks" heading, is the total number of ACD trunks specified. If one of the trunk values is changed, the total number is updated.

The total number of ACD trunks must be greater than zero.

Auto Termin (AT)

This field shows the number of ACD AT trunks. The range for this value is from zero to the maximum number of trunks minus the number of ACD Non AT trunks.

The number of ACD AT trunks must be greater than or equal to the number of ACD AT routes. Also, the number of ACD AT routes and the number of AT trunks must both be equal to zero or both be greater than zero.

Non AT
This field shows the number of ACD Non AT trunks. The range for this value is from zero to the maximum number of ACD trunks minus the number of ACD AT trunks.

The number of Non AT trunks and the number of ACD Non AT routes must both be equal to zero or both be greater than zero.

Operation Hours
These fields show the operation time parameter group. Keep in mind that these settings use a large amount of disk storage space.

Agent Shifts Per Day
This field shows the number of agent shifts (agent rotations) per day. The range for this value is from one to five.

Hours Per Day
This field shows the number of operation hours per day. This value is used to determine the number of intervals per day. The range for this value is from 1 to 24.

Days Per Week
This field shows the number of workdays per week. The range for this value is from one to seven.

Note: To ensure that Meridian MAX collects all the calls which are abandoned, set the *Hours Per Day* field to 24 and the *Days Per Week* field to 7.

Storage Duration
These fields show the length of time to be used by the system to collect data for reports. If seven is entered in the "*Daily Data*" field, it indicates that data should be collected for the previous seven days. If seven is entered in the "*Weekly Data*" field, it indicates data should be collected for the previous seven weeks. These values are used when reports are created, for example in the Report Definition feature of the Meridian MAX.

Interval Data
This field shows the number of days for interval data storage. This value is greater than or equal to two.

Daily Data
This field shows the number of days for daily data storage. This value is greater than or equal to one.

Period reports are based on daily data. Set this value to, at least, the number of days in your longest period. If this value is not set correctly, your period reports may not reflect the correct values.

Weekly Data
This field shows the number of weeks for weekly data storage. This value is greater than or equal to one.

Monthly Data
This field shows the number of months for monthly data storage. This value is greater than or equal to one.

Event Log Data
This field shows the number of days for agent event log data storage. This value is greater than or equal to two.

Advanced Capacity Configuration procedure

Perform this procedure after completing the Basic Capacity Configuration procedure.

Procedure 9-5
To assign the advanced capacity configurations

1   Follow the procedure described in this chapter to assign the basic capacity configurations.

After the Basic Capacity Configuration procedure is finished, the Advanced Capacity Configuration screen is displayed. This is only a sample. Your values may differ.

Figure 9-10
Advanced Capacity Configuration

```
 ┌─ Advanced Capacity Configuration ─┐
 │            Expected Default    Eff. Date 1996/07/06          NEW
 Queue Operations (per int.)
   Dest. Qs per CDN         4       4
   Dest. Qs per ACD-DN      5       5    ┌─ Disk Space ─────────────────┐
   Rem. Src. Qs per ACD-DN  2       2    │  Available          90 MB    │
   Primary Answering Qs    50      50    │  Expected           88 MB    │
                                         └──────────────────────────────┘
 Trunk Reassignment (per int.)
   AT Trunk to Queue       20%     20%                    Expected    Default
   Qs Receiving Transfers   2       2    Agent Events (per day)
                                             Logins per Agent      4        4
 Position Reassignment (per int.)           Walkaways per Agent  10       10
   Pos. to Supervisor      10%     10%
   Pos. to Queue           10%     10%

 Activity Code Usage (per int.)
   Activity Codes per Q    10      10
   Agent Activity Code Rpt OFF

 Qs logged in per Agent     3       5

 Help = Help     PF1 = Commands    PF2 = Options     Remove = Erase field   F20 = >>
```

2   Complete the Advanced Capacity Configuration screen using the
    "Fields" and "Function keys" sections described at the end of this
    procedure.

3   After the Advanced Capacity Configuration screen is completed, press
    {PF1} and select the "Return to Basic Capacity Configuration Screen"
    option.

4   Press **{PF1}** and select the "Save configuration and exit" option.

    When you choose this command during an installation upgrade, the
    following message appears. If you are performing a new installation, go
    to Step 6.

    `Checking for any potential loss of data...`

    If no potential loss of data occurs, the system continues. Go to Step 6.

    If a potential loss of data does occur, the following message appears in
    a pop-up window.

    `Warning—Potential Data Loss The new configuration will`
    `retain`

```
XX of YY days of existing interval data
XX of YY days of existing daily data
XX of YY weeks of existing weekly data
XX of YY months of existing monthly data
XX of YY days of existing event log data
```
(where XX represents the number of the data units that will be retained, and YY represents the number of data units currently stored in the database)

This message is followed by another message that explains which fields need to be adjusted to avoid data loss. For example, the following message explains the potential trunk data loss:

```
If you do not wish to lose data, please adjust storage
duration fields, avg. calls per hour or trunk level report.
If trunk level report is OFF, you may also adjust the
number of routes. If it is ON, you may adjust the number of
trunks, the trunk reassignment percentage, the number of
call transfers received per queue or the number of primary
answering queues.
```

```
Do you wish to proceed with the new configuration? (y/n)
```

5   If you do not wish to continue with the new configuration, enter **n**, followed by **{RETURN}**.

The Basic Capacity Configuration screen returns with the Commands pop-up menu. Change the fields listed in the message until you are allowed to save and exit without potential data loss.

If you do wish to proceed with the new configuration, enter **y**, followed by **{RETURN}**.

The following message appears:

```
Press ENTER to continue.
```

Press **{RETURN}**. The following pop-up message appears:

```
You are saving a new capacity configuration that requires a
database reconfiguration right after. This can take up to
15 minutes. If you do not wish to reconfigure the database
now, please choose 'Exit without Saving' to lose your
changes and re-enter them later.
```

```
For more information, refer to the Meridian MAX Maintenance
and Diagnostics Guide.
```

```
Do you wish to proceed with the database reconfiguration?
(y/n)
```

If you do not want to proceed with the database reconfiguration, enter **n**, followed by **{RETURN}**. The Basic Capacity Configuration screen returns with the Commands pop-up menu. Change the fields listed in the message until you are allowed to save and exit without potential data loss.

If you do want to proceed with the database configuration, enter **y**, followed by **{RETURN}**. The system will reconfigure the database and continue once the reconfiguration is complete.

6   Return to your software installation procedure.

Function keys

PF1 = Commands
The following commands are available after pressing [Commands]:

Return to the Basic Capacity Screen
If enabled, this command returns you to the Basic Capacity Configuration screen.

Restart with Initial Values
This command restores the starting values of a new configuration in the "Expected" column and restarts the editing session from the Basic Capacity Configuration screen. This option is available only if your system is not yet configured or if your system is configured but the system is down.

View Current Configuration
If enabled, this command displays the current Advanced Capacity Configuration screen when the Meridian MAX is shut down.

Return to New Configuration
If enabled, this command returns you to the new configuration of the Advanced Capacity Configuration screen when the system is shut down.

Print Current Configuration
This command prints a report of the current configuration to the default printer. This option is available only if the current Meridian MAX configuration is shown on the screen.

PF2 = Options
This function key shows valid field ranges.

Remove = Erase field
This function key resets an entered value of the selected field to the minimum allowed value.

F6 = Basic Capacity
If enabled, this function key changes the display to the Basic Capacity Configuration screen.

F7 = Validate fields
This function key validates the field value. If there are any errors, a window appears in the upper right-hand corner of the screen describing the error. Once the error is corrected, the error pop-up window disappears or another error message appears. If there are no errors, the following message is displayed at the bottom of the screen: "Validation is complete. There are 0 errors."

Whenever you press the [Validate fields] key during an installation upgrade or capacity reconfiguration, the following message appears:

```
Checking for any potential loss of data...
```

If no potential loss of data occurs, the system continues.

If a potential loss of data does occur, the following message appears in a pop-up window:

```
Warning—Potential Data Loss The new configuration will retain
    XX of YY days of existing interval data
    XX of YY days of existing daily data
    XX of YY weeks of existing weekly data
    XX of YY months of existing monthly data
    XX of YY days of existing event log data
```

(where XX represents the number of the data units that will be retained, and YY represents the number of data units currently stored in the database)

This message is followed by another message that explains what fields need to be adjusted to avoid data loss. For example, the following message explains the potential trunk data loss:

```
If you do not wish to lose data, please adjust storage duration
fields, avg. calls per hour or trunk level report. If trunk
level report is OFF, you may also adjust the number of routes.
If it is ON, you may adjust the number of trunks, the trunk
reassignment percentage, the number of call transfers received
per queue or the number of primary answering queues.

For more information, refer to the Meridian MAX Maintenance and
Diagnostics Guide.

Press ENTER to continue.
```

Press **{RETURN}** to return to the Advanced Capacity Configuration screen. Change the fields listed in the message and repeat the validation until no data loss occurs.

Column headings

Expected

This column shows the expected or required capacity for the configuration shown. The initial values in this column are calculated from the parameters entered in the Basic Capacity Configuration screen, for a new installation, or from the previous expected capacity values for a Meridian MAX upgrade or capacity reconfiguration.

Measured/Default

If you select the "Current" configuration view (if enabled), this column shows the measured values of the current Capacity Configuration parameters.

Note: Detailed field descriptions for the Advanced Capacity Configuration screen's measured values are shown in Table 9-6.

If you are configuring a new system, the "*Default*" column shows the default values for the expected limits. The values are preset or derived from the values entered on the Basic Capacity Configuration screen.

The system limits, though not seen in the previous screen, do exist for some of the "*Expected*" values. Press [Options] to see the valid ranges.

Fields

Eff. Date
This field shows the date on which the configuration occurs. This field can be viewed but not changed.

Disk Space
These fields show the disk space measured in megabytes (1 048 576 bytes). It is recommended that you keep a careful eye on these fields as you adjust the other fields on the screen to ensure that the system does not become overburdened.

Available
This field shows the amount of disk space available to store historical data. The disk capacity is 460 Mbytes for the SNN/SNN-E, 250 Mbytes for IPE-E, and 90 Mbytes for the IPE.

Expected
This field shows the forecasted disk space required by the configuration entered on this screen. Each time a field is changed, this expected disk space is automatically changed to show the amount of disk space the change will require.

Queue Operations (per int.)
These fields show the characteristics of ACD queue operations.

Dest. Qs per CDN
This field shows the average number of destination queues per CDN in an interval. The range for this value is from zero to the number of ACD-DNs and IVR queues. This field is available only if the CCR option is enabled.

The number of destination queues per CDN must be equal to zero when there is no CDN. The number of CDNs is expected to be greater than zero when CCR is enabled.

Before entering a value in this field, check the number of queues which have tried to send a call to a script. The number you enter in this field should be higher than this number of queues to allow for growth.

Dest. Qs per ACD-DN
This field shows the average number of local and remote destination ACD-DN and IVR queues per interval to which an ACD call may overflow as the result of a queue overflow, basic, enhanced, or network time overflow or interflow. The range for this value is from 0 to 20.

Rem. Src. Qs per ACD-DN
This field shows the average number of remote source ACD-DN and IVR queues per interval from which an ACD call may network time overflow to a local ACD-DN queue. The range for this value is from 0 to 50.

Before entering a value, check the number of remote sites and queues which have tried to target queues at your site. The number you enter in this field should be higher than this total to allow for growth.

Primary Answering Qs
This field shows the average number of primary entering queues (ACD queues to which all ACD calls are first directed in the Meridian 1 switch) in an interval. The range for this value is from zero to the total number of queues.

The number of primary answering queues must not exceed the total number of queues.

Trunk Reassignment (per int.)

These fields show the frequency in which trunks are reassigned. If you do not have the capability of moving trunks from queue to queue, ignore this section.

AT Trunk to Queue
This field shows the average percentage of auto terminate trunks reassigned to another queue in an interval. The range for this value is from 0 to 100 percent.

Before entering a value, look at the number and frequency that trunks are moved in a 30-minute period. The number you enter in this field should be higher than this figure to allow for growth.

Qs receiving Transfers
This field shows the average number of manual call transfers received by an ACD-DN queue from another ACD-DN queue in an interval.The number of queues receiving transfers must not exceed the total number of queues.

Before entering a value, find the number of calls which are normally transferred from a queue to a queue and anticipate for growth.

Position Reassignment (per int.)

These fields show the frequency in which positions are reassigned. It is not necessary to frequently change these fields. Examine your busiest time period and note the frequency that positions are reassigned. Use this period to calculate your averages.

Pos. To Supervisor

This field shows the average percentage of positions reassigned to another supervisor in an interval. The range for this value is from 0 to 100 percent.

Pos. To Queue

This field shows the average percentage of positions reassigned to another queue in an interval. The range for this value is from 0 to 100 percent.

Activity Code Usage (per int.)

This field shows the frequency that activity codes are used on the Meridian MAX.

Activity Codes per Q

This field shows the average number of activity codes you expect to be used per ACD-DN (excluding CDN queues) in an interval. The range for this value is from zero to the number of activity codes.

The number of activity codes per queue must not exceed the total number of activity codes defined on the Basic Capacity Configuration screen.

Agent Activity Code Rpt

One of these options is selected to indicate whether the activity code statistics are collected and sorted by agent.

ON

This option is selected if the activity codes are to be collected and sorted in reports by agent. Prior to Meridian MAX 8, the activity codes could only be sorted by queue.

If the number of activity code key combinations exceeds 10 000 in IPE/IPE-E or 25 000 in SNN/SNN-E, a warning message appears advising you to adjust the number of positions, activity codes per queue, or the number of queues logged in per agent.

The formula for calculating the number of activity code key combinations is

# of key combinations =
# of positions x
# of activity codes per queues x
queues logged in per agents

Depending on the capacity configuration parameters, more disk space will be required to store the agent information in the activity code database. This could range from 60 Mbytes to 500 Mbytes without MQA, and 200 Mbytes to 1400 Mbytes with MQA.

For example, if your system has 1200 positions, 150 queues, 10 activity codes per queue, and MQA disabled, you would require 269 Mbytes of additional space. If MQA was enabled, you would require 806 Mbytes of additional space.

More memory will also need to be allocated to the activity code statistics buffer.

OFF
This option is selected if the activity codes are to be sorted by queue, not by agent. If this option is off, the agent IDs in the activity code statistics are set to zero and less database space is allocated to the activity code table.

Qs logged in per Agent
This field shows an estimate of the average number of ACD-DNs serviced simultaneously per agent. This value does not limit the number of simultaneous logins per agent. The range for this value is from one to five. The default value for a new installation is three if the MQA feature is enabled. If MQA is disabled, the default value is one.

This field only appears if your system has MQA.

Agent Events (per day)
These fields show the agent event frequency.

Logins per Agent
This field shows the average number of login events per agent in a day. A login and a logout are together counted as one event. The range for this value is from 1 to 999.

Walkaways per Agent
This field shows the average number of walkaway events per agent in a day. A walkaway and a return are together counted as one event. The range for this value is from 0 to 999.

Basic Capacity Configuration measured values

Table 9-5 provides detailed information regarding measured value fields for the Basic Capacity Configuration screen.

Table 9-5
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
M1 Positions	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the switch has more positions defined than the Meridian MAX system. Meridian MAX only collects data for the expected number of positions. However, the measured value indicates to the user how many positions are actually defined on the switch. Measured values are not determined by using historical data. They are determined by using real-time data.
M1 Supervisors	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the switch has more supervisors defined than the Meridian MAX system.
—continued—				

Table 9-5 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
				Meridian MAX only collects data for the expected number of supervisors.
				However, the measured value indicates to the user how many supervisors are actually defined on the switch.
				If a supervisor is added on the switch, this will not be reflected by Meridian MAX automatically.
				For the added or deleted supervisors to be detected by Meridian MAX, a configuration update or Meridian 1 initialization is required.
				Measured values are not determined by using historical data. They are determined by using real-time data.
Agent ID	System lifetime data	End of interval	Exact number	The measured value is an exact number and not an average.
				The measured value may exceed the expected value only if the number of Agent IDs used exceeds the expected number of Agent IDs.
				Meridian MAX only collects data for the expected number of Agent IDs.
				However, the measured value indicates to the user how many Agent IDs are actually used.
—continued—				

Table 9-5 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
				This number is updated at the end of every interval. It denotes the total number of agents used over the system lifetime.
				Agents are never deleted. If an agent logs out, the agent is not considered deleted. The agent still exists but is not operational.
				Therefore, the Agent ID number can only increase.
DNIS	Current day data	End of interval	Exact number	The measured value is an exact number and not an average.
				The measured value may exceed the expected value only if the total number of DNIS numbers used exceeds the expected number.
				Meridian MAX only collects data for the expected number of DNIS numbers.
				However, the measured value indicates to the user how many DNIS numbers are actually used.
				This number is updated at the end of every interval. It denotes the number of DNIS numbers used throughout the current day.
				The DNIS measured number is reset at midnight and the count restarts.
—continued—				

Table 9-5 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
Activity Code	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the number of activity codes used exceeds the expected number.Meridian MAX only collects data for the expected number of activity codes. However, the measured value indicates to the user how many activity codes are actually used. This number is updated at the end of every interval. It denotes the total number of activity codes used over the system lifetime.
Avg. Calls per Hour	Current day data	End of interval	Average	This value is updated at the end of each interval. It is the average number of simple calls that are received since midnight. At midnight, this value is reset.
Queues	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the switch has more queues defined than the Meridian MAX.
—continued—				

Table 9-5 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
				Meridian MAX only collects data for the expected number of queues.
				However, the measured value indicates to the user how many queues are actually defined on the switch.
				This value is the total number of ACD-DNs + CDNs + IVR/Mail queues. It is updated at the end of each interval.
				Measured values are not determined by using historical data. They are determined by using real-time data.
ACD-DNs	N/A	N/A	N/A	The sum of the expected number of ACD-DNs and IVR/Mail queues indicates the maximum number of ACD-DNs or IVR/Mail queues for which Meridian MAX collects data.
				This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
CDNs	N/A	N/A	N/A	This number indicates the maximum number of CDNs for which Meridian MAX collects data.
—continued—				

Table 9-5 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
				This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
IVR/MAIL	N/A	N/A	N/A	The sum of the expected number of ACD-DNs and IVR/Mail queues indicates the maximum number of ACD-DNs or IVR/Mail queues for which Meridian MAX collects data.
				This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
ACD Trunk Level Reporting	N/A	N/A	N/A	The values valid for this field are ON or OFF.
				Measured values are not determined by using historical data. They are determined by using real-time data.
Routes	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average.
				The measured value may exceed the expected value only if the switch has more routes defined than the Meridian MAX system.
—continued—				

Table 9-5 (continued)				
Basic Capacity Configuration measured value field descriptions				
Field name	**Time**	**Update rate**	**Measured value**	**Comment**
				Meridian MAX only collects data for the expected number of routes. However, the measured value indicates to the user how many routes are actually defined on the switch. This value is the total sum of RAN routes, ACD Auto Terminate (AT) routes, and ACD Non AT routes.
RAN	N/A	N/A	N/A	This number indicates the maximum number of RAN routes for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
ACD Auto Terminate (AT)	N/A	N/A	N/A	The sum of the expected number of ACD AT and ACD Non AT routes indicates the maximum number of ACD AT and ACD Non AT routes for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
—continued—				

Table 9-5 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
ACD Non AT	N/A	N/A	N/A	The sum of the expected number of ACD AT and ACD Non AT routes indicates the maximum number of ACD AT and ACD Non AT routes for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
ACD Trunks	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. This number is the total number of Auto Terminate (AT) trunks and Non AT Trunks. If trunk level reporting is turned off, the measured route number is used.
Auto Terminate (AT)	N/A	N/A	N/A	The sum of the number of AT and Non AT trunks indicates the maximum number of AT or Non AT trunks for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
—continued—				

Table 9-5 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
Non AT Trunks	N/A	N/A	N/A	The sum of the number of AT and Non AT trunks indicates the maximum number of AT or Non AT trunks for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Operation Hours	N/A	N/A	N/A	
Agent Shifts Per Day	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Hours Per Day	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Days Per Week	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Storage Duration	N/A	N/A	N/A	These fields are updated every day at approximately 2 a.m. after the daily midnight backup.
Interval Data (days)	All stored intervals	Daily	Exact number	This number indicates the amount of interval data, measured in days, currently stored on the system.
—continued—				

Table 9-5 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
Daily Data (days)	All stored days	Daily	Exact number	This number indicates the amount of daily data, measured in days, currently stored on the system.
Weekly Data (weeks)	All stored weeks	Daily	Exact number	This number indicates the amount of weekly data, measured in weeks, currently stored on the system.
Monthly Data (months)	All stored months	Daily	Exact number	This number indicates the amount of monthly data, measured in months, currently stored on the system.
Event Log Data (days)	All stored days	Daily	Exact number	This number indicates the amount of agent event logged data, measured in days, currently stored on the system.
—end—				

Advanced Capacity Configuration measured values

Table 9-6 provides detailed information regarding measured value fields for the Advanced Capacity Configuration screen.

Table 9-6
Advanced Capacity Configuration measured value field descriptions

Field name	Storage duration	Update rate	Measured value	Comment
Queue Operations (per int.)	N/A	N/A	N/A	
Dest. Qs per CDN	All stored months	Once per week	Average	The measured value provides the average number of target ACD-DNs per CDN to which calls are directed through CCR. The period of time for which this measurement is taken is defined in the Storage Duration – Monthly Data field. The measured value may exceed the expected value.
Dest. Qs per ACD-DN	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Rem. Src. Qs per ACD-DN	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Primary Answering Qs	All stored months	Once per week	Exact number	The measured value provides the number of unique queues (ACD-DN, CDN, and IVR/Mail) to which all external calls are directed.
—continued—				

Table 9-6 (continued)
Advanced Capacity Configuration measured value field descriptions

Field name	Storage duration	Update rate	Measured value	Comment
				The period of time for which this measurement is taken is defined in the Storage Duration – Monthly Data field. The expected value denotes the number of unique queues (ACD-DN, CDN, and IVR/Mail) per interval that would receive external calls. Therefore, the measured value could exceed the expected value.
Trunk Reassignment (per int.)	N/A	N/A	N/A	
AT Trunk to Queue	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Qs Receiving Transfers	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Position Reassignment (per int.)	N/A	N/A	N/A	
Pos. to Supervisor	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
—continued—				

Table 9-6 (continued)
Advanced Capacity Configuration measured value field descriptions

Field name	Storage duration	Update rate	Measured value	Comment
Pos. to Queue	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Activity Code Usage (per int.)	N/A	N/A	N/A	
Activity Codes per Q	All stored intervals	Once per week	Average	The measured value provides the average number of activity codes per ACD-DN per interval. The period of time for which this measurement is taken is defined in the Storage Duration – Interval Data field. The measured value may exceed the expected value.
Agent Activity Code Reporting	N/A	N/A	N/A	The values valid for this field are ON or OFF.
Qs Logged in per Agent	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Agent Events (per day)	N/A	N/A	N/A	
Logins per Agent	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
—continued—				

Table 9-6 (continued) **Advanced Capacity Configuration measured value field descriptions**				
Field name	**Storage duration**	**Update rate**	**Measured value**	**Comment**
Walkaways per Agent	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
—end—				

Chapter 10: Software installation overview

A word about warranties

It is extremely important that you read and understand the warranties issued for your peripheral equipment. Each warranty details what you can and cannot do with the warranted item.

