Meridian 1

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Equipment identification

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This document is reissued to include updates for X11 release 16. Changes are indicated by revision marks in the margins.

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Standard, release 4.0. This document is reissued to include technical content updates. Due to the extent of the changes, revision bars are omitted.

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Standard, release 5.0. This document is reissued to include information on system option 81, equipment required for compatibility with X11 release 18, and Product Bulletins 91062 (November 1991), 92027 (July 1992), and 92039 (October 1992). Due to the extent of the changes, revision bars are omitted.

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Standard, release 11.00. This document is reissued to include information on Meridian 1 option 81C and international text. Changes to technical content are noted by revision bars in the margins.

An updated index was not available at the time of publication and therefore, the index included herein does not contain references to international items. This deficiency will be corrected in the next standard edition of this document.

December 1995

Standard, release 12.00. This document is reissued to include information on the NT9D19 Call Processor Card, copy edits, and updated index that includes international items.

August 1996

Standard, release 13.00. This document is reissued for X11 Release 22 to include new and updated information on equipment. Changes to technical content are noted by revision bars in the margins.

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Standard, release 14.00. This document is reissued to include new and updated information. Changes to technical content are noted by revision bars in the margins.

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Standard, release 15.00. This document is reissued to include information on the NT5D10 Call Processor Card, the NT5D61 Input/Output Disk Unit with CD-ROM (IODU/C), the NTAG36 Meridian Integrated RAN Card (MIRAN), the NT5D51 Meridian Integrated Conference Bridge (MICB) card, the NT8D41BA Quad Serial Data Interface Paddle Board, and the NT5D60AA XCMC Card. Changes are noted by revision bars in the margins.

June 1999

Standard, release 16.00. This document is reissued to include information on the NT5D03 Call Processor Card. Changes to technical content are noted by revision bars in the margins.

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About this document

This document identifies equipment that can be ordered and used with Meridian 1 system options 21A, 21, 21E, 51, 51C, 61, 61C, 71, 81, and 81C and SL-1 systems. As appropriate, the purpose, quantity required, and system compatibility is given. The equipment listed in this document is available in the USA and internationally.

References

See the Meridian 1 planning and engineering guide for:

— *Library navigator* (553-3001-000)

— *Meridian 1 system overview* (553-3001-100)

— *Meridian 1 installation planning* (553-3001-120)

— *Meridian 1 system engineering* (553-3001-151)

— *Meridian 1 power engineering* (553-3001-152)

— *Spares planning* (553-3001-153)

See the Meridian 1 installation and maintenance guide for:

— *Meridian 1 system installation procedures* (553-3001-210)

— *Circuit card installation and testing* (553-3001-211)

— *Telephone and attendant console installation* (553-3001-215)

— *Meridian 1 general maintenance information* (553-3001-500)

— *Meridian 1 fault clearing* (553-3001-510)

— *Meridian 1 hardware replacement* (553-3001-520)

See the X11 software guide for an overview of software architecture, procedures for software installation and management, and a detailed description of all X11 features and services. This information is contained in two documents:

— *X11 software management* (553-3001-300)

— *X11 features and services*

See the *X11 input/output guide* for a description of all administration and maintenance programs, and the *X11 system messages guide* for information about system messages.

General information

This document identifies equipment of the Meridian 1 Integrated Services Network that can be ordered individually. The items are described in terms of purpose, quantity required, system hardware (system type), and software generic compatibility, as appropriate.

Equipment requirements

The system option that best meets individual requirements is determined by the following factors:

— number and type of terminal devices required

— number and type of trunks required

— traffic requirements for lines, trunks, and consoles

— special features required

— growth forecast in terms of ports and features

Refer to *Meridian 1 system engineering* (553-3001-151) and *Meridian 1 power engineering* (553-3001-152) for guidelines on system requirements. Consult your Northern Telecom representative and use a configuration tool, such as Autoquote or Meridian Configurator, to fully engineer a system.

Application module equipment

For information on application module equipment (for example, the application modules, circuit cards, and cables used for Meridian Link), see the specific documentation for the application.

Conversion and expansion packages

Software conversion packages and hardware upgrade packages are available to expand system capabilities. For information on these packages and procedures for performing conversions and upgrades, see the *Upgrade system installation to release 23* (553-3001-258).

Systems and generics

Various Meridian 1 systems are equipped with software generics according to the customer's requirements and equipment compatibility. Descriptions of items include "System Hardware" and "Software Generic" headings to indicate which system and software generic the item can be used with.

When the term "All" is used under the "System Hardware" heading, the item can be used with all systems. When the term "All" is used under the "Software Generic" heading, the item can be used with all generics. When hardware/software restrictions apply, the hardware and generics with which that item is compatible are listed. If "All" appears under both headings, no system/generic restrictions apply.

The software is ordered by a three- or four-digit code, where the first one or two digit designate the system hardware and the last two digits designate the software generic. The following software versions are available, where X is the system type per Table 1:

— X11 North American Business Features

— X37 Hotel/Motel Features

— X08 International Business Features

Table 1
Software generic/system hardware cross-reference

Generic	System Hardware	Application
308	N(QCA96)	International Business Features (countries other than North America) (Note)
337	N (QCA96)	Hotel/Motel Features (all countries but United States)
608	XN (QCA97)	International Business Features (countries other than North America)
637	XN (QCA97)	Hotel/Motel Features (all countries but United States)
708	MS, S	International Business Features (countries other than North America)
711	MS, S	North American Business Features
737	MS, S	Hotel/Motel Features (all countries)
808	N	International Business Features (countries other than North America)
811	N	North American Business Features
908	XN	International Business Features (countries other than North America)
911	XN	North American Business Features
1008	SN	International Business Features (countries other than North America)
1011	ST	North American Business Features
1037	SN	Hotel/Motel Features (all countries but United States)
1108	NT	International Business Features (countries other than North America)
1111	NT	North American Business Features
1208	XT	International Business Features (countries other than North America)
1211	XT	North American Business Features

Note: Release 13 does not support the Meridian 1 system.

Equipment availability

The equipment listed in this document is available through Northern Telecom and Northern Telecom distributors. Equipment may be discontinued at any time. Contact a Northern Telecom representative for information on equipment availability.

Special features

Special features are purchased as options to a basic system. These features may consist of software, hardware, or both. Special features that include hardware (such as Call Detail Recording and Remote Peripheral Equipment) are described in separate Northern Telecom Publications (NTPs). Those documents include the equipment requirements.

Electromagnetic interference

All cabinets are available either with or without suppression of electromagnetic interference (EMI).

Software packages

A variety of software packages provide basic and advanced system features. For information on software features, see *X11 features and services*.

System cabinets and shelves

A Universal Equipment Module (UEM) is a self-contained unit that, when equipped, houses a cardcage and backplane, power and ground cabling, power units, I/O panels, circuit cards, and cables. When the cardcage is installed, the function of the UEM is established (e.g., it becomes a CPU/Network Module or Core Module) and the module is no longer "universal."

Without covers, each module is approximately 81.3 cm wide by 52.1 cm deep by 43.2 cm high (32 in. by 20.5 in. by 17 in.). With the front and rear covers in place, the UEM is 55.9 cm (22 in.) deep. A module weighs approximately 21.8 kg (48 lb) before circuit cards are installed.

The cards that can be used in each module are listed in this document. For specific card slot assignments, see *Circuit card installation and testing* (553-3001-211) for listings by card or *Meridian 1 system engineering* (553-3001-151) for listings by module.

NT1P70 Small Carrier Remote Main Cabinet

System hardware—All

Purpose—Houses the following equipment for both the Carrier Remote IPE and the Fibre Remote Carrier IPE:

— an NT7R52 Remote Carrier Interface card

— up to ten IPE cards

If storage for additional IPE cards is required, use the NTAK12 expansion cabinet. Modify the cabinet for the Carrier Remote IPE by replacing the existing I/O bracket with an NT7R62AA Bracket for Small Cabinet Panel Assembly supplied with the carrier equipment.

Quantity— One per small Carrier Remote IPE cabinet.

NT5D21 Core/Network Module

System hardware—option 51C/61C/81C (minimum X11 release 21)

Purpose—Houses common control and network cards, the disk drive unit, and the other common equipment cards listed below.

Power requirements:

— AC systems: NT5D21AA Module; NT8D29 CE Power Supply

— DC systems: NT5D21AC Module; NT6D41 CE Power Supply

This module contains 18 card slots that support:

— 3-Port Extender (3PE) card

— Call Processor (CP) card

— Hybrid Bus Terminators

— Input/Output Disk Unit with CD-ROM (IODU/C)
or I/O Processor/Core Multi Drive Unit (IOP/CMDU)

— Core to Network Interface (CNI) card

— Conference/TDS card

— D-Channel Interface (DCHI) card

— Multipurpose ISDN Signaling Processor (MISP) card

— Multipurpose Serial Data Link (MSDL) card

— Peripheral Signaling card

— Network and/or Superloop Network card

— Dual InterGroup Switch card or InterGroup Switch cards

— Primary Rate Interface (PRI) and/or Digital Trunk Interface (DTI) card

Note: Hybrid Bus Terminators are installed between slots 0 and 1, slots 1 and 2, and slots 11 and 12.

Quantity—Two per system for options 61C and 81C, one per system for option 51C

NT5K11 Enhanced Existing Peripheral Equipment Module

System hardware—option 21/51/61/71

Purpose—The NT5K11 Enhanced Existing Peripheral Equipment (EEPE) Module supports two Enhanced Dual Loop Buffers (EDLB), two Quad DTMF receivers (QDTR), and sixteen peripheral equipment line/trunk cards. The DLBs and QDTRs are located at the rear of the module, with each set supporting a section of eight peripheral equipment line/trunk cards.

The NT5K11 EEPE Module is powered by an NT5K12 Enhanced Existing Peripheral Equipment Power Supply (EPEPS). The ringing generator is in the power supply when 500/2500 sets are supported by the module.

Quantity—As required; refer to *Meridian 1 system engineering* (553-3001-151)

NT6D39 CPU/Network Module

System hardware—option 51/61

Purpose—Houses CPU cards, memory cards, the disk drive unit, and network cards.

Power requirements:

— AC systems: NT6D39AA Module; NT8D29 CE Power Supply

— DC systems: NT6D39DC Module; NT6D41 CE Power Supply

This module contains 18 card slots that support:

— 3-Port Extender (3PE) card

— Changeover and Memory Arbitrator (CMA) card

— Clock Controller card

— Conference/TDS card

— CPU Function card

— CPU Interface card

— D-Channel Interface (DCHI) card

— Floppy Disk Interface (FDI) or Mass Storage Interface (MSI or EMSI) card

— Floppy Disk Unit (FDU) or Multi Disk Unit (MDU)

— Memory card

— Multipurpose ISDN Signaling Processor (MISP) card

— Multipurpose Serial Data Link (MSDL) card

— Network and/or Superloop Network card

— Peripheral Signaling card

— Primary Rate Interface (PRI) and/or Digital Trunk Interface (DTI) card

— Serial Data Interface (SDI) card

Note: BTUs are installed between slots 1 and 2, slots 2 and 3, and slots 12 and 13.