While the utmost care has been taken to ensure that the procedures described in this NTP do not void any of the warranties, it is still possible for an instruction to be in conflict with a warranty, such as warranty changes after the publication of this NTP. If you find such a condition, contact your dealer or Nortel service representative.

> *Note:* Meridian 1 Option 114 (Security Package) is a prerequisite for Meridian MAX 8.

ATTENTION

Under no circumstances should you void your warranty for the sake of following any instruction given in this (or any other) document. Be sure to register your warranties with the appropriate companies (usually the manufacturers) where required.

ATTENTION

When entering a number in response to a prompt, use the upper row of keys (numbers) rather than the numeric keypad. If you want to use the numeric keypad, ensure that the keyboard indicator "NUM LOCK" is on. Otherwise, unpredictable results may occur.

Meridian MAX 8 platforms

Table 10-1 lists the hardware platforms supported in Meridian MAX 8.

Table 10-1
Meridian MAX 8 platform compositions

System type		CPU	Mass Storage Unit (MSU)	
Abbreviation	Module type	Card type	Hard drive	Cassette drive
SNN	Single	MVME167-34	1 Gbyte	600 Mbyte
SNN-E	Single	MVME177-005	2 Gbyte	600 Mbyte
IPE	IPE	SMM167	180 Mbyte or 240 Mbyte*	155 Mbyte or 600 Mbyte
IPE-E	IPE	SMM167	1 Gbyte	600 Mbyte
* The 240 Mbyte hard disk is configured and recognized by the software as a 180 Mbyte hard disk.				

Keycodes

During any Meridian MAX 8 installation, you are required to enter a
20-character alphanumeric keycode. This keycode represents your system
options, system hardware, and Meridian 1/SL-1 serial number. Those
options are then displayed on the screen for your verification during your
installation.

All keycodes are obtained from your Nortel distributor, and any change in
system options requires the generation of a new keycode. Once you have
your updated keycode, your current application tape is used to update your
system options. Any application tape can be used with any hardware
platform provided the Meridian 1/SL-1 serial number is the same and you
have a unique keycode for each system.

The following keycode information is displayed during your installation or upgrade for verification:

- Meridian 1/SL-1 serial number
- platform
- number of serial ports
- maximum number of position IDs
- number of LAN supervisor sessions
- Configuration Control (enabled/disabled)
- Formula Definition (enabled/disabled)
- NAC Connectivity (enabled/disabled)
- MSL-1 NACD MIS (enabled/disabled)
- CCR/EAR MIS (enabled/disabled)
- Data Stream Reporting (enabled/disabled)
- Meridian Terminal Emulator (MTE) (enabled/disabled)
- MAX Status Interface (MSI) (enabled/disabled)
- number of MAX Event Interface (MEI)-Network links
- number of MAX Event Interface (MEI)-Observe links
- Multiple Queue Assignment (MQA) (enabled/disabled)

  Note: The MSI and MEI links must also be enabled through the Miscellaneous Options screen and the External Interface Configuration screen. For more information, refer to the *MSI/MEI Protocol Reference Guide* (P0853414).

New software installations

If your operation has never used an ACD-MAX or Meridian MAX, you can only install a Meridian MAX 8 SNN-E or a Meridian MAX 8 IPE-E.

The SNN/SNN-E and IPE/IPE-E platforms have two types of new software installations—customer installed or factory installed. You perform the applicable procedure the first time you install the system. Refer to the "New software installations" chapter for more information.

Software reinstallations and upgrades

Reinstallations

A software reinstallation is performed when you need to reinstall existing Meridian MAX 8 software, if, for example, a problem arises with an installation. If a problem does occur, the system asks you to attempt the installation again. Determine whether hardware is causing the problem (for example, missing or improperly connected equipment), and correct these problems before restarting the installation. If there is a problem with installing a factory-installed software site, the customer-installed software procedure should be used. If no hardware problem exists, then restart the installation. If the problem persists, contact your distributor or Nortel support group for assistance.

If you need to perform a reinstallation, refer to the *Meridian MAX 8 Upgrade Guide* (NTP 553-4001-210), "Software upgrades and reinstallations" chapter.

Upgrades

As your operation grows, you may require greater Meridian MAX functionality and capacity. This growth can be accommodated through hardware and software upgrades within Meridian MAX 8. System functionality can be increased through software upgrades, once the necessary hardware changes are complete.

A software upgrade is performed when you want to install new Meridian MAX 8 software that changes the system's features and functionality.

A software upgrade can be performed in two ways:

1   The first is within the same Meridian MAX platform, such as upgrading a current SNN-E system to an SNN-E system with more features and functionality.

2   The second is between Meridian MAX 8 platforms, such as upgrading an IPE system's software to an SNN system's software, providing you completed the necessary hardware changes during an installation upgrade.

Upgrading from Meridian MAX 3 through 7

If you are currently running one of the following systems, refer to the *Meridian MAX 8 Upgrade Guide* (NTP 553-4001-210) for the specific upgrade procedure to upgrade to a Meridian MAX 8:

- a Meridian MAX 3 or 4 single- or dual-module system

- a Meridian MAX IPE 4.6 system

- a Meridian MAX 5, 6, 7 system

Upgrading from ACD-MAX 3 and 4 systems

If you are currently running an ACD-MAX 3 or 4 system, you must first upgrade to a Meridian MAX 6 before upgrading to Meridian MAX 8. Contact your Nortel representative for more information.

Load new software release

As new releases of Meridian MAX 8 software are developed, you can purchase an updated version of the software and install it onto your Meridian MAX 8. To install the software, you perform the load new software release procedure. Refer to the *Meridian MAX 8 Upgrade Guide* (NTP 553-4001-210), "Loading a new software release" chapter for more information.

Reentry points

Meridian MAX 8 software has four installation reentry points for the SNN/SNN-E and IPE/IPE-E hardware platforms. If a software installation must be aborted at some point, the installation can be restarted from the last successfully completed section of the installation. For example, if an installation had to be aborted after the OS files had been copied to the hard disk, but before the application files were copied, the installer can skip over the successfully copied OS files and go to the point just before the application files were copied.

> *Note:* The system only displays the reentry points available for your installation. You cannot skip steps that were not successfully completed.

Check your error log and system messages when the software installation procedure is complete to ensure no errors were reported. If you want to use a reentry point, check that no errors were reported within the steps you want to skip. If you are unsure, restart the installation from the beginning. If the errors persist, contact your Nortel distributor.

If an error message appears on the screen, perform a graceful shutdown of the system. The system provides prompts and messages for the shutdown.

CAUTION
Risk of data corruption
If the system is shut down improperly, unpredictable results may occur.

The reentry points for a Meridian MAX are

1   from the beginning

2   prior to copying the OS files to the hard disk

3   prior to copying the Meridian MAX application files to the hard disk

4   prior to booting from the hard disk

Installation tapes

The installation procedure uses two cassette tapes. Care must be taken to avoid damaging the tapes, as their fragility can result in tape errors during the installation procedure. Also, ensure that installation tapes are set to write-protected before using them. Keep tapes away from excessive heat or electromagnetic radiation.

Figure 10-1 shows the correct method for inserting a cassette tape into the 600 Mbyte tape drive of a Meridian MAX 6 or 7 IPE, Meridian MAX 8 SNN-E, or any Meridian MAX SNN.

The 600 Mbyte tape drive in the IPE/IPE-E has been rotated 180 degrees for systems shipped with the Meridian MAX 8 compared to the tape drive released with earlier versions of Meridian MAX IPE. This is shown in Figure 10-2.

Figure 10-3 shows the correct method for inserting and locking a cassette tape into the 155 Mbyte tape drive of any Meridian MAX IPE. Make certain the arrow on the label points towards the drive, and that the notch in the cassette tape is pointing down. After the tape is inserted in the 155 Mbyte tape drive, you must also rotate the tape drive latch clockwise until the latch handle is horizontal.

When following instructions within the procedures regarding cassette tapes, this document refers to the tapes by functional application names, rather than by the labels you see on the different tapes.

Table 10-2 cross references the tape application name used within a procedure and the label on the tape.

Table 10-2 Tape names	
Tape name used in procedure	**Tape label**
Generic Operating System tape (Tape 1 of 2)	System V68 R3V8 OS_MAX_R8.x
Meridian MAX Application tape (Tape 2 of 2)	Meridian MAX R8.x

To insert or remove a cassette tape from the Meridian MAX module's tape drive, the front panel may be removed for short periods of time. If you do not need to access the module shortly afterwards, make certain that the front panel (and rear panel, if using Option 21–81) is properly replaced. You must always close and properly latch all panels while the Meridian MAX module is powered on. This procedure ensures that the temperature within the cabinet remains reasonably constant and within the operating temperatures of the equipment.

Note: If the cassette tape is inserted incorrectly into the 600 Mbyte tape drive, the tape automatically ejects. Reinsert the tape correctly with the tape arrow pointing toward the drive. Once the tape drive is running (the tape drive light is lit), you cannot eject the tape.

CAUTION
Risk of data corruption
Do not power off a module without first performing the system shutdown procedure. The Meridian MAX module must not be powered off without first shutting down the system. The shutdown process synchronizes the information currently in system memory with the information on the hard drive. Only in extenuating circumstances should the module be powered off without first shutting down.

Figure 10-1
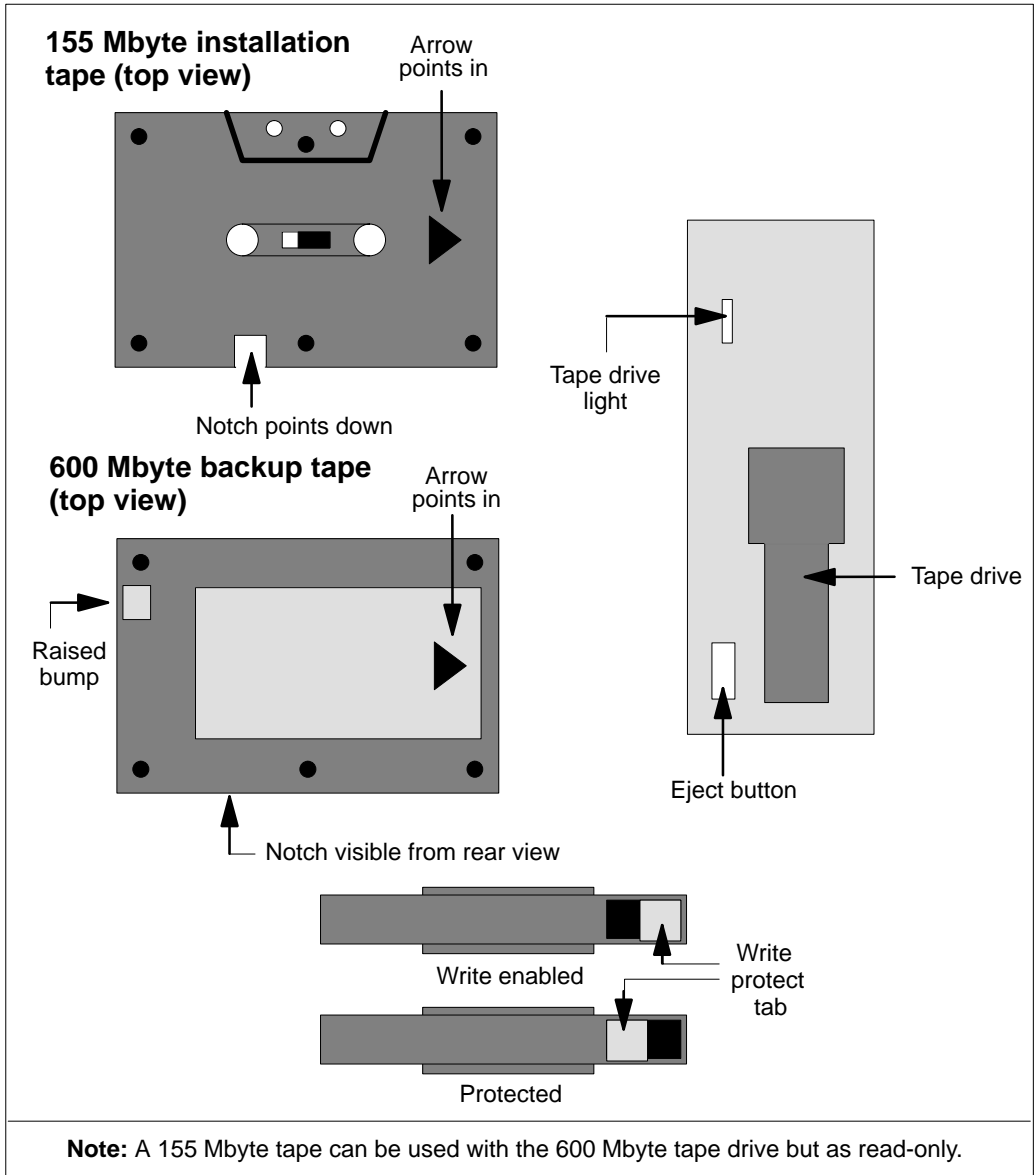**Inserting a cassette into the 600 Mbyte tape drive of a Meridian MAX 6 or 7 IPE, Meridian MAX 8 SNN-E, or any Meridian MAX SNN**

155 Mbyte installation tape (top view)

Arrow points in

Notch points down

600 Mbyte backup tape (top view)

Arrow points in

Raised bump

Notch visible from rear view

Tape drive light

Tape drive

Eject button

Write enabled

Write protect tab

Protected

Note: A 155 Mbyte tape can be used with the 600 Mbyte tape drive but as read-only.

Figure 10-2
Inserting a cassette into the 600 Mbyte tape drive of a Meridian MAX IPE/IPE-E 8

Note 1: A 155 Mbyte tape can be used with the 600 Mbyte tape drive but as read-only.
Note 2: The arrow on the back of the tapes points towards the drive when inserting.
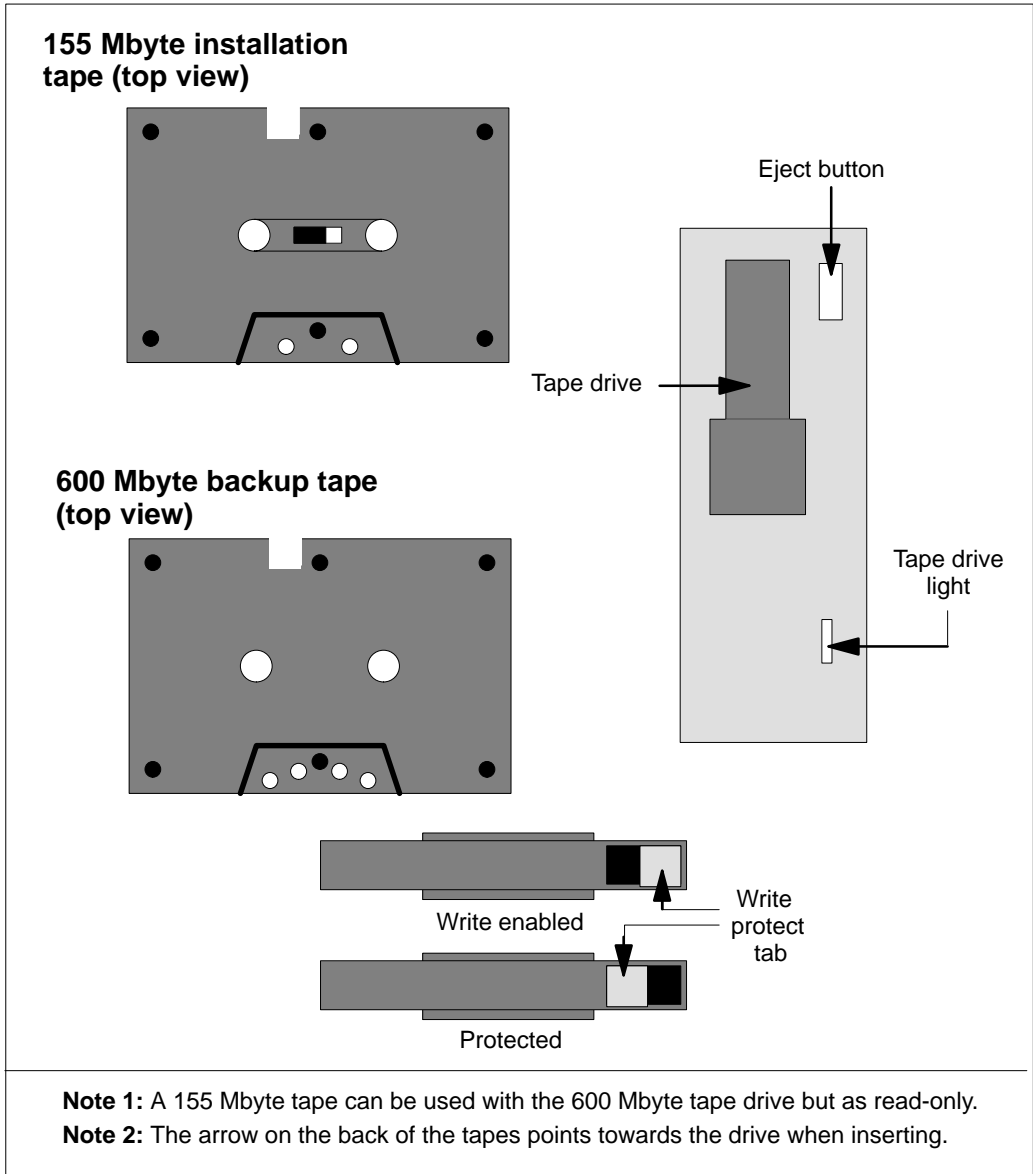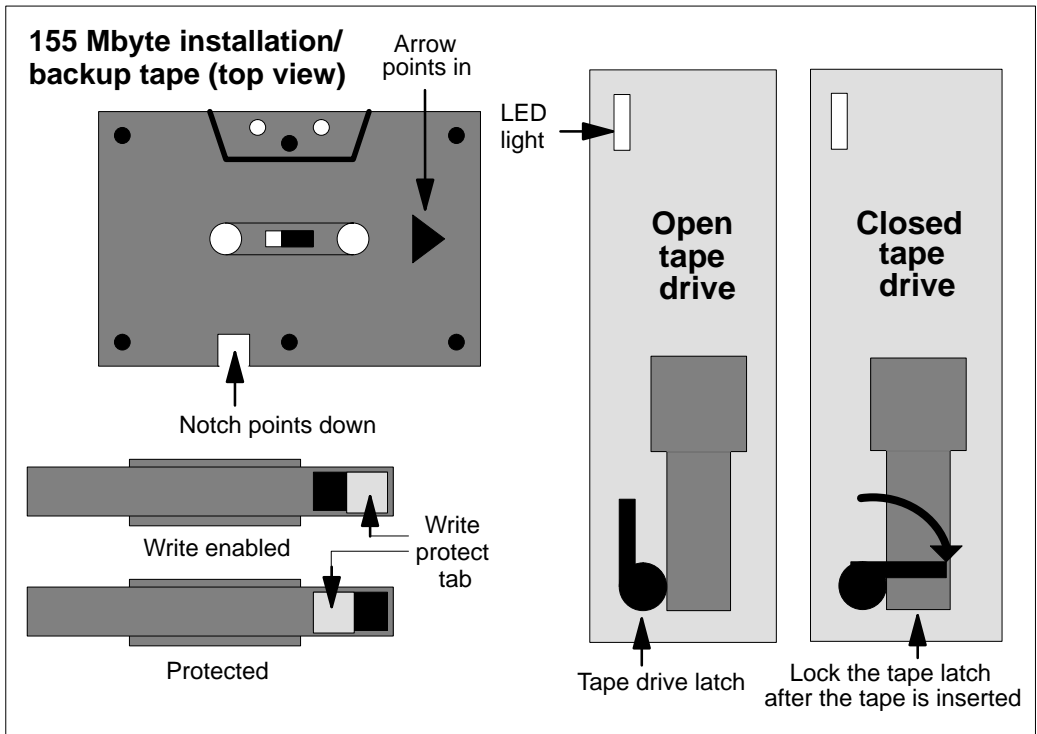
Figure 10-3
Inserting a cassette into the 155 Mbyte tape drive of a Meridian MAX IPE

Cleaning the tape drive

The tape drive should be replaced when you receive repeated errors when attempting to write to tape. You should also consider replacing the tape drive if the light on the front of the tape drive is out, or if you cannot hear or see the tape spinning.

The tape cartridge cavity should be cleaned after an initial pass with a new tape cartridge or whenever dust or debris is visible inside the cartridge cavity. It should also be cleaned after about 100 hours of operation or every three to six months depending on utilization.

To clean the tape drive, you must use the cleaning kit (Number TZ-380) provided through Teac America Inc. This kit can be obtained by contacting your Nortel distributor.

Chapter 11: New software installations

You must perform a new installation if your hardware has never been used with a Meridian MAX product.

Two types of new software installation procedures exist for the SNN/SNN-E and IPE/IPE-E: customer installed and factory installed.

To distinguish factory-installed software from customer-installed software, power up the Meridian MAX 8. If the console login prompt appears, then the system has factory-installed software. If the system does not boot up, it has customer-installed software.

Follow Procedure 11-1 if your system has SNN/SNN-E or IPE/IPE-E customer-installed software.

Follow Procedure 11-2 if your system has SNN/SNN-E or IPE/IPE-E factory-installed software.

Customer-installed software

To perform the following procedure, you need the Meridian MAX 8 Generic Operating System tape (Tape 1 of 2) and the Application tape (Tape 2 of 2).

Procedure 11-1
New installation of the Meridian MAX 8 customer-installed software

1   Before beginning the software installation, ensure that the CPU card has been configured correctly.

If you are installing SNN/SNN-E software, refer to the "Hardware installation: Application Module (SNN/SNN-E)" chapter. If you are installing IPE/IPE-E software, refer to the "Hardware installation: Intelligent Peripheral Equipment module" chapter.

2   Make sure the power is turned off.

3   Insert the Meridian MAX 8 Operating System tape (Tape 1 of 2).

4   Power up the module.

If you are installing SNN/SNN-E software, the power switch is located on the left-hand side of the AEM module. The upper switch controls the power for the module in the left side of the Meridian 1, while the lower switch controls the power for the module in the right side.

If you are installing IPE/IPE-E software, the power button is located above the tape drive.

The system displays the copyright and hardware configuration information. Your system messages may differ.

```
Copyright Motorola Inc. 1988 — 1995, All Rights Reserved

xxxxxxx Debugger/Diagnostics Release Version 1.2 — 02/28/95
```

Note: (The "xxxxxxx" will be MVME177 for SNN-E, MVME167 for SNN, and M4120 for IPE/IPE-E.)

```
COLD Start

Local Memory Found =xxxxxxxx (&xxxxxxxx)
```

Note: (The "xxxxxxx (&xxxxxxxx)" will be 04000000 (&67108864) for SNN-E, 02000000 (&33554432) for SNN, and 01000000 (&16777216) for IPE/IPE-E.)

```
MPU Clock Speed =xxMhz
```

Note: (The "xx" will be 50 Mhz for SNN-E, 33 Mhz for SNN, and 25 Mhz for IPE/IPE-E.)

```
Autoboot in progress... To abort hit <BREAK>
```

5 Press **{BREAK}** to stop the hard disk load and begin the tape load.

Note: {F5} on the VT520 and VT420 is equivalent to the {BREAK} key.

The system displays the following prompt.

```
--Break Detected--
```

```
xxx-Bug>
```

Note: (The "xxx" will be 177 for SNN-E, 167 for SNN, and 4120 for IPE/IPE-E.)

6 Wait for the tape to rewind. The tape drive light turns off when the tape is rewound.

At the previous prompt, enter **bo 0,40** followed by **{RETURN}**.

```
Booting from: xxxxxx, Controller 0, Drive 40
```

Note: (The "xxxxxx" will be VME177 for SNN-E, VME167 for SNN, and M4120 for IPE/IPE-E.)

```
Loading: Operating System
```

```
Volume: V/68
```

```
IPL loaded at: $001F0000
```

```
MVMETAPE IPL Version 1.0
```

There is a one- to two-minute delay before the system continues with the following:

```
************************************************************
```

```
System V/68 Release R3V8 xxxxxx Version 950119
```

Note: (The "xxxxxx" will be M68060 for SNN-E and M68040 for SNN or IPE/IPE-E.)

```
              Real mem     = xxxxxxxx
```

Note: (The "xxxxxx" will be 65011712 for SNN-E, 31457280 for SNN, and 14680064 for IPE/IPE-E.)

```
              Avail mem    = xxxxxxxx
```

Note: (The "xxxxxx" will be 63111168 for SNN-E, 29859840 for SNN, and 13230080 for IPE/IPE-E.)

```
              Buffers      = 60
```

```
************************************************************
```

```
Copyright (c) 1984-1995 Motorola Inc. All rights reserved

INIT: SINGLE USER MODE

***

Control Key Assignments: erase = DEL kill = ^u intr = ~
quit = ^x

***
```

The following message shows the SCSI configuration:

```
xxx SCSI configuration
```

Note: (The "xxx" will be 177 for SNN-E, and 167 for SNN or IPE/IPE-E.)

Device	Addr	Vers	Revision	Serial#	Blocks	Size	Vendor	Description
Disk	00	0002	8770...	....	2054325	0512	SEAGATE	ST11200N
Tape	40	0001	RV J...	....	0000000	0000	TEAC	MT-2ST/F50B

This configuration is only an example. Your system may differ.

```
Enter the correct date and time [mmddhhmmyyyy]:
```

7   Enter the correct date and time, followed by **{RETURN}**.

The first pair of numbers represent the month, the second pair of numbers represent the day, the third pair of numbers represent the hour in the 24-hour time cycle, the fourth pair of numbers represent the minutes, and the last four numbers represent the year. For example, if 051212211996 is entered, the system asks you the following question:

```
Is the date Wed May 12 12:21:00 1996 correct? (y or n)
```

8   If the date and/or time you entered is incorrect, enter **n**, followed by **{RETURN}**. The system then returns you to Step 7. If the date and time you entered are correct, enter **y**, followed by **{RETURN}**. The system continues.

```
***>   From this point on, many system messages will be
       timestamped. (TIME)
```

The word TIME in parentheses indicates a time message displayed by your system.

9   The system prompts you to enter your 20-character alphanumeric keycode followed by your Meridian 1/SL-1 serial number. These characters are represented by the pound key (#) followed by **{RETURN}**.

```
Please enter the first four characters of the keycode,
or 'q' to quit: ####

Please enter the next four characters of the keycode,
or 'q' to quit: ####

Please enter the next four characters of the keycode,
or 'q' to quit: ####

Please enter the next four characters of the keycode,
or 'q' to quit: ####

Please enter the last four characters of the keycode,
or 'q' to quit: ####

Please enter the Meridian 1/SL-1 serial number that
corresponds to this keycode, or 'q' to quit: #####
```

10 If the system is unable to decrypt the keycode, you are prompted to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure and prompts you to contact your Nortel service representative.

If the keycode is decrypted successfully, the system continues with the following:

```
The following options were encoded in the keycode that you
entered. Please verify that the options are correct:

Option                              Setting

_____                              _____

Serial Number              :        #####

Platform                   :        SNN*

Number of Serial Ports     :        40

Max. Position IDs          :        1200

LAN Supervisor Sessions    :        25

Num of MEI-Network Link(s) :        1

Num of MEI-Observe Link(s) :        3

Configuration Control [CC] :        ENABLED

Formula Definition    [FD] :        ENABLED

NAC Connectivity     [NAC] :        ENABLED

MSL-1 NACD MIS      [NACD] :        ENABLED
```

```
CCR/EAR MIS          [CCR]  :      ENABLED

Datastream Reporting [DSR]  :      ENABLED

M1 Terminal Emulator [MTE]  :      ENABLED

Multiple Queue Assgn. [MQA] :      ENABLED

MAX Status Interface [MSI]  :      DISABLED

Are the options correct? (y/n)
```

This configuration is an example. Your system options may differ.

Note that for an SNN/SNN-E system, the total number of configured, directly connected workstations plus the number of connected LAN supervisor sessions cannot exceed 60. For an IPE/IPE-E system, the number cannot exceed 20.

*If a keycode for an IPE system is used in an IPE-E hardware configuration, a warning message appears. Action is not required because Meridian MAX automatically enters the proper platform associated with the keycode. Continue with the procedure after reading the warning message. This also occurs if an IPE-E keycode is used in an IPE platform.

11 If the options are incorrect, enter **n**. The system prompts you to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure. Contact your Nortel service representative.

If the system configuration is correct, enter **y**.

If the MQA option or NACD option, or both, are enabled, a warning message appears.

If you wish to proceed, enter **y**.

12 If the configuration is recognized, the system displays the message shown in Step 14.

If the hard disk drive type cannot be identified, the system displays the following message:

```
The system has detected an unknown disk drive type: xxxxx xxxx
```

Note: (The "xxxxxx xxxx" describes the model of the hard disk drive which has been detected.)

Please enter the correct drive type from the choices listed below, or type "q" to abort the installation.

1. 2.0 GB

2. 1.2 GB (Seagate 94601)

   1.2 GB (CDC 94601)

3. 1.0 GB (Seagate ST11200N)

   1.0 GB (Seagate ST11200N ST3123)

4. 240 MB (Fujitsu M2614 M2637S)

5. 240 MB (Seagate ST3283N)

6. 180 MB (Fujitsu M2614S)

7. 172 MB (CDC ST1201N)

   172 MB (Seagate ST1201N)

   172 MB (CDC 94315-200S)

   172 MB (Seagate 94315-200S)

Enter a number from 1 to 7, or enter q to quit:

13 Select an entry which is the most appropriate for your Meridian MAX system.

14 Your system configuration is displayed. The following configuration is only an example. Your system configuration will differ depending on your platform.

MAX has detected that you are running the following hardware configuration:

```
System       : Meridian MAX 8 SNN

CPU          : 167 Card

Memory       : 32 MB

Hard Disk    : 1.0 GB (Seagate ST11200N)

Tape Drive   : 600 MB (Teac MT–2ST/F50B)
```

```
If this configuration does not match your configuration,
or if this configuration is not the configuration ordered,
please type "n" to the following question. The installation
will abort. Please call your service representative for
further assistance.

 ———>  Do you wish to install the hardware configuration
       specified above (y/n) ?
```

15 If you want to abort the installation, enter **n**, followed by **{RETURN}**. If you want to install the hardware configuration, enter **y**, followed by **{RETURN}**.

16 The system displays the Meridian MAX Software Installation Menu. Since this procedure is a new installation, enter **1**, followed by **{RETURN}**.

```
The Meridian MAX Software Installation Menu

——————————————————————————————————————————

    1    New Installation

    2    Installation Upgrade

    3    Application Upgrade

———>Enter a number to select the type of installation/upgrade
    desired, or enter q to quit :
```

17 The system continues.

```
Will perform a New Installation.

———> Do you wish to restart a previously-aborted installation (y/n)?
```

18 If you do not want to restart a previously aborted installation, enter **n**, followed by **{RETURN}**. Go to Step 20.

If you want to restart a previously aborted installation, enter **y**, followed by **{RETURN}**. The system continues.

```
***> Determining whether the new installation can be re-started...
```

The system displays the Meridian MAX Installation/Upgrade Restart Menu.

Note: Only those reentry points that have been verified by your system are shown in the Meridian MAX Installation/Upgrade Restart Menu.

```
The Meridian MAX Installation/Upgrade Restart Menu
-----------------------------------------------------------
Restart Meridian MAX new installation from one of the
following stages:

1 From the Beginning

2 Just Before Copying OS Files to Hard Disk

3 Just Before Copying MAX Application Files to Hard Disk

4 Just Before Booting From Hard Disk

   --> Enter a number to select the stage from which to
       install, or enter q to quit:
```

19 If you want to quit, enter **q**, followed by **{RETURN}**. The installation is aborted and a prompt appears to allow you to restart the installation.

If you want to restart the installation from the beginning, enter **1**, followed by **{RETURN}**. The system displays the following message:

```
You have chosen to start the Meridian MAX new installation
from the beginning.
```

If you want to restart the installation just before the OS files are copied to the hard disk, enter **2**, followed by **{RETURN}**. The system displays the following message:

```
You have chosen to start the Meridian MAX new installation
at the point where the OS files are about to be copied to
the hard drive.
```

If you want to restart the installation just before the Meridian MAX application files are copied to the hard disk, enter **3**, followed by **{RETURN}**. The system displays the following message:

```
You have chosen to start the Meridian MAX new installation
at the point where the application files are about to be
copied to the hard drive.
```

If you want to restart the installation just before the Meridian MAX system boots from the hard disk, enter **4**, followed by **{RETURN}**. The system displays the following message:

```
You have chosen to start the Meridian MAX new installation
at the point where the system is about to be booted from
the hard disk for the first time.
```

20 The system continues.

```
———>    Will the MAX system be in Agent—ID mode or
        Position-ID mode? (MAX must be in the same mode as
        the Meridian 1/SL-1.)

    Please enter either 'a' or 'p' :
```

If your Meridian MAX is in Agent-ID mode or has MQA enabled, enter **a**, followed by **{RETURN}**. If the system is in Position-ID mode, enter **p**, followed by **{RETURN}**.

Note: If your Meridian MAX has MQA enabled, ensure that your Meridian 1 is also in Agent-ID mode.

The system continues with the following prompt:

```
Please verify that the Meridian 1/SL-1 is in the same mode
as MAX.

Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)?
```

Note: (The "xxxxxx" is either agent or position, depending upon which you entered at the beginning of this step.)

21 If the Meridian 1 is in the same mode as the Meridian MAX, enter **y**, followed by **{RETURN}**.

```
WARNING:        Meridian MAX new installation requires
                overwriting the hard disk. This means that
                FILES AND DATA ON THE DISK WILL BE
                DESTROYED.

———>    Do you wish to begin Meridian MAX new installation
        (y, n, q, ?) [q]:
```

22 If you want to begin the installation, enter **y**, followed by **{RETURN}**. The system continues.

```
***>    Beginning new installation (TIME)

***>    Checking tape in drive... (TIME)

***>    Retensioning tape (in background) (TIME)
```

If you chose not to restart a previously aborted installation or chose rentry point 1 in Step 19 (to restart the installation from the beginning), go to Step 23.

If you chose reentry point 2 in Step 19 (to restart the installation just before copying the OS files to the hard disk), go to Step 24.

If you chose reentry point 3 in Step 19 (to restart the installation just before copying the application files to the hard disk), the system displays the following messages:

```
***>    Mounting root file system as /root (TIME)

***>    Mounting the usr file system as /root/usr (TIME)

***>    Installing MAX-specific configuration files (TIME)

***>    Setting permissions on installation disk's root
        directory (TIME)
```

Go to Step 25.

If you chose reentry point 4 in Step 19 (to restart the installation just before booting from the hard disk for the first time), the system displays the following messages:

```
***>    Mounting root file system as /root (TIME)

***>    Mounting the usr file system as /root/usr (TIME)

The system has been reset to perform the installation
again, starting from the first boot from the hard disk.
Please perform the following steps:

1.  Remove the tape from the tape drive.

2.  Turn off the power for the module.

3.  Wait 20 seconds for the power to reset.

4.  Turn on the power for the module.

************************************************************

Please reboot the system now.

************************************************************
```

Go to Step 29.

23 ```
****
```
```
Stage 1 — Formatting Hard Drive and Creating File Systems
```
```
****
```

```
***>    Formatting root file system's disk drive (TIME)
        This will take about xx minutes...
```

Note: (The "xx" will be 10 with IPE, 20 with IPE-E or SNN, and 30 with SNN-E.)

```
***>    Writing slice table to /dev/rdsk/mxxx_OOs7 (TIME)
```

Note: (The "xxx" will be 177 with SNN-E and 167 with SNN or IPE/IPE-E.)

```
***>    Creating the root file system (TIME)
```

```
***>    Labeling the root file system (TIME)
```

```
***>    Creating the swap file system (TIME)
```

```
***>    Labeling the swap file system (TIME)
```

```
***>    Creating the usr file system (TIME)
```

```
***>    Labeling the usr file system (TIME)
```

```
***>    Installing boot—loader on root file system's disk
        drive (TIME)
```

24 ```
****
```
```
Stage 2 — Copying OS Files to Hard Disk
```
```
****
```

The following two messages only appear if no reentry point was used, or if reentry point 1 was chosen:

```
***>    Mounting root file system as /root (TIME)
```

```
***>    Making the /tmp directory (TIME)
```

```
***>    Making the /usr directory (TIME)
```

```
***>    Mounting usr file system as /root/usr (TIME)
```

```
***>    Waiting for tape to complete retensioning (TIME)
```

```
***>    Copying files; this will take from 10 to 20 minutes
        depending upon your system configuration... (TIME)
```

```
***>    Making the root file system lost+found directory
        (TIME)
```

```
Reserving xxx entries
```

Note: (The "xxx" will be 128 with IPE and 224 with SNN/SNN-E, or IPE-E.)

```
***>    Making the usr file system lost+found directory
        (TIME)
```

```
Reserving xxxx entries
```

Note: (The "xxx" will be 704 with IPE and 1312 with SNN/SNN-E or IPE-E.)

The following message only appears if no reentry point was used, or if reentry point 1 was chosen:

```
***>    Installing /etc/badtracks/mxxx_OO bad spot list
        (TIME)
```

Note: (The "xxx" will be 177 with SNN-E and 167 with SNN or IPE/IPE-E.)

```
***>    Creating sysadm(1M) package information file (TIME)
```

```
***>    Setting up the new operating system (TIME)
```

```
***>    Creating root and usr file system associated device
        nodes (TIME)
```

```
***>    Installing MAX-specific configuration files (TIME)
```

```
***>    Setting permissions on installation disk's root
        directory (TIME)
```

25
```
************************************************************
 Stage 3 — Copying MAX Application Files to Hard Disk
************************************************************
```

```
Please remove the OS tape from the tape drive and put in
the Meridian MAX Application Tape.
```

26 Remove the OS tape from the tape drive and insert the application tape (Tape 2 of 2).

Wait for the tape to rewind. The tape drive light turns off when the tape is rewound.

```
--->    Did you insert the application tape in the tape
        drive (y/n)?
```

27 If you followed the instructions given in Step 26 and the tape drive light is off, enter **y**, followed by **{RETURN}**.

The system continues.

```
***>    Checking tape in drive... (TIME)

***>    Copying files; this will take from 10 to 20 minutes
        depending upon your system configuration... (TIME)
```

28
```
***********************************************************
Stage 4 — Preparing to Reboot from Hard Disk
***********************************************************

***>    Unmounting all mounted file systems (TIME)

***>    Synchronizing the installation disk (TIME)

***********************************************************

The Meridian MAX product has been installed on the hard
disk.

You may now remove the tape from the tape drive.

* You must REBOOT the system and allow it to autoboot from
* the hard disk. Please power off the system now.
*

* Please allow 20 seconds between turning the power off and
* on again to allow the power to reset.

***************************
**** REBOOT THE SYSTEM ****
***************************
```

29 After you turn off the power for the module, wait 20 seconds, and turn the power on again. The system automatically reboots. Your system messages may differ.

```
Copyright Motorola Inc. 1988 — 1996, All Rights Reserved

xxxxxxx Debugger/Diagnostics Release Version 1.1 — 01/11/96
```

Note: (The "xxxxxxx" will be MVME177 with SNN-E, MVME167 with SNN, and M4120 with IPE/IPE-E.)

```
COLD START

Local Memory Found =xxxxxx (&xxxxxxxxx)
```

Note: (The "xxxxxxx (&xxxxxxxxx)" will be 04000000 (&62108864) for SNN-E, 02000000 (&33554432) with SNN, and 01000000 (&16777216) with IPE/IPE-E.)

```
MPU Clock Speed =xxMhz
```

Note: (The "xx" will be 50 Mhz with SNN-E, 33 Mhz with SNN, and 25 Mhz with IPE/IPE-E.)

```
Autoboot in progress... To abort hit <BREAK>
```

```
Booting from: xxxxxx, Controller 0, Drive 0
```

Note: (The "xxxxxx" will be VME177 with SNN-E, VME167 with SNN, and M4120 with IPE/IPE-E.)

```
Loading: Operating System
```

```
Volume: $00000000
```

```
IPL loaded at: $001F0000
```

```
VME Disk IPL Version 52.2
```

```
***
```

```
erase = DEL  kill = ^u  intr = ^c  quit = ^x
```

```
***
```

Note: The previous message indicates that the keys **{CONTROL} {C}** pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

```
xxx SCSI configuration
```

Note: (The "xxx" will be 177 with SNN-E, and 167 with SNN or IPE/IPE-E.)

Device	Addr	Vers	Revision	Serial #	Blocks	Size	Vendor	Description
Disk	00	0002	8770...	....	2054325	0512	SEAGATE	ST11200N
Tape	40	0001	RV J...	....	0000000	0000	TEAC	MT−2ST/F50B

This configuration is only an example. Your system may differ.

```
Enter <CR> to pause in a single user shell before init.
```

```
Default boot sequence continuing...
```

```
The system is coming up. Please wait.
```

```
Node name set to MAX00.
```

```
Updating serial devices for current CPU
```

```
mount −f S51K /dev/usr /usr
```

```
Checking for system dump messages ...
```

```
Checking for system dump
```

```
Expreserve notification performed.

Downloading MVME332XT Line Disciplines.
```

Note: (The previous prompt only appears on SNN/SNN-E platforms.)

```
Error logging started.

OSM Logging Started.


***>    Configuring port devices... (TIME)

***>    Finished configuring port devices. (TIME)

Transport Provider daemon started.

Internet services provided.

portmap started.

Stream Error logging started.

netspec "tcpip" not set up.

Network Commands: rwalld

routed started.

NFS Startup...

ONC daemons:

NFS daemons:

Lock manager:

NFS Startup complete.

Line printer scheduler started.

Module ID = MAXOO

MAX Configuration = 1 Module(s)


***>    Setting up directories and file permissions...(TIME)

***>    Creating the System database — please wait...(TIME)

        System database created.

***>    Loading MAX 8 system data files...

        Loading data files for training mode...
```

```
            Data files loaded
```

30 The system displays the language options installed on your system.
The language options listed below are provided as an example only.
Your system language options may differ.

```
***>    Your current language options are:

        Default:       English

        Secondary:     French

--->    Would you like to change your secondary language
        (y/n)?
```

31 If the language options displayed by the system are correct and you do
not want to change them, enter **n**, followed by **{RETURN}.** Go to Step
35.

If the language options displayed by the system are not correct and you
want to change them, enter **y**, followed by **{RETURN}.**

32 The system displays the available system secondary language options.
For example:

```
***>    Available system secondary language options:

        1. French
        2. German
        3. Spanish
        4. Japanese

--->    Please select the MAX secondary language by entering its
        number:
```

Note: Changing the secondary language only affects the Meridian
MAX supervisor screens. All installation screens as well as all
maintenance and administration screens remain in English.

33 Enter the number associated with the secondary language option you
want to install, followed by **{RETURN}**.

The system then displays the current system language options and the
following message:

```
--->    Are the language options correct (y/n)?
```

34 If the language options displayed are not correct and you want to
change them, enter **n**, followed by **{RETURN}**. Go to Step 32.

If the language options displayed are correct, enter **y**, followed by
{RETURN}.

35   ***>   `Creating USER LANGUAGE database — please wait...  (TIME)`

                  `USER LANGUAGE database created.`

  ———>   `Which customer number would you like this MAX site to use?`

36 Enter the number between 0 and 99 (inclusive) that corresponds to the customer number assigned to your Meridian 1 switch, followed by **{RETURN}**.

  ***>   `Customer number changed to ##`

(Where ## is the customer number you entered.)

37 The system displays the Meridian MAX Hardware and System Parameters screen.

Refer to the "Meridian MAX system configuration" chapter for instructions on how to assign your system ports, Meridian MAX system parameters, and external interface link ports.