Quantity—One per option 51; two per option 61

NT6D44AA, NT6D44DC Meridian Mail Module

System hardware—option 21/51/61/71

Purpose—The NT6D44 Meridian Mail Module is a self-contained unit, complete with power converters and cooling units. It is designed to integrate with Meridian 1 Communication Systems but is also available as a stand-alone system.

This module is available in two versions:

— AC systems: NT6D44AA

— DC systems: NT6D44DC

The Meridian Mail Module is powered by two common equipment power supplies.

Refer to the Meridian Mail suite of documents (553-7041-xxx) for detailed information.

Quantity—Maximum of five per system

NT6D60 Core Module

System hardware—option 81 (minimum X11 release 18)

Purpose—Houses common control cards, the disk drive unit, and the other common equipment cards listed below.

Power requirements:

— AC systems: NT6D60CA Module; NT8D29 CE Power Supply

— DC systems: NT6D60DA Module; NT6D41 CE Power Supply

This module contains 19 card slots that support:

— 3-Port Extender (3PE) card

— Call Processor (CP) card

— Clock Controller card

— Core Bus Terminator (CBT) card

— Core to Network Interface (CNI) card

— Input/Output Disk Unit with CD-ROM (IODU/C)
or I/O Processor (IOP) card and Core Multi Drive Unit (CMDU)

— Primary Rate Interface (PRI) and/or Digital Trunk Interface (DTI) card

Note: BTUs are installed between slots 4 and 5, and slots 5 and 6.

Quantity—Two per system

NT8D11 Common/Peripheral Equipment Module

System hardware—option 21A/21 (X11 release 15–17)
option 21E (minimum X11 release 18)

Purpose—Houses CPU, network, and IPE cards.

> ***Note:*** In vintages BC and EC, all of the IPE card slots are fully cabled for 24 pairs. In vintages AC and DC, only IPE slot 0 is cabled for 24 pairs.

Power requirements:

— AC systems: NT8D11AC or BC; NT7D14 CE/PE Power Supply

— DC systems: NT8D11DC or EC; NT6D43 CE/PE Power Supply

This module contains 20 card slots that support:

— Clock Controller card

— Conference/TDS card

— CPU card or Integrated CPU/Memory (ICM) card

— D-Channel Interface (DCHI) card

— Floppy Disk Interface (FDI) card or Enhanced Mass Storage Interface (EMSI) card

— Floppy Disk Unit (FDU) or Small System Multi Drive Unit (SMDU)

— Intelligent Peripheral Equipment (IPE) card

— Memory/Peripheral Signaling card or Misc/SDI/Peripheral Signaling (MSPS) card

— Multipurpose ISDN Signaling Processor (MISP) card

— Multipurpose Serial Data Link (MSDL) card

— Network and/or Superloop Network card

— Network/DTR card

— Primary Rate Interface (PRI) and/or Digital Trunk Interface (DTI) card

— Serial Data Interface (SDI) card

— S/T Interface Line card (SILC)

— U Interface Line card (UILC)

Quantity—One per system

NT8D13 Peripheral Equipment Module

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Houses one QPC659 Dual Loop Peripheral Buffer (DLB) card and up to ten PE cards.

Power requirements:

— AC systems: NT8D13AA Module; NT8D06 PE Power Supply

— DC systems: NT8D13DC Module; NT6D40 PE Power Supply

Note: When 500/2500 telephones are equipped, a ringing generator (NT8D21 for AC systems or NT6D42 for DC systems) is required.

Quantity—As required; see *Meridian 1 system engineering* (553-3001-151)

NT8D34 CPU Module

System hardware—option 71 (X11 release 15–18)

Purpose—Houses CPU cards, memory cards, and the disk drive unit.

Power requirements:

— AC systems: NT8D34AA Module; NT8D29 CE Power Supply

— DC systems: NT8D34DC Module; NT6D41 CE Power Supply

This module contains 15 card slots that support:

— Changeover and Memory Arbitrator (CMA) card

— Clock Controller card

— CPU Function card

— CPU Interface card

— D-Channel Interface (DCHI) card

— Mass Storage Interface (MSI or EMSI) card

— Memory card

— Multi Disk Unit (MDU)

— Primary Rate Interface (PRI) and/or Digital Trunk Interface (DTI) card

— Segmented Bus Extender (SBE) card

— Serial Data Interface (SDI) card

Note: BTUs are installed between slots 13 and 14.

Quantity—Two per system

NT8D35 Network Module

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Houses network cards in options 71, 81, and 81C. Can also be used as a PRI and/or DTI expansion module with all of the system options listed above.

Power requirements:

— AC systems: NT8D35AA or NT8D35BA Module; NT8D29 CE Power Supply

— DC systems: NT8D35DC or NT8D35EA Module; NT6D41 CE Power Supply

This module contains 15 card slots that support:

— 3-Port Extender (3PE) card

— Conference/TDS card

— InterGroup Switch (IGS) card (options 71, 81, and 81C only)

— Multipurpose ISDN Signaling Processor (MISP) card

— Multipurpose Serial Data Link (MSDL) card

— Network and/or Superloop Network card

— Peripheral Signaling card

— Primary Rate Interface (PRI) and/or Digital Trunk Interface (DTI) card

— Clock Controller card for option 81C only (must be installed in slot 13)

— Serial Data Interface (SDI) card

Note: BTUs are installed between slots 11 and 12, and slots 12 and 13 in NT8D35AA and NT8D35DC Network Modules. The NT8D35BA and NT8D35EA do not use BTUs.

Quantity—As required; see *Meridian 1 system engineering* (553-3001-151)

NT8D36 InterGroup Module

System hardware—option 71/81/81C

Purpose—Houses the QPC417 Junctor Board. Clock Controller and InterGroup Switch cards are interconnected through the junctor board, which provides a path for switching traffic between network groups. Used in AC and DC systems.

Quantity—One per system

NT8D37 Intelligent Peripheral Equipment Module

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Houses one Controller card (NT8D01BC Controller-4 or NT8D01AD Controller-2) and up to 16 IPE cards.

> ***Note:*** In vintages BA and EC, all of the IPE card slots are fully cabled for 24 pairs. In vintages AA and DC, only slots 0, 4, 8, and 12 are cabled for 24 pairs.

Power requirements:

— AC systems: NT8D37AA or BA; NT8D06 PE Power Supply

— DC systems: NT8D37DC or EC; NT6D40 PE Power Supply

> ***Note:*** When 500/2500 telephones are equipped, a ringing generator (NT8D21 for AC systems or NT6D42 for DC systems) is required.

This module contains 16 IPE card slots (in addition to the slot for the Controller card) that support the following cards:

— Analog Line card

— Analog Message Waiting Line card

— Data Access card (DAC)

— Digital Line card

— Digitone Receiver (DTR) card

— E&M Trunk card

— S/T Interface Line card (SILC)

— U Interface Line card (UILC)

— Universal Trunk card

Quantity—As required; see *Meridian 1 system engineering* (553-3001-151)

NT8D47 Remote Peripheral Equipment Module

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—An interface module used to extend the interconnection distance between local and remote sites. On the local end, this module interfaces to the QPC414 Network card for up to two network loops; on the remote end, this module supports the NT8D13 PE Module.

Power requirements:

— AC systems: NT8D47AA Module; NT7D14 CE/PE Power Supply

— DC systems: NT8D47DC Module; NT6D43 CE/PE Power Supply

This module contains 12 card slots that support:

— 1.5MB Baud Converter card

— 2MB Baud Converter card

— Carrier Interface card

— Carrier Maintenance card

— Local Carrier Buffer card (local end)

— Primary Rate Interface (PRI) and/or Digital Trunk Interface (DTI) card (optional, local end only)

— Remote Peripheral Switch card (remote end)

Quantity—Since each RPE Module serves two network loops, the number of modules required per system depends on the number of stations at the remote end.

NT8D49 Column Spacer Kit

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Bolts modules together for side-by-side expansion and maintains shielding against electromagnetic interference (EMI) and radio-frequency interference (RFI). The spacer kit includes:

— eight bushings

— expansion spacer

— RF gasketing

NT8D55 Front/Rear Cover

System hardware—All

Purpose—Front or rear cover that is part of each module.

> ***Note:*** On NT8D55BA covers use only a medium-sized flat-blade screwdriver to operate the lock.

Quantity—Two per module

NT9D11 Core/Network Module

System hardware—option 51C/61C (minimum X11 release 19)

Purpose—Houses common control and network cards, the disk drive unit, and the other common equipment cards listed below.

Power requirements:

— AC systems: NT9D11AA Module; NT8D29 CE Power Supply

— DC systems: NT9D11DC Module; NT6D41 CE Power Supply

This module contains 19 card slots that support:

— 3-Port Extender (3PE) card

— Call Processor (CP) card

— Clock Controller card (CC)

— Core Bus Terminator (CBT) card

— Core Multi Drive Unit (CMDU)

— Core to Network Interface (CNI) card

— Input/Output Disk Unit with CD-ROM (IODU/C)

— I/O Processor (IOP) card

— Conference/TDS card

— D-Channel Interface (DCHI) card

— Multipurpose ISDN Signaling Processor (MISP) card

— Multipurpose Serial Data Link (MSDL) card

— Peripheral Signaling card

— Network and/or Superloop Network card

— DTR card

— Primary Rate Interface (PRI) and/or Digital Trunk Interface (DTI) card

— Serial Data Interface (SDI) card

Note: BTUs are installed between slots 0 and 1, and slots 1 and 2.

Quantity—Two per system

NTAK12 Carrier Remote Expansion Cabinet

System hardware—option 11, either AC or DC

Purpose—Provides storage for up to six IPE cards if needed to supplement the ten IPE cards that the main cabinet (NT1P70) can hold.

Use this cabinet for either the Carrier Remote IPE and the Fibre Remote Carrier IPE. Place the cabinet adjacent to the main cabinet (NT1P70). Install the six IPE cards in the first six IPE slots. The remaining card slots from 17 through 20 must not be used.

Quantity— Up to one per small Carrier Remote IPE cabinet with an NT1P70 main cabinet installed.

NTBX82AA Rackmount NT1 Mounting Shelf

System hardware—All large systems

Purpose—Provides housing for up to four NT1 modules per shelf (accepts any NT1/power/battery modules). It has an integral air intake grill baffle for convection cooling, and a slide lock latch for module mounting and access.