38 When you have completed the system capacity configuration screens, the system continues with the installation.

  ***>   `Historical Data database update starts.`

  ***>   `Creating the MAX 8 Historical Data database for`
         `training mode.`

`This process takes approximately 5 minutes to execute.`

`Creating a new database (TIME)`

  ***>   `End of Historical Data database update.`

  ***>   `Loading data files for training mode...`

          `Historical Data database loaded.`

  ***>   `Setting the time to Thu Jun 22 12:00 1989 for`
         `Training mode.`

`Loading System Language Strings ...`

`Loading System Language Strings completed.`

`Starting MAX OSM Logger, Please Wait ...`

`OSM Logging Stopped.`

`MAX OSM Logging Started.`

`Meridian MAX release 08.xx`

 `Meridian MAX Training Mode`

```
 Please login as precut for more details.

The system is ready.


Console Login:
```

39   Before logging in, ensure that the installation was successful. Review the Meridian MAX error log for any fatal messages.

Log in as **maint** and refer to the Meridian MAX 8 *Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Diagnostics" section, "View MAX error log" subsection, for more information.

40   Ensure that the correct system options were enabled.

Refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Options Display" subsection, for more information.

41   If the system was installed correctly, go to Step 42.

If the system was not installed correctly, you must reinstall it. Ensure that no errors occurred within the steps you want to skip. If you are unsure, restart the reinstallation from the beginning. If the errors persist, contact your Nortel distributor.

42   Insert a new blank tape into the tape drive for daily backups. Ensure that the write-protect tab on the blank cartridge tape is set to write-enabled to allow the system to write information on the tape. The importance of backups is explained in the *Meridian MAX 8 Installation Guide* (NTP 553-4001-111), "Software installation overview" chapter, "Backups" section.

43   Log in as **precut**.

Refer to the "Operating modes" chapter for the correct procedure to switch from Training mode to Precutover mode. Refer to the "Operating modes" chapter, "Switching from Training mode to Precutover mode" procedures, for further instructions on how to transfer from Training mode to Precutover mode.

Factory-installed software

To perform the following procedure, you need the Meridian MAX 8 Generic Operating System tape (Tape 1 of 2) and the Application tape (Tape 2 of 2).

Follow Procedure 11-2 if your system has SNN/SNN-E or IPE/IPE-E factory-installed software.

Procedure 11-2
New installation of the Meridian MAX 8 factory-installed software

1   Before beginning the software installation, ensure that the CPU card has been configured correctly.

    If you are installing SNN/SNN-E software, refer to the "Hardware installation: Application Module (SNN/SNN-E)" chapter. If you are installing IPE/IPE-E software, refer to the "Hardware installation: Intelligent Peripheral Equipment module" chapter.

2   Power up the module.

    If you are installing SNN/SNN-E software, the power switch is located on the left-hand side of the AEM module. The upper switch controls the power for the module in the left side of the Meridian 1, while the lower switch controls the power for the module in the right side.

    If you are installing IPE/IPE-E software, the power button is located above the tape drive.

    The system displays the copyright and hardware configuration information. Your system messages may differ.

    `Copyright Motorola Inc. 1988 – 1995, All Rights Reserved`

    `xxxxxxx Debugger/Diagnostics Release Version 1.2 – 02/28/95`

    Note: (The "xxxxxxx" will be MVME177 for SNN-E, MVME167 for SNN, and M4120 for IPE/IPE-E.)

    `COLD Start`

    `Local Memory Found =xxxxxxxx (&xxxxxxxx)`

    Note: (The "xxxxxxx (&xxxxxxxx)" will be 04000000 (&67108864) for SNN-E, 02000000 (&33554432) for SNN, and 01000000 (&16777216) for IPE/IPE-E.)

    `MPU Clock Speed =xxMhz`

    Note: (The "xx" will be 50 Mhz for SNN-E, 33 Mhz for SNN, and 25 Mhz for IPE/IPE-E.)

```
Autoboot in progress... To abort hit <BREAK>
```

```
Booting from xxxxxx, Controller 0, Device 0
```

Note: (The "xxx" will be VME177 for SNN-E, VME167 for SNN, and M4120 for IPE/IPE-E.)

```
Loading: Operating System
```

```
Volume: $00000000
```

```
IPL loaded at: $001F0000
```

```
VME Disk IPL Version 52.2
```

```
***
```

```
erase = DEL   kill = ^u   intr = ^c   quit = ^x
```

```
***
```

Note: The previous message indicates that the **{CONTROL}{C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

```
xxx SCSI configuration
```

Note: (The "xxx" will be 177 for SNN-E, and 167 for SNN or IPE/IPE-E.)

Device	Addr	Vers	Revision	Serial#	Blocks	Size	Vendor	Description
Disk	00	0002	8770...	....	2054325	0512	SEAGATE	ST11200N
Tape	40	0001	RV J...	....	0000000	0000	TEAC	MT-2ST/F50B

This configuration is only an example. Your system may differ.

```
Enter <CR> to pause in a single user shell before init.
```

```
Default boot sequence continuing...
```

```
The system is coming up. Please wait.
```

```
Node name set to MAX00.
```

```
Updating serial devices for current CPU
```

```
mount -f S51K /dev/usr /usr
```

```
Checking for system dump messages...
```

```
Checking for system dump

Expreserve notification performed.

Downloading MVME332XT Line Disciplines.
```

***Note*:** (The previous prompt only appears on SNN/SNN-E platforms.)

```
Error logging started.

OSM Logging Started.

port-hold Started.


Transport Provider daemon started.

Internet services provided.

portmap started.

Stream Error logging started.

netspec "tcpip" not set up.

Network Commands: rwalld

routed started.

NFS Startup...

ONC daemons:

NFS daemons:

Lock manager:

NFS Startup complete.

Line printer scheduler started.

Loading System Language Strings ...

Loading System Language Strings completed.

Starting MAX OSM Logger, Please Wait ...

OSM Logging Stopped.

MAX OSM Logging Started.

Meridian MAX release 08.xx

 Meridian MAX Training Mode

 Please login as precut for more details.
```

```
The system is ready.


Console Login:
```

3   Using the Maintenance console, log in as **maint**.

```
The system will display the following:
```

```
Password:
```

4   Enter the maintenance password.

The system displays the Maintenance and Administration Menu that appears while the system is active.

Figure 11-1
Maintenance and Administration menu—system running

```
            Meridian MAX Maintenance and Administration


            View / Modify Meridian MAX Options

            Shutdown the System

            Backup Customer Data to Tape

            Diagnostics

            Password Change

            Configure Meridian MAX System

            Alter / View Meridian MAX IPE/IPE-E Module Information *

            Help

            Logout

      Press v, s, b, d, p, c, a, h or l and ENTER:
```
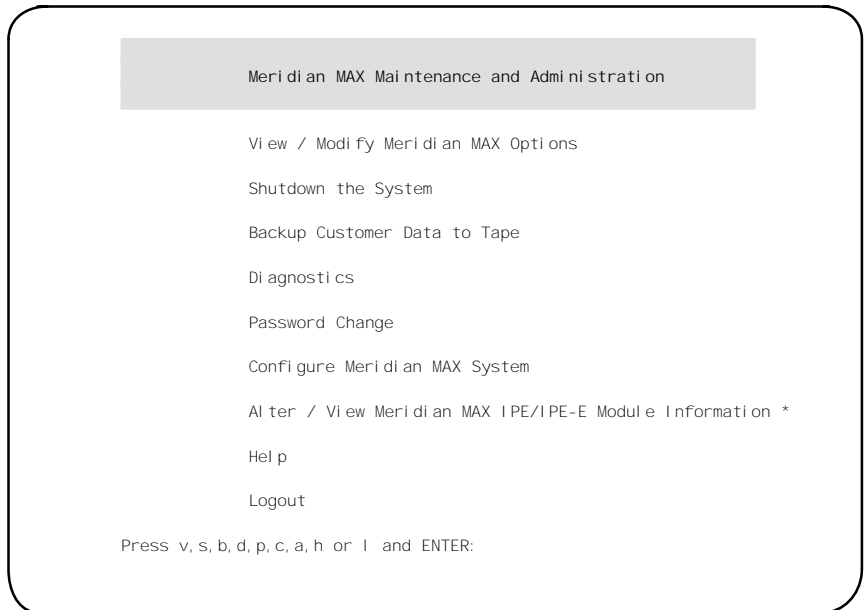
Note: * This field is only available on the IPE/IPE-E hardware platform.

5 Enter **s**, followed by **{RETURN}**, to shut down the system.

The screen goes blank for several seconds. Then the system asks you to confirm your choice:

```
Press y and ENTER to confirm system shutdown.

(Just ENTER to quit)
```

6 Enter **y**, followed by **{RETURN}**, to confirm the shutdown of the system.

The system displays the Meridian MAX Maintenance and Administration Menu that appears while the system is inactive.

Figure 11-2
Maintenance and Administration menu—**system shutdown**

```
                    Meridian MAX Maintenance and Administration


                    View / Modify Meridian MAX Options

                    Restart & Power Down System Utilities

                    Backup and Restore Utilities

                    Diagnostics

                    Password Change

                    Configure Meridian MAX System

                    Alter / View Meridian MAX IPE/IPE-E Module Information *

                    Help

                    Logout

               Press v, r, b, d, p, c, a, h or l and ENTER:
```

Note: * This field is only available on the IPE/IPE-E hardware platform.

7 Enter **v,** followed by **{RETURN}**, for the View/Modify Meridian MAX Options menu.

8 Enter **c,** followed by **{RETURN}**, to select Current Options Display.

This Meridian MAX Options screen displays the options selected for your site. This screen is a sample.

Note that for an SNN/SNN-E system, the total number of configured direct connections plus the number of active LAN sessions cannot exceed 60 supervisor sessions. For an IPE/IPE-E system, the number cannot exceed 20.

Figure 11-3
Meridian MAX Options screen

```
  Meridian MAX Options



  Product Release          : 08.0x      Software Version        : 08.xx
  Hardware Platform        : SNN         Database Version        : 08.00
  Meridian 1 Serial #      : 12345       Customer Number         : 0
  Combined Call Abandon    : DISABLED    Agent-ID mode           : YES
  Num Of Serial Ports      : 40
  Max. Position IDs        : 1200
  LAN Supervisor Sessions  : 25
  Num of MEI-Network Links(s) :1
  Num of MEI-Observe Link(s)  :3
  Configuration Control [CC] : ENABLED
  Formula Definition [FD]    : ENABLED
  NAC Connectivity [NAC]     : ENABLED
  MSL-1 NACD MIS [NACD]      : ENABLED
  CCR/EAR MIS [CCR]          : ENABLED
  Datastream Reporting [DSR] : ENABLED
  M1 Terminal Emulator [MTE] : ENABLED
  Multiple Queue Assgn. [MQA] : ENABLED
  MAX Status Interface [MSI] : DISABLED


  Press ENTER to return to menu.
```

9 Compare the *Customer Number* field with the customer number you want your system to have.

Press **{RETURN}** to return to the View/Modify Meridian MAX Options menu.

10 Enter **q,** followed by **{RETURN}**, to return to the Meridian MAX Maintenance and Administration menu.

11 If the *Customer Number* field is correct, go to Step 18.

If the *Customer Number* field is incorrect, enter **v**, followed by **{RETURN}**.

The system displays the View/Modify Meridian MAX Options menu.

Figure 11-4
View/Modify Meridian MAX Options

```
          View / Modify Meridian MAX Options




          Current Options Display

          Keycode Options Update

          Modify Customer-Controlled Options

          Help

          Quit to the main menu




 Press c, k, m, h or q and ENTER:
```
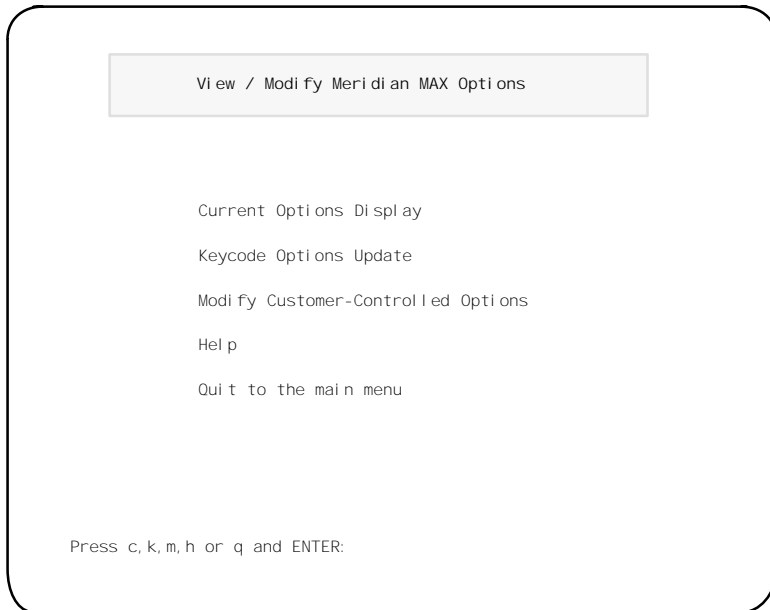
12 Enter **m**, followed by **{RETURN}** for the Modify Customer-Controlled
Options menu.

The system displays the following screen.

Figure 11-5
Modify Customer-Controlled Options screen

```
                    Modify Customer-Controlled Options




                Agent-ID mode

                System Customer Number

                Combined Call Abandon Reporting Feature

                Help

                Quit to View / Modify MAX Options menu



        Press a,s,c,h or q and ENTER:
```
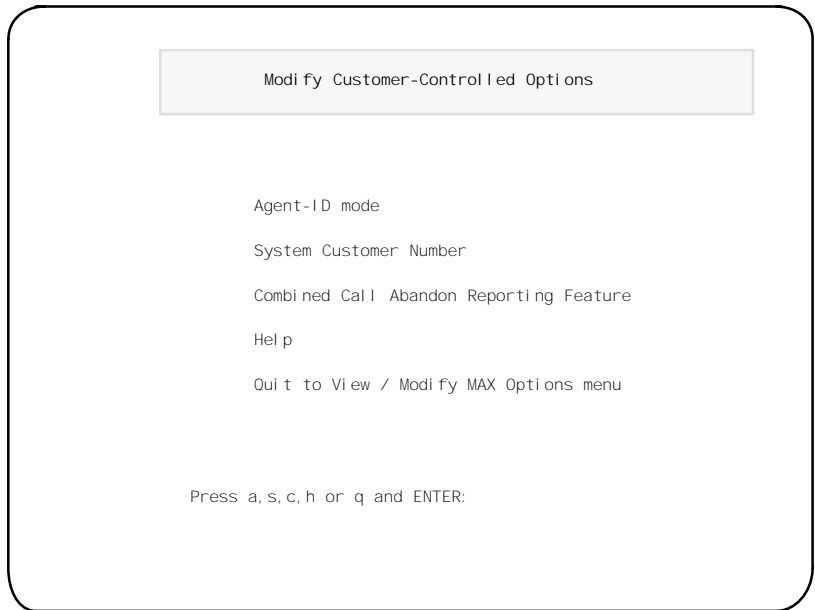
13   Enter **s**, followed by **{RETURN}** to assign a new customer number for
this Meridian MAX site.

```
***>    The system customer number is #
```

(where # represents the current customer number)

```
Press y and ENTER to change the customer number.
(Just ENTER to quit)
```

14   Enter **y**, followed by **{RETURN}**.

The system displays the following question:

```
--->    Which customer number would you like this MAX site
        to use?
```

15   Enter a number between 0 and 99 (inclusive) that corresponds to the customer number assigned to your Meridian 1 switch, followed by **{RETURN}**.

The system displays the following:

```
***>    Customer number changed to ##
```

(where ## is the customer number you entered)

The system returns to the Modify Customer-Controlled Options screen.

16   Enter **q** and press **{RETURN}** to return to the View/Modify Meridian MAX Options menu.

17   Enter **q** and press **{RETURN}** to return to the Meridian MAX Maintenance and Administration menu.

18   Enter **r** and press **{RETURN}**.

The system displays the Restart and Power Down System Utilities menu.

Figure 11-6
Restart and Power Down Utilities

```
                  Restart and Power Down Utilities


              Restart the Meridian MAX System

              Secure the System for Power Down

              I/O Port Reconfiguration on System Restart

              Help

              Quit to the main menu


     Press r, s, i, h, or q and ENTER:
```
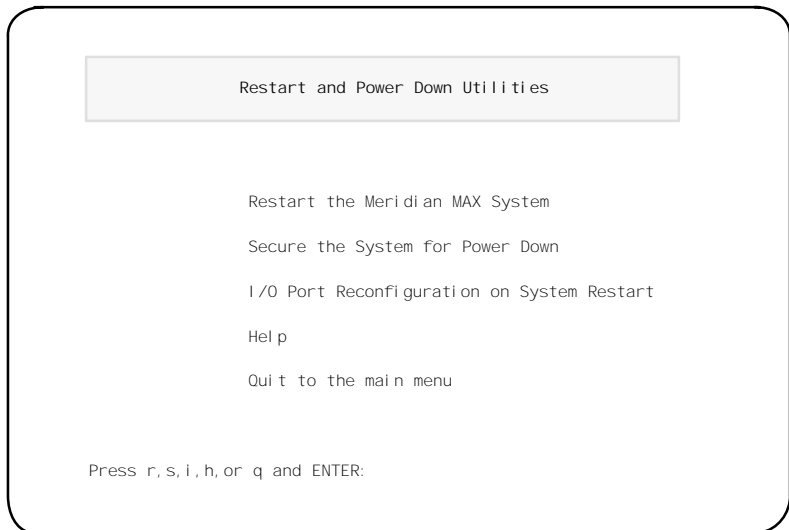
19   Enter **r**, followed by **{RETURN}**.

The system begins the Restart the Meridian MAX System utility.

```
Press y and ENTER to confirm system restart. (Just ENTER to
quit)
```

20 Enter **y**, followed by **{RETURN}**.

The system displays the following message:

```
The operating system will shut down and restart, and then
MAX will restart.

Please wait for system to reboot.
```

The system displays a number of messages as it shuts down. After shutdown, the system automatically reboots.

```
Console Login:
```

21 Before logging in, ensure that the installation was successful. Review the Meridian MAX error log for any fatal messages.

Log in as **maint** and refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Diagnostics" section, "View MAX Error Log" subsection, for more information.

22 Ensure that the correct system options were enabled.

Log in as **maint** and refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Options Display" subsection, for more information.

23 If the system was installed correctly, go to Step 24.

If the system was not installed correctly, you must reinstall it. Ensure no errors occurred within the steps you want to skip. If you are unsure, restart the reinstallation from the beginning. If the errors persist, contact your Nortel distributor.

24 Insert a new blank tape into the tape drive for daily backup. Ensure that the write-protect tab on the blank cartridge tape is set to write enabled to allow the system to write information on the tape. The importance of backups is explained in the "Software installation overview" chapter, "Backups" section.

25 Log in as **precut** to view the Meridian MAX Training Mode screen.

Refer to the "Operating modes" chapter, "Switching from Training mode to Precutover mode" procedures, for further instructions on how to transfer from Training mode to Precutover mode.

Chapter 12: Workstation, HSL, and LML configuration

For every Meridian MAX, a workstation and High-Speed Link must be configured. A Load Management Link must be configured if your system has Configuration Control enabled.

Single Terminal Access (STA) provides integrated access to operation, administration, and maintenance (OA&M) functions for the systems it monitors. One terminal allows you to access the Meridian 1 and up to three other applications, including Meridian MAX.

Table 12-1 lists the workstation, High-Speed Link, and Load Management Link configuration procedures in this chapter.

Table 12-1 Configuration procedures	
Workstation configuration	Procedure 12-1
Configuring the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)	Procedure 12-2
Configuring the High-Speed Link on the Meridian 1	Procedure 12-3
Configuring the Load Management Link on the Meridian 1	Procedure 12-4
Configuring the High-Speed Link on the Option 11	Procedure 12-5
Configuring the Load Management Link on the Option 11	Procedure 12-6

Workstation configuration

Refer to the "Workstations" chapter for more details on the two types of supported workstations: VDTs and PCs.

Refer to the "Workstations" chapter, "Personal computer workstations" section, for instructions on how to install MTE using DOS or Windows and Reflection 4+.

If you are using a workstation that was not previously configured, perform Procedure 12-1.

Procedure 12-1
To perform the hardware upgrade

1 If you have set up your PC workstation as in the "Workstations" chapter, "Personal computer workstations" section, and Reflection 4+ or the Meridian MAX Terminal Emulator is loaded on your PC, press **{CONTROL}{T}** to begin the procedure. If you are using a supervisor dial-up, the following prompt appears:

```
REMINDER: If you have invoked this feature to change
your terminal configuration during an active
supervisor dial-up session, your new selection will
NOT take effect. To change the terminal configuration
during an active dial-up session, you must log off
and dial-up again to select the new configuration.

If you are dialing in for the first time, however,
you may freely select your terminal configuration now
and it will be properly activated for this dial-up
session.

Please press <ENTER> to continue...
```

2 Press **{RETURN}**.

3 The system continues.

```
The terminal type for this port is unknown.
Please choose a terminal type from the following list:
    1. DEC vt220 monochrome and compatibles
    2. DEC vt420 monochrome and compatibles
    3. PC running Reflection 4-PLUS terminal emulation
    4. PC running Meridian Terminal Emulator
Selection -->
```

Specify the type of terminal you are using. If you are using a VT220
workstation, select **1**. If you are using a VT520 or VT420 workstation,
then select **2**. If you are using a PC workstation running Reflection 4+,
enter **3** and go to Step 5. If you are using a PC running the Meridian
Terminal Emulator, enter **4**, and go to Step 14.

4   If you selected a VT220, VT420, or VT520 as your terminal type, a
menu listing the keyboard types appears. Enter the number that
corresponds to your keyboard type, followed by **{RETURN}**.

```
Select your keyboard type from the following list:

>>> 1.   North American Keyboard
    2.   United Kingdom Keyboard
    3.   Flemish Keyboard
    4    Canadian French Keyboard
    5    Danish Keyboard
    6.   Finnish Keyboard
    7.   German Keyboard
    8    Dutch Keyboard
    9.   Italian Keyboard
    10.  Swiss French Keyboard
    11.  Swiss German Keyboard
    12.  Swedish Keyboard
    13.  Norwegian Keyboard
    14.  French/Belgian Keyboard
    15.  Spanish Keyboard
    16.  Portuguese Keyboard


Selection -->
```

Go to Step 19.

5   If your workstation is a PC running Reflection 4+, the system continues
with the following prompt:

```
Select your keyboard type from the following list:
    1. AT style keyboard (10 function keys on left)
>>> 2. Enhanced keyboard (12 function keys along top)
Selection -->
```

Specify the type of keyboard you are using.