Dimensions—The NTBX82AA is approximately 18.5 in. x 19 in. x 21 in. (470 mm x483 mm x533 mm), and it fits a standard 19 in. (483 mm) equipment rack with adapter brackets available for a 26 in. (660 mm) rack.

NTBX83AA Rackmount NT1 Module

System hardware—All large systems

Purpose—Provides housing for up to 12 NT1 units and is the interface between the Private Network system and the Public Network system.

Dimensions—The NTBX83AA is approximately 19 in. x 13.6 in. x 4 in. (483 mm x345 mm x105 mm) wall or rackmount, with molded plastic housing and snap-on lid.

NTND21 Module Side Panel Kit

System hardware—All

Purpose—Includes module side panels, with gasketing for EMI suppression, and the hardware required for installation.

Quantity—One for each exposed side of a module

C0035996 Hex T-Handle Door Key

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)/NT/XT

Purpose—A Hex T-Handle door key is used to lock and unlock the front and rear doors of Meridian SL-1 cabinets. One key is supplied with each cabinet. Additional keys can be ordered.

Card cage assemblies

Purpose—Consists of a sheet metal case and an associated backplane. Provides the physical framework that houses the circuit cards and power supplies within the UEM. Card cage assemblies and their corresponding modules are listed in Table 2.

Table 2
Card cage assemblies

Card cage assemblies	Corresponding module
NT5D2101	NT5D21 Core/Network Module
NT6D3903	NT6D39 CPU/Network Module
NT6D6008	NT6D60 Core Module
NT8D1103	NT8D11 CE/PE Module
NT8D1303	NT8D13 PE Module
NT8D3403	NT8D34 CPU Module
NT8D3503	NT8D35 Network Module
NT8D3703	NT8D37 IPE Module
NT8D4703	NT8D47 RPE Module
NT9D1101	NT9D11 Core/Network Module

Equipment shelves

Purpose—Accommodates common, peripheral, and power equipment circuit packs. Refer to Table 3 for details.

Features—

— steel and aluminum construction

— printed circuit backplane

— connectorized power and signal connections

— universal rack mounting standards, 19 in.

Weight—76 lb (34 kg), fully equipped

Table 3
Equipment shelves (Part 1 of 3)

Type	Description	System Hardware	Comments/Quantity
QSD1	Left CE Shelf	Call Detail Recording (CDR)	See 553-2631-110
QSD6	Left Carrier Shelf	All	See 553-2601-200
QSD11	Right Carrier Shelf	All	See 553-2601-200
QSD17	CPU Shelf	XN, XN(QCA97)	Two required, one per CPU
QSD21	Left RPE Shelf	NT, XT	See 553-2741-200 553-2931-200
QSD22	Right RPE Shelf	NT, XT	See 553-2741-200 553-2931-200
QSD27	Data Shelf	All	See 553-2731-180
QSD33	Tape Shelf	MS	One required per system
QSD37	CPU/Memory Shelf	N, XN, NT, XT	See 553-2031-251
QSD39	Left Network Shelf	N, XN, NT, XT	See Note
QSD40	Right Network Shelf	N, XN	See Note
QSD54	Right Network Shelf; Right Multigroup Switch Shelf	N (QCA96), XN(QCA97)	See Note
QSD55	Left Network Shelf; Left Multigroup Switch Shelf	N (QCA96), XN(QCA97)	See Note
QSD59	Center Mount CPU Shelf	LE, N, NT	One required per system

Table 3
Equipment shelves (Part 2 of 3)

Type	Description	System Hardware	Comments/Quantity
QSD60	Cantilever Mount CPU Shelf	N, NT	One required per system System—Retired
QSD61	Center Mount CPU Shelf	XN, XT	One required per system System—Retired
QSD62	Cantilever Mount CPU Shelf	XT	One required per new system System—Retired
QSD64	Left or Right P.E. Shelf	All except S, SN, ST	See Note System—Retired
QSD65	Left or Right P.E. Shelf	All except S, SN, ST	One shelf per two network loops (Dual Loop shelf)
QSD66	PE Expansion Shelf	SN, ST	Two per cabinet (max). Two types: EMI (with EMI shield) and Non-EMI can also be used in QCA137, QCA144, and QCA146 cabinets. Status—Retired
QSD67	Mass Storage Unit Shelf	NT, XT, MS	One required per system
QSD68	Mass Storage Unit Shelf	VLE, LE, XL	One required per system
QSD69	RPE Expansion Shelf	All	Can be mounted in either QCA136, QCA137, QCA141, or QCA144 RPE cabinets. One shelf per two network loops.
QSD73	CE Expansion Shelf	SN, ST	Similar to QSD66 except the left side backplane is a QPC699. Used only to support CPI and DTI circuit packs (max. 4 circuit packs).
QSD74	RPE Expansion Shelf	SN, ST	Can be mounted in the QCA136, QCA141, or QCA146 RPE cabinets. One shelf per three network loops.