6 The system then asks you to choose a color scheme with the following prompt:

```
Select the desired color scheme from the following list:

>>> 1. Color —— black background
    2. Color —— blue background
Selection ——>
```

7 Specify the color scheme you want. The following prompt then appears:

```
About to start transfer of an appropriate Reflection
4-PLUS configuration file from Meridian MAX to your PC...
The transfer should take approximately 15 — 30
seconds. Please press <ENTER> to begin...
```

8 Press **{RETURN}** to begin transferring the appropriate Reflection 4+ terminal configuration file from Meridian MAX to your workstation.

9 If the transfer of the configuration is successful, the system displays the following prompts. If the transfer of the configuration is unsuccessful, go to Step 12.

```
Transfer of configuration file was successful.
From now on, use the following command when starting
Reflection:
    R4 MERIDIAN.CFG
If there are any key labels currently displayed at the
bottom of the screen, please press <Ctrl>+<Alt>+N to clear
them.
```

10 If there are no function key descriptions on the screen, then ignore this message. If the bottom screen portion shows the function key descriptions, then press **{CONTROL}{ALT}{N}** simultaneously. This action clears the descriptions from the screen.

```
Please press <ENTER> to continue...
```

11 Press **{RETURN}** to complete the workstation's configuration. At the end of the process, the system displays the Supervisor Logon screen.

Go to Step 19.

12 The system displays the following prompt for an unsuccessful file transfer:

```
!!! Transfer of configuration file failed. !!!
Select an action from the following list:
>1. Retry the transfer operation
 2. Ignore the failure (a configuration file is available)
 3. Select a different terminal type
 4. NAC Remote Supervisor Login (a configuration file is
    available)
Selection -->
```

13 If you enter **1**, the system takes you to the prompts shown for Step 7, after which successive steps follow.

Select **2** if the meridian.cfg file is already on the PC workstation, then go to Step 19.
If you select **3**, return to the prompts shown in Step 1, after which successive steps follow.
Select **4** if you are using the NAC Remote Login feature, then go to Step 19.

14 If your workstation is a PC running MTE using DOS, press both left and right **{SHIFT}** keys simultaneously to access the terminal emulator configuration setup screen.

If your workstation is a PC running MTE 6 using Windows, refer to the *Meridian Terminal Emulator 6 User Guide* (P0815602), "Setting session options" section, to access the session option screen.

If your workstation is a PC running MTE 7 using Windows, refer to the *Meridian Terminal Emulator 7 User Guide* (P0821303), "Setting session options" section, to access the session option screen. You can also use the MTE 7 online help for instructions on setting your session options.

The Communication and Printer Port Parameters Configuration screen appears.

15 The selection chosen for the *Connection Type* field determines the accessibility of the *Serial Port Setup* and *LAN Connection Setup* fields.

To change this field, cursor to the *Connection Type* field past the colon, and press **{F1}** for next choice or **{F2}** for previous choice. These two keys toggle between the LAN and Serial selections.

Serial is the default value for this field and indicates that your terminal is directly connected to your Meridian MAX. If you select Serial as your connection type, your screen looks like the following sample screen. Some differences may occur, depending on your selections.

Figure 12-1
Terminal setup screen

```
                    TERMINAL SETUP SCREEN — V05.XX

        CONNECTION SETUP                         PRINTER SETUP
     CONNECTION TYPE: SERIAL                  PORT        : LPT1
                                              BAUD RATE : 9600
         SERIAL PORT SETUP                    STOP BITS : 1
     PORT          : COM1                     PARITY    : NONE
     BAUD RATE    : 9600

        LAN CONNECTION SETUP
     HOST NAME OR
     IP ADDRESS   : N/A

         TERMINAL SETUP SCREEN
     LANGUAGE     : ENGLISH



       F1          F2          F3        F4        F5        F6        F7        F8
      NEXT        PREV                  SAVE                                    EXIT
      CHOICE      CHOICE                CONFIG                                  SETUP
```
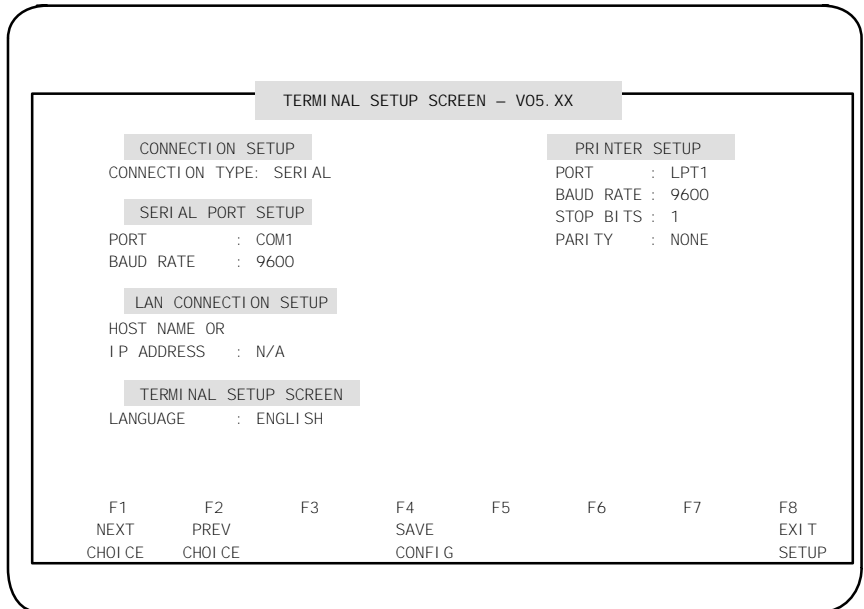
If you select LAN as your connection type, your screen looks like the sample screen. Some differences may occur depending on your selections.

16 The communication port parameters that can be set are listed in this step. Options shown in bold italics are the default settings. These fields are only available when the connection type is set to Serial.

Note: The baud rate setting should not be changed from the default, unless you are using a dial-up connection. This parameter is used by the Meridian MAX to communicate with the supervisor displays.

Parameter	Options
Port:	***COM1***, COM2
Baud Rate:	2400, 4800, ***9600***

The *Host Name or IP Address* field is only available when the connection type is set to LAN. This entry is either the name given to the MAX or the address of the MAX on the LAN. To edit this field, cursor to it and press the **{F3}** key. Press it again when you are done entering the Host Name or the IP Address. The {F1} and {F2} keys disappear when you cursor to this field.

17 The printer port parameters that can be set are listed in this step. Options shown in bold italics are the default settings. The *Baud Rate*, *Stop Bits*, and *Parity* fields are only available when the *Port* field is set to COM1 or COM2.

Port:	***LPT1***, LPT2, LPT3, COM1, COM2
Baud Rate:	2400, 4800, 9600 (serial printers only)
Stop Bits:	1, 2 (serial printers only)
Parity:	NONE, EVEN, ODD (serial printers only)

18 To save the changes made to the default configuration, press the **[SAVE CONFIG]** function key.

A file named MTE.CFG is created in the current directory.

Each time the MTE program is started, it looks for this file in the current directory. If it is found, the information stored there is used as the starting configuration.

If this file is not found, or the format of the file is incorrect, the default configuration (as seen in steps 16 and 17) is used.

To start MTE, change the DOS directory to the one in which you installed the MTE software. For example, CD C:\MERIDIAN.

Enter **MTE** followed by **{RETURN}**.

19 The Supervisor Login screen appears. For instructions on setting up your VT220, VT420, VT520, or HP workstation, refer to the "Workstations" chapter.

20 To exit MTE, simultaneously press **{CONTROL}{ALT}{X}**. This key combination returns control to DOS.

To exit Reflection 4+, log out from Meridian MAX. Wait until the login screen is completely redrawn. Enter **{CONTROL}{ALT}{X}**. The DOS prompt appears.

If you wish to reconfigure your terminal while Meridian MAX is running, press **{CONTROL}{T}** simultaneously at any time to display the configuration prompt. If your terminal selection remains unchanged, you are returned to the Meridian MAX feature you were using prior to reconfiguring the workstation. If your terminal selection is changed during Procedure 12-1, you are logged out, and the Supervisor Login screen appears.

Note: If you are running your display session from a supervisor dial-up connection, pressing **{CONTROL}{T}** does not change your terminal configuration. If you want to reconfigure the terminal for your dial-up session, you must log off, hang up the connection, and dial back in again. When you reconnect, the configuration prompt is displayed and the new terminal configuration you choose takes effect.

Configuring the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access

Single Terminal Access (STA), available with X11 Release 19 and greater, provides integrated access to operation, administration, and maintenance (OA&M) functions for the systems it monitors. By reducing the number of physical devices needed to administer a Meridian 1 system and its subsystems, one terminal allows you to access the Meridian 1 and up to three other applications including Meridian MAX.

To configure the Multi-purpose Serial Data Link (MSDL) card for use with Single Terminal Access (STA) on the Meridian 1, follow the steps in Procedure 12-2.

Before configuring your MSDL card on the Meridian 1 for use with STA, the following criteria must be met:

- Switch settings on the MSDL card must be correct for Meridian MAX as well as other applications using STA.

- Port 0 on the MSDL card must be available for the configuration of an STA administration terminal which acts like a switchboard between the multiple applications.

- At least two ports must be available to configure your STA administration terminal as well as Meridian MAX on your MSDL card.

Procedure 12-2
To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access

1   If there are no MSDL cards installed on your current system, refer to the *Circuit Card Installation and Testing Guide* (NTP 553-3001-211) for information on installing MSDL circuit cards.

   If MSDL cards are already installed on your current system, continue with this procedure.

2   Configure the MSDL card using the Meridian 1 maintenance terminal. Use the document *X11 System Management Applications Guide* (NTP 553-3001-301) and the following guidelines. For prompts not listed, press {**ENTER**} to select the default value.

   Note: Ensure "Caps Lock" on your keyboard is set to "on".

   Enter **LD 22** to access Overlay program 22 to verify that MSDL (222), MSDL SDI (227), and STA (228) software is loaded on your system.

The system displays the following prompt:

REQ

3 Enter **PRT** to access the program's print function.

The system displays the following prompt:

TYPE

4 Enter **PKG** to print the X11 software packages equipped on the Meridian 1. If these packages are not equipped on your system, contact your distributor.

The system displays the following prompt:

REQ

5 Enter **** to exit Overlay program 22.

6 Check your system for an existing MSDL card that can be used for STA. Having an MSDL card with several free ports would allow you optimum use of the STA feature. Verify that the switch settings of the MSDL card number (DNUM) do not conflict with other I/O devices and that all DIP switch settings are set correctly for RS-232. Refer to the *Circuit Card Installation and Testing Guide* (NTP 553-3001-211) for information on MSDL switch settings.

7 Set up a VT220 or 100%-compatible terminal for STA. The set-up parameters vary depending on terminal type. Refer to the *X11 System Management Applications Guide* (NTP 553-3001-301) for the correct set-up parameters for your terminal.

8 Connect an NTND27 cable to Port 0 on the MSDL card. Use a 25-pin straight-through cable to connect the NTND27 cable to the VT220 used for the STA administration terminal.

9 To create a link between the STA administration terminal and Meridian MAX, connect an NTND27 cable to one of the other selected ports on the same MSDL card.

For a Meridian MAX SNN/SNN-E or SEE, connect a null modem adapter between this cable and the NT7D61Ax cable which runs to the Meridian MAX AM's I/O panel (J7 on the I/O subpanel or SYS CONS on the Universal or Generic I/O panel).

For a Meridian MAX IPE/IPE-E, connect a null modem adapter between this cable and the NT1R03Dx or NT7D58Ax cable which runs to Port 1 on the Meridian MAX IPE/IPE-E.

10 Enter **LD 17** to access Overlay program 17 to configure a TTY on the MSDL SDI.

The system displays the following prompt:

REQ

11 Enter **CHG** to change the current configuration on the MSDL card.

The system displays the following prompt:

TYPE

12 Enter **CFN** to access the configuration record.

The system displays the following prompt:

ADAN

13 Enter **NEW TTY xx** to add an MSDL TTY port. The device number is represented by xx.

The system displays the following prompt:

CTYP

14 Enter **MSDL** to specify the card type.

If you have an Option 81 system, continue with this procedure. If you do not, go to Step 16.

The system displays the following prompt:

GRP

15 Enter **0** to specify the network group number for Option 81 systems.

16 The system displays the following prompt:

DNUM

17 Enter **xx** to add an MSDL TTY port. The xx represents the device number of the I/O ports.

The system displays the following prompt:

PORT

18 Enter **0** to specify the port as Port 0.

The system displays the following prompt:

DES

19 Enter **STA_ADMIN** to designate Port 0 for the STA administration terminal.

The system displays the following prompt:

BPS

20 Enter **9600** to set the baud rate.

The system displays the following prompt:

PARY

21 Enter **NONE** to set the parity type.

The system displays the following prompt:

STOP

22 Enter **1** to set the number of stop bits.

The system displays the following prompt:

BITL

23 Enter **8** to set the data bit length.

The system displays the following prompt:

PARM

24 Enter **R232 DCE** to set the interface and transmission mode.

The system displays the following prompt:

FUNC

25 Enter **ABD FCL LME** to set the MSDL card functions.

The system displays the following prompt:

USER

26 Enter **MTC SCH BUG** to set the output message types.

The system displays the following prompt:

XSM

27 Enter **NO** to set the SDI port for the system monitor.

The system displays the following prompt:

TTYLOG

28 Enter **{RETURN}** to set the log buffer size.

29 Enter ******** to exit Overlay program 17.

30   Enter **LD 22** to access Overlay program 22 to verify the configuration changes made in Overlay program 17.

31   Enter **LD 48** to access Overlay program 48 to verify that the MSDL is enabled.

32   Enter **STAT MSDL xx** to verify that the MSDL port is enabled. The device number is represented by xx.

33   Enter ******** to exit Overlay program 48.

The TTY just created must be in a disabled state. If the TTY needs to be disabled, continue with this procedure. If the TTY is already disabled, go to Step 38.

34   Enter **LD 37** to access Overlay program 37 to disable the TTY port.

35   Enter **DIS TTY xx**. The available TTY is represented by xx.

The system displays the following prompt:

xx TTY (Y/N)

36   Enter **Y** to disable the TTY.

37   Enter ******** to exit Overlay program 37.

38   Enter **LD 17** to access Overlay program 17 to configure the TTY port as the STA administration port as well as to set up additional ports for system monitors.

The system displays the following prompt:

REQ

39   Enter **CHG** to change the current configuration on the MSDL card.

The system displays the following prompt:

TYPE

40   Enter **CFN** to access the configuration record.

The system displays the following prompt:

ADAN

41   Enter **NEW STA xx** to add an MSDL TTY port. The device number is represented by xx.

The system displays the following prompt:

TTY

42 Enter **xx** to specify the number of the predefined MSDL SDI TTY from Step 41.

If you have an Option 81 system, the system displays the following prompts:

CTYP   MSDL
GRP

Go to Step 43.

If you have a system other than an Option 81, the system displays the following prompts:

CTYP   MSDL
DNUM

Go to Step 44.

43 Enter **0** to specify the network group number for Option 81 systems.

The system displays the following prompts where the device number is represented by xx:

DNUM   xx
ADMIN PORT   0
LANGUAGE   ENGLISH
ADDITIONAL PORT

44 Enter the MSDL port number you have designated to connect to Meridian MAX. This entry could be either P1, P2, or P3 depending on the selected MSDL port.

If you need to delete one of the additional ports you have added, place an x before the port number such as XP2.

45 Enter ******** to exit Overlay program 17.

46 Enter **LD 22** to access Overlay program 22 to verify the configuration changes made in Overlay program 17.

47 Enter **LD 48** to access Overlay program 48 to enable the STA port.

48 Enter **ENL STA xx** to enable the STA port. The device number is represented by xx.

49 Enter **STAT STA xx** to verify that the MSDL port is enabled. The device number is represented by xx.

50 Enter ******** to exit Overlay program 48.

51 At this point, the STA main menu appears on your STA administration terminal screen. If the screen does not appear immediately, press **{RETURN}** several times and the screen should appear.

52 Press **{PF7}** at the STA main menu to change the port configuration. You are prompted to enter a port number. Enter the port number of the MSDL port you cabled to the Meridian MAX console port in Step 9.

53 At the login prompt, enter your name. For a password, enter the Meridian 1 password.

54 Use the up/down arrow keys to move from field to field, and the left/right arrow keys to select the entry. Your completed port configuration should match the following:

Port Type	System
Port Name	MAX
Baud Rate	9600
Data Bits	8
Stop Bits	1
Interface	RS-232 DCE
Emulation	EM100 (VT100)
Connect Sequence	CTRL-R (Read the directions under the function keys on how to enter this information.)
Logout Seq	

55 Press **{PF7}** to proceed to the "*Port Maintenance Menu.*"

56 Select *"Enable port"* using the up/down arrow keys, and press **{RETURN}** to enable the Meridian MAX port.

57 STA is now available to monitor Meridian MAX as well as the Meridian 1. On the STA main menu, there is a function key assigned to the Meridian MAX and Meridian 1. To access Meridian MAX, press the assigned function key and press **{RETURN}** several times to get a response.

Press **{ESC}** and then type STA to return to the STA main menu from Meridian MAX. Press **{CNTRL}{R}** to refresh the screen when needed.

Configuring the High-Speed Link on the Meridian 1

To configure the High-Speed Link on the Meridian 1, follow the steps in Procedure 12-3.

Procedure 12-3
To configure the High-Speed Link on the Meridian 1

1   Check the options on the Serial Data Interface (SDI) circuit pack. Follow the instructions in the document *Circuit Card Installation and Testing* (NTP 553-3001-211) for the type of SDI circuit pack being used.

Check the High-Speed Link cable. If the Meridian 1 High-Speed Link port is configured as DCE, use the NT7D99AA null modem cable. If it is configured as DTE, use the NT7D61 or the NT7D58 straight cable. Refer to the "Hardware installation: Application Module (SNN/SNN-E)" chapter for more information.

If your Meridian 1 switch is running X11 Release 18 or lower, the Meridian MAX port needs to be set for the following:

Port Address: **x**
Enter a value for **x**. The range is 0 to 15.

2   Interface: **xxx**

The SDI port should be configured as a Data Terminal Equipment (DTE) device. Since the High-Speed Link port on the Meridian MAX is configured as a DCE (Data Communications Equipment) device, you only need a straight-through RS-232 connection between the SDI port and the Meridian MAX port.

Arrange the port for a modem interface (DTE to DCE).

3   Data Transfer Rate:
Enter **9600** baud as the data transfer rate (baud rate).

Note: The baud rate of the Meridian MAX High-Speed Link must match the baud rate of the Meridian 1 High-Speed Link.

If your Meridian 1 switch is running X11 Release 18, go to Step 16.

4   Configure the Meridian 1 database for Meridian MAX. Use document *X11 Features and Services* (NTP 553-3001-305) and the following guidelines. For prompts not listed, press {ENTER} to select the default value. In the configuration data block (Overlay program 17), define the following values.

REQ **CHG**

TYPE **CFN**
CFN is the configuration record.

IOTB **YES**
The IOTB prompt appears only in X11 releases prior to Release 18.

ADAN **aaa TTY x**
The address **x** must be the same as the physical address set on the SDI circuit pack. The value for **aaa** must be NEW or CHG (for example, NEW TTY 2).

ESDI **NO**

CDNO **x**
x is the SDI card number. The range for **x** is 0 to 15.

DENS **xxxx**
DENS refers to the density of the SDI card being used. SDEN is a single-density SDI card (for example, QPC139) , DDEN is a double density SDI card (for example, QPC841), and 4DEN is a quad density SDI card (for example, NT8D41). For more information, see the *X11 Input/Output Guide* (NTP 553-3001-400).

5   USER **HSL**

Configure the user as HIGH-SPEED LINK (HSL).

6   MGCR **xx**
xx is the number of call registers to be used for Meridian MAX. The range for **xx** is 26 to 255.

Note: Also in Overlay 17, the value of NCR (system call registers) must be increased by the amount set for MGCR.

7   DCUS **x**
x is the number of customers; **x** must be greater than 0. Meridian MAX can only serve one customer.

8   MAGT **x**
x is the number of agents that can be assigned on the Meridian 1. The range is 1 to 1200.

9   Install the link. Refer to the document *System Options 21, 51, 61, 71 System Installation Procedures* (NTP 553-3001-210) for installation instructions.

10 If your system is a Meridian MAX - IPE/IPE-E, connect one end of the High-Speed Link cable to Cable B, Port 8 on the Meridian MAX - IPE/IPE-E, and the other end to the SDI card.

    If your system is a Meridian MAX 8 SNN/SNN-E, connect one end of the High-Speed Link cable to Cable A, Port 1, on the Meridian MAX, and the other end to the SDI card.

11 Load Overlay program 48. Enter

LD 48

12 Enable the TTY port assigned to the High-Speed Link. Enter

ENL SDI HIGH

13 Enable the High-Speed Link. Enter

ENL HSL

14 Check the status of the High-Speed Link. Enter

STAT HSL

NRDY should be the system response. Immediately log out of the Overlay and TTY or the link will not come up. When the link is up, the TTY will display ADD000.

15 You have configured the High-Speed Link.

16 If your Meridian 1 switch is running X11 Release 18, configure the Meridian 1 database for Meridian MAX. Use document *X11 Features and Services* (NTP 553-3001-305) and the following guidelines. For prompts not listed, press {ENTER} to select the default value. In the configuration data block (Overlay program 17), define the following values:

REQ **CHG**

TYPE **CFN**
CFN is the configuration record.

17 ADAN **aaa TTY x**
The address **x** must be the same as the physical address set on the SDI circuit pack. The value for **aaa** must be NEW or CHG (for example, NEW TTY 2).

18 CTYP **xxxx**
xxxx is the SDI card number. The possible values for **x** are SDI, SDI2, SDI4, and XSDI.

19 DNUM **x**
DNUM is the device number printed automatically. The range for **x** is 0 to 15.

20 USER **HSL**
Configure the user as HIGH-SPEED LINK (HSL).

21 MGCR **xx**
xx is the number of call registers to be used for Meridian MAX. The range for **xx** is 26 to 255. The recommended setting is 20 for IPE and 25 for SNN/SNN-E.

Note: Also in Overlay 17, the value of NCR (system call registers) must be increased by the amount set for MGCR.

22   DCUS **x**

x is the number of customers; **x** must be greater than 0. Meridian MAX can only serve one customer.

23   MAGT **x**

x is the number of agents that can be assigned on the Meridian 1. The range is 1 to 1200. Increments of 10 are preferred, such as 10, 20, 30, and so on.

24   You have configured the High-Speed Link.

Configuring the Load Management Link on the Meridian 1

To configure the Load Management Link on the Meridian 1, follow the steps in Procedure 12-4.

Procedure 12-4
To configure the Load Management Link on the Meridian 1

1 Check the options on the Serial Data Interface (SDI) circuit pack. Follow the instructions in *Circuit Card Installation and Testing* (NTP 553-3001-211) for the type of SDI circuit pack being used.

   Check the High-Speed Link cable. If the Meridian 1 High-Speed Link port is configured as DCE, use the NT7D99AA null modem cable. If it is configured as DTE, use the NT7D61 or the NT7D58 straight cable. Refer to the "Hardware installation: Application Module (SNN/SNN-E)" chapter for more information.

   If your Meridian 1 switch is running X11 Release 18 or lower, the Meridian MAX port needs to be set for the following:

   Port Address: **x**
   The range for **x** is 1 to 15.

2 Interface: **xxx**
   Arrange the port for a modem interface (DTE to DCE).

3 Data Transfer Rate:
   Enter **9600** baud as the data transfer rate (baud rate).

   If your Meridian 1 switch is running X11 Release 18, go to Step 10.

4 When upgrading from an ACD C1 or C2 package (the ACD reporting system), all data specifically related to Management reports, ACD printers, and Supervisor terminals (except senior supervisor terminals already using Load Management Link) must be deleted from the current Meridian 1 database prior to programming the database to support the Meridian MAX reporting system.

   If you are not upgrading from an ACD C1 or C2 package, go to Step 6.

   The programming is the same as that for the D package options which enable the ADS block.

5 To remove the Schedule Block (SCB) load Overlay 23. Remove any devices defined at the STIO prompt from every queue. You must remove them in each ACD-DN block.

   To "out" or "remove" devices from the STIO prompt, for each queue, set the following prompts as shown:

   TYPE **ACD**

ACDN **xxxx**
xxxx is the queue number.

STIO **X**

Note: An upper case **X** means "remove" or "out."

To "out" or "remove" the printer from the PRIO prompt:

TYPE **SCB**

PRIO **X**

To disable any input/output devices with user ACD:

Load Overlay 37. Enter **LD 37**.

DIS TTY **xx**
xx is the TTY port number.

To disable all ACD devices (printers and supervisor terminals, except the senior supervisor which is used with Meridian MAX), use the following 2guidelines. For prompts not listed, press {**ENTER**} to select the default value:

Load Overlay 17. Enter **LD 17**.

REQ **CHG**

TYPE **CFN**
CFN is the configuration record.

IOTB **YES**
The IOTB prompt appears only in X11 releases prior to Release 18.

ADAN **OUT TTY xx**

USER **ACD**

SSUP **NO**

Before adding the ADS block, you must "out" or "remove" the SCB:

Load Overlay 23. Enter **LD 23**.

REQ **OUT**

TYPE **SCB**

CUST **0**

6   Skip to Step 7 if a senior supervisor was programmed in the switch as YES in previous ACD applications.

Configure the Meridian 1 database for Meridian MAX. Use document *X11 Features and Services* (NTP 553-3001-305) and these guidelines.

In the configuration data block (Overlay program 17), define the Load Management Link:

REQ **CHG**

TYPE **CFN**
CFN is the configuration record.

IOTB **YES**
The IOTB prompt appears only in X11 releases prior to Release 18.

ADAN **aaa TTY x**
The address **x** must be the same as the physical address set on the SDI circuit pack, and **aaa** must be NEW or CHG (for example, NEW TTY 2).

ESDI **NO**

CDNO **x**
x is the SDI card number. The range for **x** is 0 to 15.

DENS **xxxx**
DENS refers to the density of the SDI card being used. SDEN is a single-density SDI card (for example, QPC139) , DDEN is a double-density SDI card (for example, QPC841), and 4DEN is a quad-density SDI card (for example, NT8D41). For more information, see the *X11 Input/Output Guide* (NTP 553-3001-400).

USER **ACD**
USER is the SDI port user. Configure the user as Automatic Call Distribution (ACD).

CUST **xx**
xx is the customer number. The range for **xx** is 0 to 99.

SSUP **YES**
Device assigned to be used by senior supervisor/load manager.

APRT **NO**
ACD printer must be set to **NO**.

7   In Overlay program 23, define the following values:

TYPE **ADS**

CUST **0**

AID **YES**
If **YES**, the switch is in Agent ID mode. If **NO**, the switch is in Position ID mode.

IDLB **xxxx**
This value is the Agent ID number lower boundary. The range for **xxxx** is 0001 to 9999.

LOG **xxx**
xxx is the maximum number of agents that can be logged in simultaneously on the Meridian 1 switch. The range is 1 to 999.

8   Load Overlay 37. Enter **LD 37**.

Wait for the IOD000 response, then enter

STAT TTY x
The range for **x** is 1 to 15.

If the system's response is ENBL, then the port is enabled. If the system's response is DSBL then enter

ENL TTY x
The range for **x** is 1 to 15.

9   You have configured the Load Management Link.

10   If your Meridian 1 is running X11 Release 18, configure the Meridian 1 database for Meridian MAX. Use document *X11 Features and Services* (NTP 553-3001-305) and these guidelines. In the configuration data block (Overlay program 17), define the Load Management Link:

REQ **CHG**

TYPE **CFN**
CFN is the configuration record.

ADAN **aaa TTY x**
The address **x** must be the same as the physical address set on the SDI circuit pack, and **aaa** must be NEW, CHG or OUT (for example, NEW TTY 2).

11   CTYP **x**
x is the SDI card number. The possible values for **x** are SDI, SDI2, SDI4, XSDI.

DNUM **x**
DNUM is the device number printed automatically. The range for **x** is 0 to 15.

USER **ACD**
USER is the SDI port user. Configure the user as Automatic Call Distribution (ACD).

CUST **0**

12 SSUP **YES**
Device assigned to be used by senior supervisor/load manager.

APRT **NO**
ACD printer must be set to **NO**.

MGCR **xx**
xx is the number of call registers to be used for Meridian MAX. The range for **xx** is 26 to 255.

Note: Also in Overlay 17, the value of NCR (system call registers) must be increased by the amount set for MGCR.

DCUS **x**
x is the number of customers; **x** must be greater than 0. Meridian MAX can only serve one customer.

MAGT **x**
x is the number of agents that can be assigned on the Meridian 1. The range is 1 to 1200. Increments of 10 are preferred, such as 10, 20, 30, and so on.

13 You have configured the Load Management Link.

Configuring the High-Speed Link on the Option 11

To configure the High-Speed Link on the Option 11, follow the steps in Procedure 12-5.

Procedure 12-5
To configure the High-Speed Link on the Option 11

1   Check the options on the Serial Data Interface (SDI) circuit pack. Follow the instructions for Circuit Card Installation and Testing in the *Option 11 Installation Guide* (NTP 553-3011-210) for the type of SDI circuit pack being used. The Meridian MAX port needs to be set for the following:

Port Address: **x**
The range for **x** is 1 to 15.

Interface: **xxx**
Arrange the port for a modem interface. For a direct connection, use DTE.

Data Transfer Rate:
Enter **9600** baud as the data transfer rate (baud rate).

2   Before you can "out" or "remove" the TTY, you must first disable it in Load 48.

Load Overlay 48. Enter **LD 48**.

DIS ESDI x
x is the port where the High-Speed Link will be configured.

3   Configure the Option 11 database for Meridian MAX. Use document *X11 Features and Services* (NTP 553-3001-305) and the following guidelines. For prompts not listed, press {ENTER} to select the default value. In the configuration data block (Overlay program 17), define the following values:

REQ **CHG**

TYPE **CFN**
CFN is the configuration record.

IOTB **YES**
The IOTB prompt appears only in X11 releases prior to Release 18.

ADAN **aaa TTY x**
x is the TTY port, and **aaa** must be NEW or CHG (for example, NEW TTY 2).

CDNO **x**
x must match the slot number on the Option 11 where the card is located.

PORT **x**
The range for **x** is 0 to 1.

BPS **9600**

USER **HSL**
Configure the user as HIGH SPEED LINK (HSL).

CUST **xx**
xx is the customer number. The range for **xx** is 0 to 99.

MGCR **xx**
xx is the number of call registers to be used for Meridian MAX. The range for **xx** is 26 to 255.

Note: Also in Overlay 17, the value of NCR (system call registers) must be increased by the amount set for MGCR.

DCUS **x**
x is the number of customers; **x** must be greater than 0. Meridian MAX can only serve one customer.

MAGT **x**
x is the number of agents that can be assigned on the Meridian 1. The range is 1 to 1200.

4   Install the link. Refer to the document *Option 11 Installation Guide* (NTP 553-3011-210) for installation instructions.

5   If your system is a Meridian MAX - IPE/IPE-E, connect one end of the High-Speed Link cable to Cable B, Port 8, on the Meridian MAX - IPE/IPE-E, and the other end to the SDI card.

If your system is a Meridian MAX 8 SNN/SNN-E, connect one end of the High-Speed Link cable to Cable A, Port 1, on the Meridian MAX, and the other end to the SDI card.

6   Load Overlay program 48. Enter **LD 48**.

7   Enable the TTY port assigned to the High-Speed Link. Enter

ENL SDI HIGH

8   Enable the High-Speed Link. Enter

ENL HSL

9   Check the status of the High-Speed Link. Enter

STAT HSL

NRDY should be the system response. Immediately log out of the Overlay and TTY or the link will not come up. When the link is up, the TTY will display ADD000.

Configuring the Load Management Link on the Option 11

To configure the Load Management Link on the Meridian 1, follow the steps in Procedure 12-6.

Procedure 12-6
To configure the Load Management Link on the Option 11

1   Check the options on the Serial Data Interface (SDI) circuit pack. Follow the instructions for Circuit Card Installation and Testing in the *Option 11 Installation Guide* (NTP 553-3011-210) for the type of SDI circuit pack being used. The Meridian MAX port needs to be set for the following:

Port Address: **x**
The range for **x** is 1 to 15.

Interface: **xxx**
Arrange the port for a modem interface. For a direct connection, use DTE.

Data Transfer Rate:
Enter **9600** baud as the data transfer rate (baud rate).

2   If you are upgrading from an ACD C1 or C2 package (the ACD reporting system), all data specifically related to management reports, ACD printers, and Supervisor terminals must be deleted from the current Meridian 1 database prior to programming the database to support the Meridian MAX reporting system.

If you are not upgrading from an ACD C1 or C2 package, go to Step 6.

The programming is the same as that for the D package options which enable the ADS block.

3   To remove the Schedule Block (SCB) load Overlay 23. Remove any devices defined at the STIO prompt from every queue. You must remove them in each ACD-DN block.

To "out" or "remove" devices from the STIO prompt:

TYPE **ACD**

ACDN **xxxx**
xxxx is the queue number.

STIO **X**

Note: An upper case **X** means "remove" or "out."

To "out" or "remove" the printer from the PRIO prompt:

TYPE **SCB**

PRIO **X**

4   Before you can "out" or "remove" the TTY, you must first disable it in Load 48.

Load Overlay 48. Enter **LD 48**.

DIS ESDI x
x is the port where the High-Speed Link will be configured.

5   To disable all ACD devices (supervisor terminals and printers), except the senior supervisor which is used with Meridian MAX, use the following guidelines. For prompts not listed, press {**ENTER**} to select the default value:

Load Overlay 17. Enter **LD 17**.

REQ **CHG**

TYPE **CFN**
CFN is the configuration record.

IOTB **YES**
The IOTB prompt appears only in X11 releases prior to Release 18.

ADAN **OUT TTY xx**

CDNO **x**
x must match the slot number on the Option 11 where the card is located.

PORT **x**
The range for **x** is 0 to 1.

BPS **9600**

USER **ACD**

CUST **xx**
xx is the customer number.

SSUP **YES** (unless a senior supervisor is programmed here)

MGCR **xx**
xx is the number of call registers to be used for Meridian MAX. The range for **x** is 26 to 255.

DCUS **x**
x is the number of customers; **x** must be greater than 0. Meridian MAX can only serve one customer.

Before adding the ADS block, you must "out" or "remove" the SCB:

Load Overlay 23. Enter **LD 23**.

REQ **OUT**

TYPE **SCB**

CUST **0**

6 Configure the Option 11 database for Meridian MAX. In the configuration data block (Overlay program 17), define the Load Management Link:

TYPE **CFN**
CFN is the configuration record.

IOTB **YES**
The IOTB prompt appears only in X11 releases prior to Release 18.

ADAN **aaa TTY x**
x must be the port and **aaa** must be NEW or CHG (for example, NEW TTY 2).

CDNO **x**

PORT **x**
The range for **x** is 0 to 1.

BPS **9600**

The SDI port user:
USER **ACD**
Configure the user as Automatic Call Distribution (ACD).

CUST **xx**
xx is the customer number.

SSUP **YES**
Device assigned to be used by senior supervisor/load manager.

APRT **NO**
ACD printer must be set to NO.

7 In Overlay program 23, define the following values:

TYPE **ADS**

CUST **0**

AID **YES**
If YES, the switch is in Agent ID mode. If NO, the switch is in Position ID mode.

IDLB **xxxx**
Agent ID number lower boundary. The range for **xxxx** is 0001 to 9999.

IDUB **xxxx**
Agent ID number upper boundary. The range for **xxxx** is the IDLB to 9999.

LOG **xxx**
xxx is the maximum number of agents that can be logged in simultaneously on the Meridian 1 switch. The range is 1 to 999.

8   Load Overlay 37. Enter **LD 37**.

Wait for the IOD000 response, then enter

STAT TTY x
The range for **x** is 1 to 15.

If the system's response is ENBL, then the port is enabled. If the system's response is DSBL, then enter

ENL TTY x
The range for **x** is 1 to 15.

Chapter 13: Operating modes

Meridian MAX has three modes of operation: training, precutover, and product (upgraded systems do not come with the training mode).

Training mode is the first mode entered when a new system is installed. This operating mode allows supervisors to train on the system.

Precutover mode is the second mode you can use to set up your system.

Product mode is the actual running Meridian MAX system.

Table 13-1 Operating modes procedures	
Description of software installation procedures	**Procedure #**
Switching the default language	Procedure 13-1
Switching from training mode to precutover mode	Procedure 13-2
Switching from precutover mode to product mode	Procedure 13-3

Changing the default language

The default language of a Meridian MAX supervisor session is English. To change the default language from English to the other installed language on your system, follow the steps described in Procedure 13-1. This procedure can also be used to change your default language back to English.

Procedure 13-1
To change the default language

1 Log in to the Meridian MAX as Supervisor 0 (zero) in precutover mode, Supervisor 11 or 22 in training mode, or any supervisor with access to the Parameter Administration feature in product mode.

2 Select the Parameter Administration feature from the main menu.

3 Select the Miscellaneous Options feature from the Parameter Administration menu.

4 Select the *Default Language* field on the Miscellaneous Options screen.

5 Press **{PF2}** to display the choices for the *Default Language* field. Use the up and down cursor keys to select the language you want as your default language, and press **{RETURN}**. This language appears in the *Default Language* field.

6 Press **{PF1}** to display the commands. Select the Save changes and exit command and press **{RETURN}**. The system saves your changes and returns you to the main menu.

7 Return to the main menu and log out of the Meridian MAX. The next time you log in to the system, the new default language you chose is used by the system.

Training mode

The training mode allows supervisors and other users to be trained in a simulated Meridian MAX call-processing environment. Once training is completed, Meridian MAX can be converted into the precutover mode.

When the system is booted up after the hardware installation (and software if your system has customer-installed software), a number of operational messages, the release number, and a Meridian MAX training mode message is displayed. When training ends, enter **precut** at the maintenance console login prompt, and the password provided by your Nortel distributor. The training mode menu, shown in Figure 13-1, is displayed.

Figure 13-1
Meridian MAX Training Mode menu

```
              Meridian MAX Training Mode



        Pre-Cutover Mode

        Shutdown the MAX System and Secure for Power Down

        Help

        Logout




    Press p, s, h, or l  and ENTER:
```
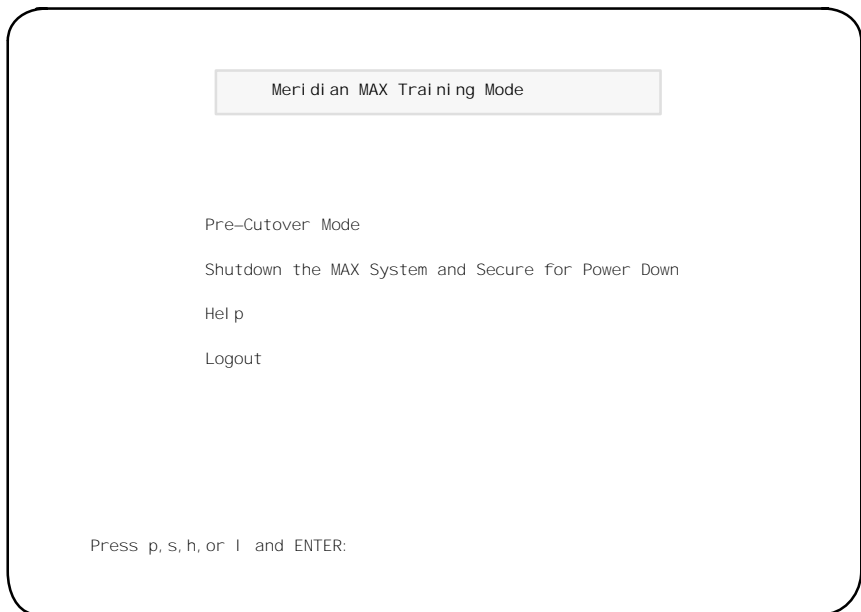
A menu is provided by the system. Detailed information on the menu items, as well as information regarding the default supervisor's ID in training mode, is available from the help facility. To view the help text, press **{h}**, followed by **{RETURN}**.

The supervisor workstations can be used in the training mode as soon as Meridian MAX starts up. You must select or define the workstation type, or both, before using the workstation for the first time after a system restart. Workstations remain active until either the system is shut down or precutover mode is selected from the system console.

Precutover mode

Before switching to precutover mode, ensure the following are ready:

1   The High-Speed Link is connected between the Meridian MAX and the Meridian 1.

2   The Meridian 1 is configured for the High-Speed Link (Procedure 12-3 for Option 21–81 or Procedure 12-5 for Option 11) and Load Management Link (Procedure 12-4 for Option 21–81 or Procedure 12-6 for Option 11).

3   Supervisors and agents are trained and ready to use the Meridian MAX.

4   All workstations are logged out.

Switching to precutover mode is an irreversible change (unless a new installation is performed again).

To switch from training to precutover mode, follow Procedure 13-2.

In the precutover mode, the Meridian MAX database can be built in preparation for actual Meridian MAX operations. Once the Meridian MAX database is set up, you can convert to the product mode. This is the operational mode where typical Meridian MAX operations occur.

Training mode to precutover mode

Follow Procedure 13-2 if you are switching from training mode to precutover mode.

Procedure 13-2
To switch from training mode to precutover mode

1   Enter **precut** as the login ID when you log in to the maintenance terminal.

    Console Login:

    Once you have entered **precut**, followed by a **{RETURN}** response, the system displays:

    Password:

2   Enter the password to log on. This password is supplied by your Nortel distributor.

    Once you have entered the password, the system displays copyright and hardware configuration information. Your system messages may differ.

    SYSTEM V/68 Release R3V8 Version 960918 xxxxx

    Note: (The "xxxxxxx will be M68040 for SNN, IPE, and IPE-E. It will be M68060 for SNN-E.)

    xxxxx

    Note: (The "xxxxx" will be a specific Meridian MAX system name or MAX00.)

    Copyright (c) 1984 AT&T

    Copyright (c) 1985–1992 Motorola, Inc.

    All Rights Reserved

    ***

     erase = DEL   kill = ^u intr = ^c   quit = ^x

    ***

    The system displays the Meridian MAX Training Mode menu.

Figure 13-2
Meridian MAX Training Mode menu

```
            ┌──────────────────────────────────────────┐
            │        Meridian MAX Training Mode         │
            └──────────────────────────────────────────┘




            Pre-Cutover Mode

            Shutdown the MAX System and Secure for Power Down

            Help

            Logout




      Press p, s, h, or l and ENTER:
```
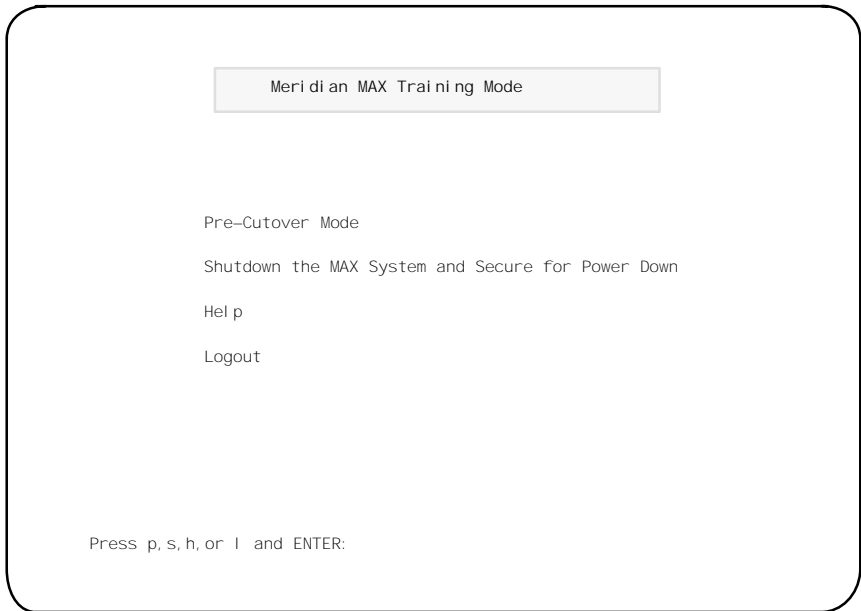
3 Enter **p** to select *"Pre-Cutover Mode"* from the menu.

The system then displays:

```
The MAX system is currently running in XXXXX-ID mode. MAX
must be in the same mode as the Meridian 1/SL-1.
```

Note: (The "xxxxxxx" will be current mode of your Meridian MAX, either Agent or Position.)

```
Please verify that the Meridian 1/SL-1 is in the same mode
as MAX.

Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)?
```

Note: (The "xxxxxxx" will be the current mode of your Meridian MAX.)

4 If your Meridian MAX and the Meridian 1 are not in the same mode, enter **n** to quit, followed by **{RETURN}**. The main menu is displayed.

If you have verified that your Meridian MAX and the Meridian 1 are running in the same mode, enter **y**, followed by **{RETURN}**.

The system continues.

WARNING: Going to Pre-Cutover mode is an irreversible
process. You can only return to training mode by reloading
the Meridian MAX software from the original tape. All
supervisor activity should be halted before doing this
transition.