Table 3
Equipment shelves (Part 3 of 3)

Type	Description	System Hardware	Comments/Quantity
QSD80	PE Shelf (Dual/Quad Density	All	Can be mounted in the QCA7, QCA8, QCA23, or QCA28 PE cabinets. Three shelves can be installed in each cabinet that is equipped with a QPC163 –48 V Regulator circuit pack.
QSP35	Right PE Shelf	All except S, SN,ST	
QSP36	Left PE Shelf	MS, N, N(QCA96), XN, XN(QCA97)	
QSP39	CE Shelf	MS	Status—Retired
QSP40	Memory Shelf	XN, XN(QCA97)	
QSP41	CPU/Memory Shelf	N, N(QCA96)	
QSP43	Power Control Shelf	MS, N, NT, N(QCA96), XN, XT, XN(QCA97)	Status—Retired
QSP44	Power Control Shelf	MS, N, NT, N(QCA96), XN, XT, XN(QCA97)	Status—Retired
QSP45	Tape Shelf w/ QUW1 Magnetic Tape Unit	N, N(QCA96), XN, XN(QCA97)	

Note: Quantity depends on system type and size. Refer to *Meridian 1 system engineering* (553-3001-151) for more information.

Pedestal and components

System hardware—All

Purpose—The base for each column. Approximately 81.3 cm wide by 66 cm deep by 25.4 cm high (32 in. by 26 in. by 10 in.) and 13.6 kg (30 lb) empty. Leveling feet are provided for up to four tiers; a caster option is available for up to two tiers.

There are three versions of the pedestal:

— NT8D27BB (replaces NT8D27AB) for AC power

— NT7D09CA (replaces NT7D09AA) for DC power

— NT8D27AC for option 21A

In addition, there is a pedestal (NTAK27) that allows the small Carrier Remote IPE cabinets to be floor-mounted.

The NT8D27BB and NT7D09CA Pedestals house the following field-replaceable assemblies:

— air filter	P0699798
— air grill	P0699797
— blower unit	NT8D52AB for AC power
	NT8D52DD for DC power
— leveling foot	A0318207
— PDU	NT8D53AB for AC power
	NT7D67CB (replaces NT7D10) for DC power
— system monitor	NT8D22

Note 1: The NT7D67 and NT7D10 PDUs can be mixed in a system.

Note 2: Conduit is not required with the NT7D67CB PDU.

The NT8D27AC Pedestal for option 21A houses the following field-replaceable assemblies:

— air grill P0699797

— leveling foot A0318207

— PDU NT8D53AD

Top cap

System hardware—All

Purpose—Mounts on the highest module of each column. Approximately 81.3 cm wide by 55.9 cm deep by 10.2 cm high (32 in. by 22 in. by 4 in.) and 3.6 kg (8 lb). Consists of front and rear air exhaust grills and thermal sensors. In option 21A, the top cap contains two small fans to cool equipment in the system.

There are three versions of the top cap:

— NT7D00AA for AC power

— NT7D00BA for DC power

— NT7D00AC for option 21A

Universal Equipment Module side panel

System hardware—All

Purpose—Replaced by the NTND21 Module Side Panel Kit.

QCA11 CDR Cabinet

Purpose—Accommodates Call Detail Recording (CDR). Refer to 553-2631-110.

QCA13 Power Cabinet

Purpose—Contains the J2412A or NT5C03 power plant. Refer to *Power Distribution Plant J2412A* (167-2191-200).

QCA55 CE Cabinet

System hardware—XN/XT

Software generic—X11, X08

Purpose—Used for common equipment (CE). Accommodates two central processing unit (CPU) shelves, one Memory shelf, one tape shelf and up to six network shelves (e.g., network groups 0, 1, and 2). It also mounts the junctor board. The QCA55 is designed for both front and rear access to accommodate the back-to-back shelf configuration.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA55 is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA55 includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—One per system

QCA58 CE Cabinet

System hardware—N and NT.

Software generic—X11, X08.

Purpose—Used for CE and PE. Accommodates one Power Control shelf, one CPU/Memory shelf, one Tape shelf (or Mass Storage Unit in the NT), one –48 V rectifier, two Network shelves (i.e., a half or a full network group) and eight PE shelves. A maximum of 10 PE shelves can be equipped under special circumstances. One PE shelf may be installed in one network shelf position in a half-group system or two PE shelves may be installed in place of the rectifier (only one if a message waiting power supply is equipped).

The QCA58 is designed for both front and rear access to accommodate the back-to-back shelf configuration.

Features—

— welded steel construction

— hinge-type metal front and rear door

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA58 is depth 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA58 includes:

— cabinet and framework

— power distribution harness

— thermostat

— mini-terminal block assembly (XT)

Quantity—One per system

QCA60 S Cabinet

System hardware—S

Software generic—All

Purpose—Used for Meridian SL-1 S common, peripheral, and power equipment. The QCA60 has built-in equipment shelves designed for front access, including a common equipment shelf, power converter shelf, two 10-slot Peripheral Equipment shelves, a tape shelf, and an option shelf that can be equipped with additional common or peripheral equipment. The cabinet also accommodates a –48 V rectifier and a power distribution panel.

Features—

— plastic blended with metal work construction

— interior layout designed for convection cooling

— front and rear twistlock panels (captive screws)

The QCA60 is 15 in. (384 mm) deep by 32 in. (813 mm) wide by 56.5 in. (1435 mm) high with a 20 in. (508 mm) deep base (plinth) and weighs 300 lb (136 kg) when fully equipped.

The QCA60 includes:

— framework and panels

— top cover

— power distribution harness

— plinth (base)

— thermostat

Quantity—One per system

QCA74 PE Cabinet

System hardware—MS/N/N(QCA96)/NT/XN/XN(QCA97)

Software generic—All

Purpose—Used for peripheral equipment. Accommodates one power control shelf and up to 14 PE shelves. A –48 V rectifier can replace two PE shelves. The QCA74 is designed for both front and rear access to accommodate the back-to-back shelf configuration.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA74 is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA74 includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—As required

QCA76 MCDS Cabinet (Large)

System hardware—All

Software generic—X11

Purpose—Accommodates two shelves and four patch panels for a Multi-Channel Data System (MCDS). Refer to *Meridian SL-1 data feature installation Apple and Hewlett-Packard* (553-2731-201).