Press 'y' and ENTER to confirm transition in to Pre–Cutover
mode.

Just press ENTER to remain in Training mode.

5   Enter **y**, followed by **{RETURN}**.

The system continues.

Meridian MAX terminating...

Signal forces mapa_logger termination

cron aborted: SIGTERM

***>   Creating the system database – please wait...(TIME)

            system database created.

***>   Loading MAX 8 system data files...

            Loading data files for precut mode...

            Data files loaded

***>   Historical Data database update starts.

***>   Creating the MAX 8 Historical Data database for
            precut mode.

This process takes approximately 5 minutes to execute.

Creating a new database (TIME)

***>   End of Historical Data database update.

6   The system displays the Meridian MAX Hardware and System
    Parameters screen.

    Refer to the "Meridian MAX system configuration" chapter for
    instructions on how to configure the system's ports.

7   When you have completed the port configuration, the system continues.

***>   Creating USER LANGUAGE database – please wait (TIME)

            USER LANGUAGE database created.

INIT: New run level: 6

```
The system is coming down. Please wait.

System services are now being stopped.

NFS Shutdown: [NFS Shutdown Complete]

The system is down.

NOTICE: System Reboot Requested (0)
```

8   The system reboots and displays the copyright and hardware
configuration information. Your system messages may differ.

```
Copyright Motorola Inc. 1988 – 1993, All Rights Reserved

xxxxxxx Debugger/Diagnostics Release Version 1.2 – 02/28/93
```

Note: (The "xxxxxxx" will be MVME177 for SNN-E, MVME167 for SNN,
and M4120 for IPE/IPE-E.)

```
COLD Start

Local Memory Found =xxxxxxxx (&xxxxxxxx)
```

Note: (The "xxxxxxx (&xxxxxxxx)" will be 04000000 (&67108864) for
SNN-E, 02000000 (&33554432) for SNN, and 01000000 (&16777216)
for IPE/IPE-E.)

```
MPU Clock Speed =xxMhz
```

Note: (The "xx" will be 50 Mhz for SNN-E, 33 Mhz for SNN, and 25 Mhz
for IPE/IPE-E.)

```
Autoboot in progress... To abort hit <BREAK>

Booting from: xxxxxx, Controller 0, Drive 0
```

Note: (The "xxxxxx" will be VME177 for SNN-E, VME167 for SNN, and
M4120 for IPE/IPE-E.)

```
Loading: Operating System

Volume: $00000000

IPL loaded at: $001F0000

VME Disk IPL Version 52.2

***

 erase = DEL   kill = ^u  intr = ^c   quit = ^x

***
```

Note: The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **DEL** key deletes and backspaces one character.

```
xxx SCSI configuration
```

Note: (The "xxx" will be 177 for SNN-E, and 167 for SNN or IPE/IPE-E.)

Device	Addr	Vers	Revision	Serial #	Blocks	Size	Vendor	Description
Disk	00	0002	8770...	....	2054325	0512	SEAGATE	ST11200N
Tape	40	0001	RV J...	....	0000000	0000	TEAC	MT−2ST/F50B

This configuration is an example. Your system configuration may differ.

```
Enter <CR> to pause in a single user shell before init.

Default boot sequence continuing...

The system is coming up. Please wait.

Node name set to xxxxx.
```

Note: (The "xxxxx" will be a specific Meridian MAX system name or MAX00.)

```
mount −f S51K /dev/usr /usr

Checking for system dump messages ...

Checking for system dump

Expreserve notification performed.

Downloading MVME332XT Line Disciplines.
```

Note: (The previous prompt only appears on SNN/SNN-E platforms.)

```
Error logging started.

OSM logging started.

port_hold started.

Transport Provider daemon started.

Internet services provided.

portmap started.

Stream Error logging started.

netspec "tcpip" not set up.
```

```
Network Commands: rwalld

routed started.

NFS Startup...

ONC daemons:

NFS daemons:

Lock manager:

NFS Startup complete.

Line printer scheduler started.

Loading System Language Strings...

Loading System Language Strings completed.

Starting MAX OSM Logger, Please Wait ...

OSM logging stopped.

MAX OSM Logging Started.

Meridian MAX Release 08.xx

    Meridian MAX Precut Mode

    Please login as precut for more detail.

The system is ready.

Console Login:
```

9 The system is now ready for precutover mode.

When you log in as **precut**, the precutover mode menu screen is displayed (see Figure 13-3).

Refer to Procedure 13-3 to transfer from the precutover mode to the product mode.

Product mode

When the system is booted up after the transition from training mode to precutover mode is completed, enter **precut** at the maintenance console login prompt, then enter the password provided by your Nortel distributor. The precutover mode menu, as shown in Figure 13-3, is displayed.

Figure 13-3
Meridian MAX Pre-Cutover Mode menu

```
                 Meridian MAX Pre-Cutover Mode




       Product Mode

       Shutdown the MAX System and Secure for Power Down

       Help

       Logout




    Press p, s, h, or l  and ENTER:
```
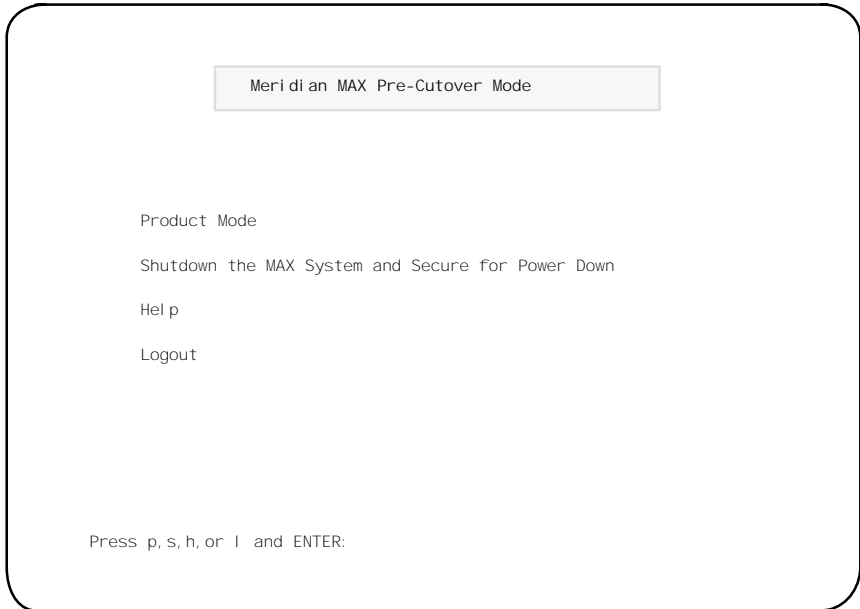
A menu of choices is provided by the system. Press **h,** followed by **{RETURN},** to obtain detailed information from the help facility on the items in the menu, as well as the default supervisor's ID information.

Before switching to product mode, ensure that the following are ready:

1   The High-Speed Link is connected between the Meridian MAX and the Meridian 1. (The link does not come up until Meridian MAX is in product mode.)

2   The Meridian 1 is configured for the High-Speed Link.

3   Supervisors and agents are trained and ready to use the Meridian MAX.

4   All workstations are logged out.

5   The Meridian MAX database is set up correctly.

To switch from precutover to product mode, follow Procedure 13-3.

The product mode is the normal mode for operation. Once in product mode, your Meridian MAX is completely installed.

Precutover mode to product mode

Follow Procedure 13-3 to switch from precutover mode to product mode.

Procedure 13-3
To switch from precutover mode to product mode

1   Enter **precut** as the login ID when you log in to the maintenance terminal.

Console login:

Once you have entered your response, the system displays:

Password:

2   Enter the password to log on. This password is supplied by your Nortel distributor.

Once you have entered the password, the system displays copyright and hardware configuration information.

SYSTEM V/68 Release R3V8 Version 960918 xxxxx

Note: (The "xxxxxxx will be M68040 for SNN, IPE, and IPE-E. It will be M68060 for SNN-E.)

xxxxx

Note: (The "xxxxx" will be a specific Meridian MAX system name or MAX00.)

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***

 erase = DEL   kill = ^u intr = ^c   quit = ^x

***

Note: The previous message tells you that the **{CONTROL}{C}** keys pressed simultaneously cause a system interruption which terminates the current process. The DEL key deletes and backspaces one character.

The system displays the Meridian MAX precutover Mode menu.

Figure 13-4
Meridian MAX Pre-Cutover Mode menu

```
                    Meridian MAX Pre-Cutover Mode


          Product Mode

          Shutdown the MAX System and Secure for Power Down

          Help

          Logout



Press p, s, h, or l  and ENTER:
```
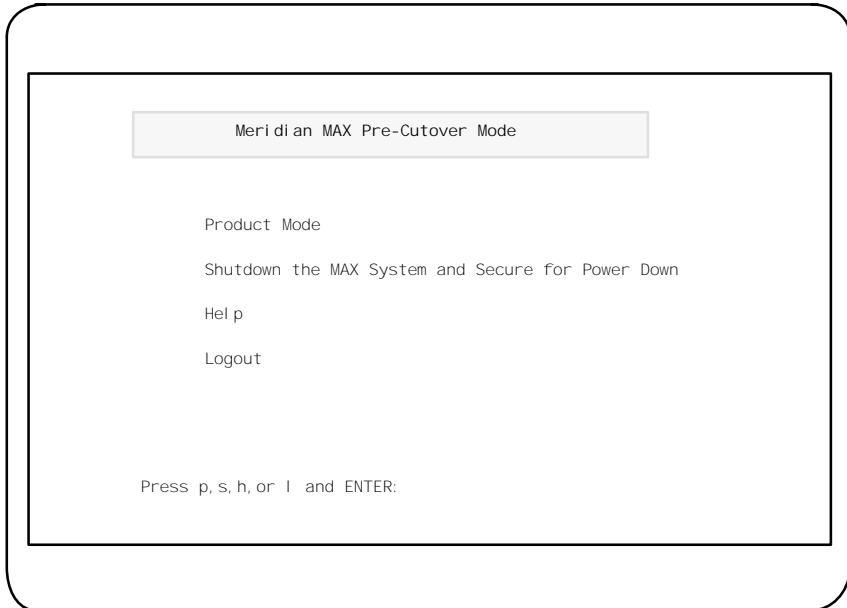
3   Enter **p** to select *"Product Mode"* from the menu.

The system then displays:

```
The MAX system is currently running in XXXXX-ID mode.  MAX
must be in the same mode as the Meridian 1/SL-1.
```

*Note***:** (The "xxxxxxx will be the current mode of your Meridian MAX, either Agent or Position).

```
Please verify that the Meridian 1/SL-1 is in the same mode
as MAX.
```

```
Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)?
```

*Note***:** (The "xxxxxxx will be the current mode of your Meridian MAX.)

4 If your Meridian MAX and Meridian 1 are not in the same mode, enter **n** to quit, followed by **{RETURN}**. The main menu is displayed.

If you have verified that your Meridian MAX and the Meridian 1 are running in the same mode, enter **y**, followed by **{RETURN}**.

5 If you are working on an SNN/SNN-E platform, go to Step 11.
If you are working on an IPE/IPE-E platform, go to Step 6.

6 The Alter / View Meridian MAX IPE/IPE-E Information screen appears.

Figure 13-5
Alter/View Meridian MAX IPE/IPE-Enhanced Module Information screen

```
          Alter / View Meridian MAX - IPE/IPE-Enhanced Module Information

All the information below must be entered before you can enter "Product Mode"


     Meridian 1 Option Type : # *



     The card slots occupied by the Meridian MAX - IPE/IPE-Enhanced Module on the

     Meridian 1 Switch (TN format) :      0 0 4
                                          0 0 5
                                          0 0 6
                                          0 0 7 **



   Press y and Enter to change any/all of the information above.

   (Just Enter to quit):
```
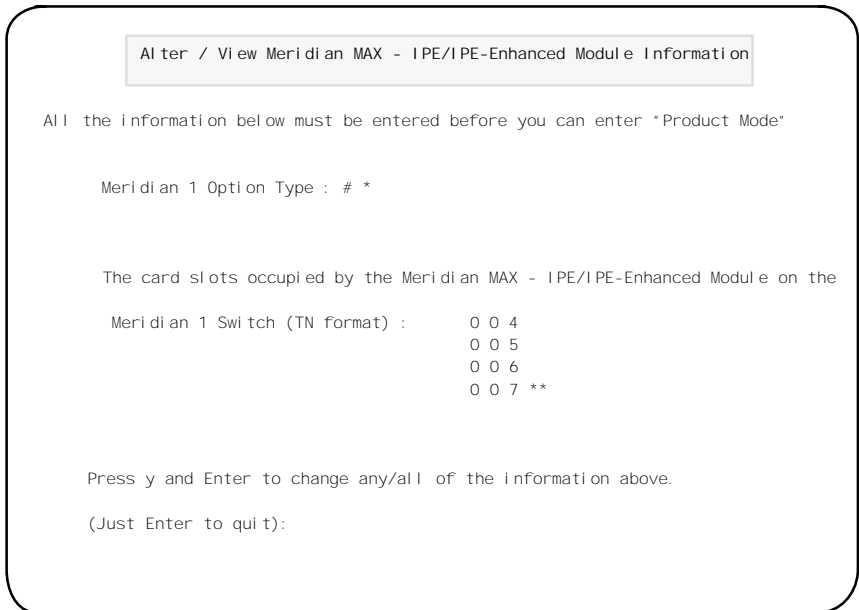
* # is the Option Type number

** This card slot number would only appear if you are using Option 21–81 because it occupies four slots in the Meridian 1 switch.

The information in this screen is already in the system and is displayed for confirmation.

7 If the information is correct, press **{RETURN}**. Go to Step 11.

If the information is incorrect, type **y**, followed by **{RETURN}**.

The following screen appears:

Figure 13-6
Identifying the Meridian 1 option type

```
The current Meridian 1 Option Type : # *




Valid Option Types: 11, 21, 51, 61, 71, or 81.

Please enter the new Meridian 1 Option Type.

(Just Enter to quit):
```
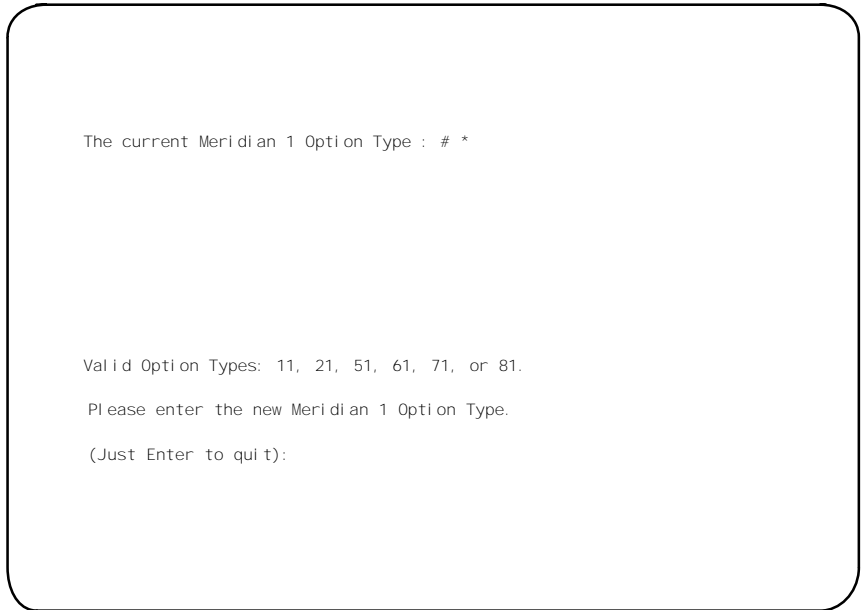
8 Enter the new Meridian Option Type.

Once you have entered the new Meridian 1 Option Type, the following appears at the bottom of the screen:

```
The Meridian 1 Option Type is changed to: xx
```

Note: (The "xx will be the new Meridian 1 Option Type.)

9 The following screen appears:

Figure 13-7
Identifying the starting slot location

```
        The card slots occupied by the Meridian MAX - IPE/IPE-Enhanced Module on
        the Meridian 1 switch
        (TN format) are : UNKNOWN

          The Starting TN is the format 'lll s cc', where

                          lll (loop number) =  0–159
                           s (shelf number) =  0–3
                          cc ( card number) =  0–18




        Please enter the new starting location of the Meridian MAX - IPE/IPE-E
        Enhanced Module
        (TN format).
        (Just press ENTER to quit):
```

10 Enter the starting slot location for the Meridian MAX - IPE/IPE-E, followed by **{RETURN}**.

Be sure to insert a space between each digit of the slot number (for example, 0 0 4).

Note: If you have an Option 11, the three consecutive slots are needed. If you have an Option 21–81, four consecutive slots are required.

Once you have entered the starting slot location, the following message appears at the bottom of the screen:

```
The starting location of the Meridian MAX –
IPE/IPE-Enhanced Module on the Meridian 1 switch is changed
to xxx x xx
```

The system then returns to the Alter / View Meridian MAX IPE/IPE-Enhanced Module Information screen shown in Step 6.

11 The system continues.

```
     WARNING:    Cutting over to Product mode is an
irreversible process. You can only return to
training/pre-cutover mode by reloading the Meridian MAX
software from the original tape. All supervisor activity
should be halted before doing this transition.
```

```
Press 'y' and ENTER to confirm cutting over to Product
mode.
```

```
Just press ENTER to remain in Pre-cutover mode.
```

12 Enter **y**, followed by **{RETURN}**, to convert to product mode.

The system displays:

```
Meridian MAX terminating...
```

```
Signal forces mapa_logger termination
```

```
cron aborted: SIGTERM
```

```
INIT: New run level: 6
```

```
The system is coming down. Please wait.
```

```
System services are now being stopped.
```

```
NFS shutdown: [NFS Shutdown Complete]
```

```
The system is down.
```

```
NOTICE: System Reboot Requested (0)
```

Note: Your system messages may differ.

```
Copyright Motorola inc. 1988 – 1993, All Rights Reserved
```

```
xxxxxxx Debugger/Diagnostics Release Version 1.2 – 02/28/93
```

Note: (The "xxxxxxx" will be MVME177 for SNN-E, MVME167 for SNN, and M4120 for IPE/IPE-E.)

```
COLD Start
```

```
Local Memory Found =xxxxxxxx (&xxxxxxxx)
```

Note: (The "xxxxxxx (&xxxxxxxx)" will be 04000000 (&67108864) for SNN-E, 02000000 (&33554432) for SNN, and 01000000 (&16777216) for IPE/IPE-E.)

```
MPU Clock Speed =xxMhz
```

Note: (The "xx" will be 50 Mhz for SNN-E, 33 Mhz for SNN, and 25 Mhz for IPE/IPE-E.)

```
Autoboot in progress... To abort hit <BREAK>
```

```
Booting from: xxxxxx, Controller 0, Drive 0
```

Note: (The "xxxxxx" will be VME177 for SNN-E, VME167 for SNN, and M4120 for IPE/IPE-E.)

```
Loading: Operating System
```

```
Volume: $00000000
```

```
IPL loaded at: $001F0000
```

```
VME Disk IPL Version 52.2
```

```
***
```

```
 erase = DEL  kill = ^u  intr = ^c  quit = ^x
```

```
***
```

Note: The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **DEL** key deletes and backspaces one character.

```
xxx SCSI configuration
```

Note: (The "xxx" will be 177 for SNN-E, and 167 for SNN or IPE/IPE-E.)

Device	Addr	Vers	Revision	Serial #	Blocks Size	Vendor Description
Disk	00	0002	8770...	....	2054325 0512	SEAGATE ST11200N
Tape	40	0001	RV J...	....	0000000 0000	TEAC MT—2ST/F50B

This configuration is an example. Your system configuration may differ.

```
Enter <CR> to pause in a single user shell before init.
```

```
Default boot sequence continuing...
```

```
The system is coming up. Please wait.
```

```
Node name set to xxxxx.
```

Note: (The "xxxxx" will be a specific Meridian MAX system name or MAX00.)

```
mount —f S51K /dev/usr /usr
```

```
Checking for system dump messages ...
```

```
Checking for system dump...
```

Expreserve notification performed.

Downloading MVME332XT Line Disciplines.

Note: (The previous prompt only appears on SNN/SNN-E platforms.)

Error logging started.

OSM logging started.

port_hold started.

Transport Provider daemon started.

Internet services provided.

portmap started.

Stream Error logging started.

netspec "tcpip" not set up.

Network Commands: rwalld

routed started.

NFS Startup...

ONC daemons:

NFS daemons:

Lock manager:

NFS Startup complete.

Line printer scheduler started.

Loading System Language Strings...

Loading System Language Strings completed.

Starting MAX OSM Logger, Please wait...

OSM Logging stopped.

MAX OSM logging started.

Meridian MAX Release 08.xx

The system is ready.

Console login:

The system is now in product mode. You can log in to the system.

13 To verify that all purchasable options and customer-controlled options are correct, log in as **maint**, and refer to the *Meridian MAX 8 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Option Display" subsection, for more information.

Chapter 14: Meridian MAX power-down procedure

The Meridian MAX is designed to work most effectively when the system is left on at all times. If there is no overruling, site-specific reason for turning off the Meridian MAX system, it is recommended that the system be left on.

> **CAUTION**
> **Risk of data corruption**
> Do not power off a module without first performing the system shutdown procedure.
>
> The Meridian MAX module must not be powered off without first shutting down the system. The shutdown process synchronizes the information currently in system memory with the information on the hard drive. Only in extenuating circumstances should the module be powered off without first shutting down.

If you must turn the system off, follow these steps.

Procedure 14-1
Powering down the system

1 Log on as "maint" and enter the maintenance password as required.

2 Select **s** to shut down the Meridian MAX software.

3 Select the *"Restart & Power Down System Utilities"* option from the main maintenance menu.

4   At the Restart and Power Down Utilities submenu, select *"Secure the system for Power Down"* option.

5   Once the system displays "`NOTICE: System secured for powering down,`" turn off the power to the Meridian MAX module.

Chapter 15: Meridian MAX installation checklist

This checklist provides a handy reference for installing your Meridian MAX. All items on the checklist correspond to sections and chapters of this document unless otherwise indicated.

Site preparation

Plan out the site for your system's hardware. Be sure to take into account the power and environmental requirements. For more information, refer to the "Site Preparation" chapter.

Site Preparation completed ?   _____

Hardware installation

Register you peripheral equipment warranties. For more information, refer to the "Hardware installation: Application Module (SNN/SNN-E)" or "Hardware installation: Intelligent Peripheral Equipment module" chapters, "A word about warranties" section.