QCA77 MCDS Cabinet (Small)

System hardware—All

Software generic—X11

Purpose—Accommodates one shelf for an MCDS. Refer to *Meridian SL-1 data feature installation Apple and Hewlett-Packard* (553-2731-201).

QCA96 CE Cabinet

System hardware—N (QCA96)

Software generic—X37

Purpose—Used for common equipment and peripheral equipment. Accommodates one power control shelf, one CPU/memory shelf, one tape shelf, one –48 V rectifier, two Network shelves (i.e., a full network group), and eight PE shelves. Two PE shelves can be installed in place of the rectifier (only one if a message waiting power supply is equipped) for a maximum of ten PE shelves.

The QCA96 is designed for both front and rear access to accommodate the back-to-back shelf configuration.

Features—

— welded steel construction

— hinge-type metal front and rear door

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA96 is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs1500 lb (680 kg) when fully equipped.

The QCA96 includes

— cabinet and framework

— power distribution harness

— thermostat

Quantity—One cabinet required per system

QCA97 CE Cabinet

System hardware—XN(QCA97)

Software generic—X37

Purpose—Used for common equipment. Accommodates two CPU shelves, one memory shelf, one tape shelf, two multigroup switch shelves, and up to four network shelves (e.g., network groups 0 and 1). The QCA97 is designed for both front and rear access to accommodate the back-to-back shelf configuration.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA97 is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA97 includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—One cabinet required per system

QCA98 Network Cabinet

System hardware—XN (QCA97)

Software generic—X37

Purpose—Used for network and peripheral equipment. Accommodates one power control shelf, four network shelves (i.e., two network groups), and eight PE shelves. The QCA98 is designed for both front and rear access to accommodate the back-to-back shelf configuration.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA98 is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA98 includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—Two cabinets may be used per system, with the second cabinet containing one network group only (for example, Group 4).

QCA108 Network Cabinet

System hardware—XN/XT (and N/NT when used as an expansion cabinet for DTI)

Software generic—X11, X08

Purpose—Used for network and peripheral equipment. Accommodates one power control shelf, four network shelves (e.g., network groups 3 and 4), and ten PE shelves. The QCA108 is designed for both front and rear access to accommodate the back-to-back shelf configuration.

The QCA108 is also used as an expansion cabinet for DTI cards. The expansion cabinet accommodates one power control shelf, one QRF8 rectifier, four DTI shelves, and ten PE shelves. The expansion cabinet must be located within network range (50 ft/15.2 m) of the serving network packs.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA108 is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA108 includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—One per system (except when used as an expansion cabinet for DTI in N and NT)

QCA109 CE Cabinet

System hardware—MS

Software generic—All

Purpose—Used for Meridian SL-1 MS common equipment and peripheral equipment. Accommodates one power control shelf, one common equipment shelf, one tape shelf, one –48 V rectifier and ten peripheral equipment shelves. The QCA109 is designed for both front and rear access to accommodate the back-to-back shelf configuration.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA109 is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 72 in. (1830 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA109 includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—One per system

QCA136 ST Cabinet

System hardware—ST

Software generic—X11 release 8 and higher

Purpose—Used for common, peripheral, and power equipment. It has built-in shelves designed for front access including a common equipment shelf, power converter shelf, and peripheral shelf.

Features—

— molded plastic panels (front, rear, and top)

— steel side panels

— inside side panel reinforcement that can be expanded with one or two expansion PE shelves

The QCA136 has the following dimensions:

— depth 15.4 in. (385 mm)

— base 20.5 in. (510 mm)

— width 31.7 in. (810 mm)

— height

basic unit: 32.6 in. (830 mm)

basic unit plus first layer: 47.2 in. (1200 mm)

basic unit plus first and second layers: 62 in. (1575 mm)

— weight

basic unit: 200 lb (91 kg)

basic unit plus first layer: 300 lb (135 kg)

basic unit plus first and second layers: 400 lb (180 kg)

The QCA136 includes:

— one 13-slot CE Backplane

— one 10-slot PE Backplane

— one Rectifier

— one Power Unit

Quantity—One per system

Status—Retired

QCA137 PE Expansion Cabinet

System hardware—SN/ST

Software generic—All

Purpose—Used for peripheral equipment only. Three types of configuration are available: 1-tier, 2-tier, and 3-tier. Each tier accommodates two 8-slot PE backplanes.

Features—

— molded plastic panels (front, rear, and top)

— steel side panels

— inside side panel reinforcement

— expansion with one or two expansion PE shelves

The QPC137 has the following dimensions:

— depth 15.4 in. (385 mm)

— base 20.5 in. (510 mm)

— width 31.7 in. (810 mm)

— height

basic unit: 32.6 in. (830 mm)

basic unit plus first layer: 47.2 in. (1200 mm)

basic unit plus first and second layers: 62 in. (1575 mm)

— weight

basic unit: 200 lb (91 kg)

basic unit plus first layer: 300 lb (135 kg)

basic unit plus first and second layers: 400 lb (180 kg)

The QCA136 includes:

— two 8-slot PE Backplanes

— one Rectifier

— one Power Unit

The QCA141 includes:

— one 13-slot CE backplane

— one 10-slot PE backplane

— one rectifier

— one power unit

Quantity—One per system

Status—Retired

QCA141 SN Cabinet

System hardware—SN

Software generic—All

Purpose—Used for common, peripheral, and power equipment. It has built-in shelves designed for front access including a common equipment shelf, power converter shelf, and peripheral shelf.