Peripheral equipment warranties registered ?   _____

Install the Meridian MAX module. For more information, refer to either "Hardware installation: Application Module" or "Hardware installation: Intelligent Peripheral Equipment (IPE) module" chapters, depending on your hardware platform.

Meridian MAX module installed ?   _____

Install the multiport cables. For more information, refer to either the "Hardware installation: Application Module" chapter, or the "Hardware installation: Intelligent Peripheral Equipment (IPE) module" chapter, "Cables" section, depending on your hardware platform.

Multiport cables installed ?   _____

Install the printers. Ensure that the settings are correct. For more information, refer to the "Printers" chapter.

Printer(s) installed ?   _____

Install the workstations. Ensure that the PCs are configured and VDTs are set up. For more information, refer to the "Workstations" chapter.

Workstation(s) installed ?   _____

Connect the hardware to the power source(s). (Do not power up the hardware.)

Power cable(s) installed ?   _____

Connect all modems, if required. Refer to the "Modems" chapter.

MAX Status Interface (MSI) installed ?   _____

Install and enable the MAX Status Interface (MSI), if required. Refer to the *MSI/MEI Protocol Reference Guide* (P0853414).

MAX Event Interface (MEI) installed ?   _____

Install and enable the MAX Event Interface (MEI), if required. Refer to the *MSI/MEI Protocol Reference Guide* (P0853414).

Network link modem(s) installed ?   _____

Limited-distance modem(s) installed ?   _____

Remote diagnostic modem installed ?   _____

Supervisor dial-up modem(s) installed ?   _____

Hardware installation completed ?   _____

Software installation

Providing you have completed the hardware installation, proceed with the software installation. If you performed a new SNN/SNN-E or IPE/IPE-E software installation, refer to the "New software installations" chapter. If you installed a more recent issue of your existing software, refer to the "Loading a new software release" chapter. If you performed a software reinstallation or upgrade, refer to the "Software reinstallations and upgrades" chapter.

Capacity Configuration worksheets　　　　＿＿＿＿＿＿＿＿＿＿＿
completed ?

Ensure that the Capacity Configuration worksheets are completed and approved. For more information, refer to the "Meridian MAX system configuration" chapter.

Software installed (if necessary) ?　　　　＿＿＿＿＿＿＿＿＿＿＿

Ensure that the workstations are configured for the system. For more information, refer to the "Workstation, HSL, and LML configuration" chapter.

Workstation Configuration completed ?　　＿＿＿＿＿＿＿＿＿＿＿

Software Installation completed ?　　　　　＿＿＿＿＿＿＿＿＿＿＿

Operating modes

Make sure that all supervisors and system administrators have had the opportunity to learn to use the system while in the training mode. For more information, refer to the "Operating modes" chapter, "Training mode" section.

Training completed ?　　　　　　　　　　　＿＿＿＿＿＿＿＿＿＿＿

Switch from training mode to precutover mode. For more information, refer to the "Operating modes" chapter, "Precutover mode" section .

Precutover Mode started ?　　　　　　　　　＿＿＿＿＿＿＿＿＿＿＿

Make certain that the system database is established while in the precutover mode. For more information, refer to the "Operating modes" chapter, "Precutover mode" section.

System database completed ? _____

Switch from precutover mode to product mode. For more information, refer to the "Operating modes" chapter, "Product mode" section.

Product Mode started ? _____

Make sure that you insert a backup tape into the tape drive. For more information, refer to the "Software installation overview" chapter, "Backups" section.

Backup tape inserted ? _____

Chapter 16: Field replaceable parts

Field replaceable parts for Meridian MAX running on an Application Module (AM) are listed in Table 16-1.

Table 16-1
Recommended spare parts for Meridian MAX Application Module

Name used in document	Part number
MVME147SA-1 CPU	A0351919
MVME167-34 CPU	A0386049
MVME177-005 CPU	A0696008
MVME332-XTS 8-channel asynchronous board	A0376918
MVME332-XT 8-channel asynchronous board	A0376918
MVME712M transition card	A0601182
MVME712AM transition card	A0351167
Transition card for MVME332-XT board	NT7D51AA (A0387982)
2 Gbyte disk drive and 600 Mbyte tape drive unit	NT7D62EA (A0658263)
1 Gbyte disk drive and 600 Mbyte tape drive unit	NT7D62CA (A0404821)
172 Mbyte disk drive and 155 Mbyte tape drive unit	NT7D62AB (A0387828)
1 Gbyte disk drive and 155 Mbyte tape drive unit	NT7D62AC (A0401542)
AC power supply	NT7D64AA (A0374109)
DC power supply	NT7D64DC (A0374110)
—continued—	

Table 16-1 (continued) Recommended spare parts for Meridian MAX Application Module	
Name used in document	**Part number**
Active SCSI terminator for SNN-E	A0658493
Passive SCSI terminator for SNN	A0379673
Miscellaneous equipment	Serial-parallel converter for printers (A0621070)
Supplies	Minimum of three blank cassette tapes 600 Mbyte cassette tape (A0605411)
—end—	

Field replaceable parts for Meridian MAX running on an IPE/IPE-E are listed in Table 16-2.

Table 16-2 Recommended spare parts for Meridian MAX IPE/IPE-E module	
Name used in document	**Part number**
Meridian MAX IPE Option 11 Field Replaceable Unit (1 Gbyte hard drive and 600 Mbyte tape drive)	A0617009
Meridian MAX IPE Option 21–81 Field Replaceable Unit (1 Gbyte hard drive and 600 Mbyte tape drive)	A0617010
Meridian MAX IPE-E Option 11 Field Replaceable Unit (1 Gbyte hard drive and 600 Mbyte tape drive)	A0669467
Meridian MAX IPE-E Option 21–81 Field Replaceable Unit (1 Gbyte hard drive and 600 Mbyte tape drive)	A0669468

Note: Prior to November 1995, the first two items in Table 16-2 were shipped with a 155 Mbyte tape drive and a 180 Mbyte hard drive or a 600 Mbyte tape drive and a 240 Mbyte hard drive. After November 1995, they were shipped with a 600 Mbyte tape drive and a 1 Gbyte hard drive. Only the last two IPE-E items in this table can now be ordered for new systems.

Miscellaneous equipment used with Meridian MAX running on an Application Module (AM) or an IPE/IPE-E module are listed in Table 16-3.

Table 16-3
Miscellaneous spare parts for Meridian MAX

Name used in document	Part number
Meridian Terminal Emulator (MTE) 5.32 Software Package (for DOS)	NT1R75AA (A0406758)
Meridian Terminal Emulator (MTE) 7 Software Package	Contact your Nortel distributor for the part number.
Meridian Terminal Emulator (MTE) 8 Software Package	Contact your Nortel distributor for the part number.
Power Monitor Mounting Bracket Kit	NT7D18KA (A0405826)

The part numbers for interconnect AM cables are listed in Table 16-4.

Table 16-4
Interconnect cables and part numbers for Application Module (AM)

ENG Code	Application	Cable and connector style	Length
NT7D47DA	Carries input/output between the MVME712M transition card and the Input/Output connector panel (Ethernet)	15-pin (male) Ethernet to 15-pin (female) Ethernet	35.5 cm (14 in.)
NT7D58CA	Carries input/output between the Input/Output connector panel (Card 1, Conn 4) and the MVME712M transition board (Serial Port 4)	15-pin (female) high-density D-sub to 25-pin (male) round subminiature D-style	35.5 cm (14 in.)
—continued—			

ENG Code	Application	Cable and connector style	Length
Table 16-4 (continued) **Interconnect cables and part numbers for Application Module (AM)**			
NT7D79BA	Carries input/output between the Input/Output connector panel (Card 1, Conn 1-3, modem and SDI Link) and the MVME712M transition board (Serial Ports 1, 2, and 3)	9-pin (male) to 25-pin (male) subminiature D-style	35.5 cm (14 in.)
NT7D95AA	Carries input/output between the Input/Output connector panel (Card 2-6, Conn 1-3) and the NT6D51AA transition board	25-pin (male) subminiature D-style to 25-pin (male) subminiature D-style	35.5 cm (14 in.)
—end—			

The part numbers for external AM cables are listed in Table 16-5.

ENG Code	Application	Cable and Connector style	Length
Table 16-5 **External cables and part numbers for Application Module (AM)**			
NT1R03DB NT1R03DC NT1R03DF NT1R03DP NT1R03DV	Connects as input/output between modems and peripheral devices	DB-25 (male) connector to DB-25 (male) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT1R03EB NT1R03EC NT1R03EF NT1R03EP NT1R03EV	Connects as input/output between modems and peripheral devices	DB-25 (male) connector to DB-25 (female) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
—continued—			

Table 16-5 (continued)
External cables and part numbers for Application Module (AM)

ENG Code	Application	Cable and Connector style	Length
NT7D47EA	Carries input/output between the Input/Output connector panel (Ethernet) and the customer-supplied transceiver	15-pin (male) connector with thumb screws to 15-pin (female) connector with sliding latch	3 m (10 ft)
NT7D58AB NT7D58AD NT7D58AF NT7D58AL NT7D58AT NT7D58AV	Carries input/output between the Input/Output connector panel and the SDI port. Used for SDI cards, QPC139, QPC841, and for terminals and printers (with A0351509 gender changer). This cable is also used to connect a Meridian MAX system to Option 11.	25-pin (male) subminiature D-style connector to 25-pin (male) subminiature D-style connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT7D58BB NT7D58BD NT7D58BF NT7D58BL NT7D58BT NT7D58BV	Carries input/output between the Input/Output connector panel (Card 1, Conn 4) and the Meridian 1/SL-1	15-pin (male) high-density connector to 25-pin (female) connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT7D61AB NT7D61AD NT7D61AF NT7D61AL NT7D61AT NT7D61AV	Carries input/output between the Input/Output connector panel and the Meridian MAX system console (with A0351509 gender changer)	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT8D93AJ NT8D93AW	Carries input/output between the Input/Output connector panel and the XSDI port. Used for the XSDI card, NT8D41.	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	4.9 m (16 ft) 14.6 m (48 ft)
—continued—			

Table 16-5 (continued)
External cables and part numbers for Application Module (AM)

ENG Code	Application	Cable and Connector style	Length
NT8D96AE	Carries input/output between the Input/Output connector panel and the peripheral devices connected to the Meridian MAX	Single DB-25 (male) at the I/O panel's end to three DB-25 (female) connectors	2.4 m (8 ft)
NT7D99AA	Connects as input/output between Meridian MAX and dial-up modem, as well as between Meridian MAX and LDS modem.	25-pin (male) subminiature D-style DB-25 connector to 25-pin (male) subminiature D-style DB-25 connector	3 m (10 ft)
—end—			

The part numbers for external IPE cables are listed in Table 16-6.

Table 16-6
External cables and part numbers for IPE/IPE-E

ENG Code	Application	Cable and Connector style	Length
NT1R03AA NT1R03BA	Carries input/output information between the Option 11 or Option 21–81 and its peripheral devices (The NT1R03AA also has Ethernet capabilities.)	50-pin (female) key telephone connector to four DB-25 (female) connectors (NT1R03AA also has an Ethernet connection.)	Four connectors 76 cm (30 in) 69 cm (27 in) 61 cm (24 in) 53 cm (21 in) in ladder shape
NT1R03CA	Extends the connection between the Option 11 and the NT1R03AA and NT1R03BA cables	50-pin (female) key telephone connector to 50-pin (male) key telephone connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 (25 ft) 13.7 m (45 ft)
—continued—			

Table 16-6 (continued)
External cables and part numbers for IPE/IPE-E

ENG Code	Application	Cable and Connector style	Length
NT1R03DB NT1R03DC NT1R03DF NT1R03DP NT1R03DV	Extension cable from NT1R03AA and NT1R03BA cables to peripheral devices, HSL port, or LML port	DB-25 (male) connector to DB-25 (male) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 (25 ft) 13.7 m (45 ft)
NT1R03EB NT1R03EC NT1R03EF NT1R03EP NT1R03EV	Extension cable from NT1R03AA and NT1R03BA cables to peripheral devices	DB-25 (male) connector to DB-25 (female) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 (25 ft) 13.7 m (45 ft)
NT1R03HF	Modem cable from NT1R03AA and NT1R03BA cables to modem	DB-25 (male) connector to DB-25 (male) connector	3 m (10 ft)
NT1R03FP NT1R03FV	MDF Extension cable between the Option 11 and Option 21–81 and the NT1R03AA cable	50-pin (female) key telephone connector to 50-pin (male) key telephone connector (with Ethernet tap)	7.6 (25 ft) 13.7 m (45 ft)
NT1R03GP NT1R03GV	MDF Extension cable between the Option 11 and Option 21–81 and the NT1R03BA cable	50-pin (female) key telephone connector to 50-pin (male) key telephone connector	7.6 (25 ft) 13.7 m (45 ft)
NTAK19AA	Carries input/output information between the TDS/DTR card's HSL port on the Option 11 and Port 8 on the NT1R03BA cable	50-pin key telephone connector to two DB-25 (male) connectors	1.8 m (6 ft)
—continued—			

Table 16-6 (continued)
External cables and part numbers for IPE/IPE-E

ENG Code	Application	Cable and Connector style	Length
NTAK19BA	Carries input/output information between the SDI/DCH card's HSL port on the Option 11 and Port 8 on the NT1R03BA cable	50-pin key telephone connector to four DB-25 (male) connectors	1.8 m (6 ft)
NT8D93AJ NT8D93AW	Carries input/output information between the HSL port on the Option 21–81 and Port 8 on the NT1R03BA cable	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	4.9 m (16 ft) 14.6 m (48 ft)
—end—			

Chapter 17: List of terms

ACD

Automatic call distribution (ACD) provides a means of automatically distributing a company or organization's incoming calls among a number of answering positions (ACD agents). Automatic call distribution is useful in operations where callers want a service rather than a specific person. Calls are serviced in the order they arrive and distributed so that the workload at each answering position is approximately equal.

ACD configuration

The ACD configuration includes the assignments in the Meridian MAX system of agents to queues, of queues to a supervisor, of trunks to routes, and of routes to queues. It also includes the parameters that control recorded announcements, call overflow and interflow, and night service.

ACD-DN

An automatic call distribution - directory number (ACD-DN) is the queue where incoming calls wait until they are answered. Calls are answered in the order in which they entered the queue.

Agent

An agent is a person who answers ACD calls. An agent should be able to provide all the information needed for an ACD call.

AM

The application module (AM) is the card cage that resides within the Application Equipment Module (AEM). The AM supports VME-based application products, such as Meridian MAX. Two AMs can fit into each AEM. Each AM has its own power supply.

Application layer

This is a layer within a network communication model. Application programs generate messages to be sent to other applications within the network.

Application module

The application module houses the components for the SNN or SNN-E platform.

Application upgrade

An application upgrade is the software upgrade procedure you perform when you are installing new features or functionality onto your existing Meridian MAX system without changing the hardware or the operating system.

CDN

A Control Directory Number (CDN) is a special Directory Number (DN) configured in a Meridian 1 system to which no agents are assigned.

Configuration Control

The Configuration Control feature enables a system administrator to make changes to the configuration of the ACD system so that it works more efficiently.

Configuration Control Link

See Load Management Link.

Custom Calculator

Custom Calculator, also referred to as Formula Definition, is an option that allows new formulas to be defined for use in custom reporting and custom displays. These formulas can be used in graphic and tabular report definitions.

Data link layer

This is a layer within a network communication model. It takes application layer messages and sends them over the network.

Default router/gateway address

In the network environment, routers (also called gateways) are used to provide connectivity between two networks.

DID

Direct Inward Dialed

DN key

The directory number (DN) key is the agent's link to the Meridian 1. The agent can make and answer non-ACD calls using the DN key.

DNIS number

In situations where customers can dial one of several telephone numbers, the dialed number information service (DNIS) allows the Meridian MAX system to keep track of the last three or four digits of the telephone number dialed. In this way, one ACD queue can receive calls from several different phone numbers, and agents know which number was dialed and answer each call appropriately.

Formula Definition

See Custom Calculator.

HDC

Historical Data Collection task. This is a task within MAX that collects data from the Meridian 1 and writes the data to the Historical Database.

HSL

High Speed Link. This is the 9600 or 19 200 baud link that connects the Meridian 1 with the Meridian MAX. The Meridian 1 sends call traffic messages to the Meridian MAX through this link.

Installation upgrade

An installation upgrade is a Meridian MAX system upgrade that changes the Meridian MAX hardware or software, or both. For example, if you change from a Meridian MAX 4 single-module system to a Meridian MAX 8 SNN, both hardware and software change. If you perform an installation upgrade from a Meridian MAX 6 SNN system to a Meridian MAX 8 SNN system, only the software needs to be upgraded.

Interflow

When an ACD-DN cannot handle all the calls coming in, a supervisor can manually activate the interflow feature. This feature allows new calls to the ACD-DN to be rerouted to a predefined destination within the ACD system or to an external number.

IPE

A Meridian MAX 8 hardware platform. The Intelligent Peripheral Equipment (IPE) module consists of the following components:

- SMM167 CPU card

- 180 Mbyte or 240 Mbyte hard disk drive

- 155 Mbyte or 600 Mbyte cassette tape drive

IPE-E

A hardware platform introduced in Meridian MAX 8. The Intelligent Peripheral Equipment-Enhanced (IPE-E) module consists of the following components:

- SMM167 CPU card

- 1 Gbyte hard disk drive

- 600 Mbyte cassette tape drive

IPE/IPE-E

A combination of abbreviations to indicate that the feature being described applies to both the IPE platform and the IPE-E platform.

LAN

Local area network

Load Management Link

The link through which the Meridian 1 and the Meridian MAX communicate. This link allows the supervisor to send Load Management commands to the switch.

Load new software release

When the Meridian MAX release which your system is installed with updates its software, you can perform a "load new software release" procedure. For example, if you are currently running Meridian MAX 8 SNN Release 07.21 and you need to upgrade to Meridian MAX 8 SNN Release 07.25, you can perform this procedure.

Management reports

Management reports show detailed information on various aspects of an ACD operation. These reports offer valuable information on how well the system configuration is working.

MAX

Micro-auxiliary processor

MEI

MAX Event Interface (MEI) allows Meridian MAX to send real-time, event-related data to a third-party vendor application. Two types of protocol data can be sent: MEI-Network for applications wishing to route calls through the public switched network, and MEI-Observe for applications wishing to ensure that agents are adhering to specified standards.

Meridian 1

Meridian 1 is the private branch exchange (PBX) that handles the calls to and from the organization's ACD system. It routes calls to the various queues and provides the framework for all the ACD features available through Meridian MAX.

MQA

Multiple Queue Assignment (MQA) allows agents to service up to five queues simultaneously. At login, agents can define priorities within the queues and assign themselves to a specific supervisor. They are also able to log in to any telephone set, allowing workstations to be shared and changed between agents.

MSI

MAX Status Interface (MSI) allows Meridian MAX to send queue-based statistical data across the LAN to a central real-time load management system. The central system uses the data received from the Meridian MAX and other vendors' ACD systems to manage network traffic.

MTE

Meridian Terminal Emulator (MTE) software is a terminal emulator package designed to run on IBM, or 100%-compatible AT or higher, PCs. MTE contains all the functionality of Reflection 4+. It also provides additional features such as local printing to a PC-based supervisor workstation, LAN connectivity for supervisor workstations, and color customization of supervisor workstation screen elements.

MVME

Motorola Versa-Module Eurocard

NAC

Network Administration Center (NAC) is a computerized system that allows organizations with multiple MAX sites, called nodes, to monitor and supervise all sites from one central location.

NACD

Network Automatic Call Distribution (NACD) is an option that allows calls to be overflowed to an ACD-DN in another node in the ACD network.

Node

A Meridian MAX or ACD-MAX system that functions as part of a Network Administration Center (NAC) system.

Overflow

Meridian MAX allows several different overflow thresholds to be defined. When an overflow threshold on a particular ACD-DN is reached, calls are routed automatically to an overflow queue where they can then be answered by the next ACD-DN that is defined to receive these overflowed calls and is in a position to accept them.

Platform upgrade

A platform upgrade is an upgrade that involves changes to both Meridian MAX system hardware and software. For example, an upgrade from an ACD-MAX system to a Meridian MAX system is a platform upgrade.

Primary queue

The first queue the agent logs in to while working with MQA enabled.

SDA

Supervisor Display Access (SDA) is a feature specific to Meridian MAX IPE/IPE-E that allows you to access another supervisor display through the system console port or remote diagnostics modem port.

SEE system

A Meridian MAX hardware platform consisting of

- Single application module

- Existing MVME147SA–1 CPU card

- Existing mass storage unit (MSU) containing a 172 Mbyte or 240 Mbyte hard disk and a 155 Mbyte cassette tape drive

   Note: Meridian MAX 7 or higher does not support the SEE hardware platform.

SNN

A Meridian MAX 8 hardware platform. The SNN module consists of the following components:

- Single-module system

- New MVME167-34 CPU card

- New mass Storage Unit (MSU) containing a 1 Gbyte hard disk and a 600 Mbyte cassette drive

SNN-E

A new SNN-Enhanced platform introduced in Meridian MAX 8. The SNN-E module consists of the following components:

- single-module system

- MVME177-005 CPU card

- Mass Storage Unit (MSU) containing a 2 Gbyte hard disk and a 600 Mbyte cassette drive

SNN/SNN-E

A combination of abbreviations to indicate that the feature being described applies to both the SNN platform and the SNN-E platform.

Statistics group

All the data from the PBX switch is collected into logical groups.

Subnet mask

The subnet mask is a 32-bit number used by the network software on a local machine to determine which bits belong to the network or to the host parts of an internet address. An improper subnet mask can result in high collision rates and reduced network efficiency.

Supervisor

The supervisor is the person who manages agent and queue performance.

System administrator

The system administrator is responsible for overseeing the functions of the Meridian MAX system, including its staff and facilities. In addition to the functions available to supervisors, the system administrator is usually responsible for the definition of management reports and the printing schedule for these reports. Based on the information these reports provide, the system administrator can reconfigure the system to best use the system's equipment and personnel.

Thresholds

Meridian MAX allows the definition of several different thresholds that pertain to different objectives of your organization. For instance, thresholds can be defined for the maximum length of time a customer's call should wait in queue, how long an agent should spend on each call, and how many calls should be waiting in a queue before other queues should start accepting the overflow.

Trunk routes

Trunks are the physical links, or circuits, that enable telephone communication. A trunk route carries calls from outside the ACD system to an agent or ACD queue.

VME

Versa-Module Eurocard

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Electronic Private Automatic Branch Exchange and
Business Communication Systems

Meridian MAX

Installation Guide

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NORTEL

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