Features—

— molded plastic panels (front, rear, and top)

— steel side panels

— inside side panel reinforcement

— expansion with one or two PE expansion shelves

The QCA141 has the following dimensions:

— depth 15.4 in. (385 mm)

— base 20.5 in. (510 mm)

— width 31.7 in. (810 mm)

— height

basic unit: 32.6 in. (830 mm)

basic unit plus first layer: 47.2 in. (1200 mm)

basic unit plus first and second layers: 62 in. (1575 mm)

— weight

basic unit: 200 lb (91 kg)

basic unit plus first layer: 300 lb (135 kg)

basic unit plus first and second layers: 400 lb (180 kg)

Quantity—One per system

QCA144 RPE Cabinet

System hardware—All

Software generic—All

Purpose—Used at remote site for 1.5 Mbps remote peripheral equipment (RPE). Three types of configuration are available: 1-tier, 2-tier, and 3-tier. The basic cabinet accommodates RPE equipment for three loops and a PE shelf for ten PE circuit packs. The cabinet can be expanded to six loops by adding an RPE/PE shelf.

Features—

— molded plastic panels (front, rear, and top)

— steel side panels

— inside side panel reinforcement

— expansion with one or two expansion PE shelves or RPE shelf

The QCA144 has the following dimensions:

— depth 15.4 in. (385 mm)

— base 20.5 in. (510 mm)

— width 31.7 in. (810 mm)

— height

basic unit: 32.6 in. (830 mm)

basic unit plus first layer: 47.2 in. (1200 mm)

basic unit plus first and second layers: 62 in. (1575 mm)

— weight

basic unit: 200 lb (91 kg)

basic unit plus first layer: 300 lb (135 kg)

basic unit plus first and second layers: 400 lb (180 kg)

The QCA144 includes:

— one 10-slot PE backplane

— one rectifier

— one power unit

Quantity—One per system

QCA146 RPE Cabinet

System hardware—All

Purpose—Used at the remote site for 2 Mbps remote peripheral equipment. common, peripheral, and power equipment. Three types of configuration available: 1-tier, 2-tier and 3-tier. The basic cabinet is equipped with an RPE shelf, one PE shelf for ten PE circuit packs, a peripheral buffer circuit pack, and the required power equipment.

Features—

— molded plastic panels (front, rear and top)

— steel side panels

— inside side panel reinforcement

— expansion with one or two expansion PE shelves or RPE shelf

The QCA146 has the following dimensions:

— depth 15.4 in. (385 mm)

— base 20.5 in. (510 mm)

— width 31.7 in. (810 mm)

— height

basic unit: 32.6 in. (830 mm)

basic unit plus first layer: 47.2 in. (1200 mm)

basic unit plus first and second layers: 62 in. (1575 mm)

— weight

basic unit: 200 lb (91 kg)

basic unit plus first layer: 300 lb (135 kg)

basic unit plus first and second layers: 400 lb (180 kg)

The QCA146 includes:

— one 10-slot PE backplane

— one rectifier

— one power unit

Quantity—One per system

QCA149A CE Cabinet (Germany)

System hardware—N/NT

Software generic—X11, X08

Purpose—Used for CE and PE. Accommodates one power control shelf, one CPU/memory shelf, one tape shelf (or mass storage unit in the NT), one –48 V rectifier, two Network shelves (i.e., a half or a full network group), and eight PE shelves. A maximum of ten PE shelves can be equipped under special circumstances. One PE shelf can be installed in one network shelf position in a half-group system or two PE shelves can be installed in place of the rectifier (only one if a message waiting power supply is equipped).

The QCA149A is designed for both front and rear access to accommodate the back-to-back shelf configuration and to meet Germany's EMI requirements.

Features—

— welded steel construction

— hinge-type metal front and rear door

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA149A is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA149A includes:

— cabinet and framework

— power distribution harness

— thermostat

— mini-terminal block assembly

Quantity—One per system

QCA150A PE/Network Cabinet (Germany)

System hardware—XN/XT (and N/NT when used as an expansion cabinet for DTI)

Software generic—X11, X08

Purpose—Used for network and peripheral equipment. Accommodates one power control shelf, four network shelves (e.g., network groups 3 and 4), and ten PE shelves. The QCA150A is designed for both front and rear access to accommodate the back-to-back shelf configuration and to meet Germany's EMI requirements.

The QCA150A is also used as an expansion cabinet for DTI cards. The expansion cabinet accommodates one power control shelf, one QRF8 rectifier, four DTI shelves and ten PE shelves. The expansion cabinet must be located within network range (50 ft) of the serving network packs.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA150A is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA150A includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—One per system (except when used as an expansion cabinet for DTI in N and NT)

QCA151A CE Cabinet (Germany)

System hardware—XN/XT

Software generic—X11, X08

Purpose—Used for common equipment (CE). Accommodates two central processing unit (CPU) shelves, one memory shelf, one tape shelf, and up to six network shelves (e.g., network groups 0, 1, and 2). It also mounts the junctor board. The QCA151A is designed for both front and rear access to accommodate the back-to-back shelf configuration and to meet Germany's EMI requirements.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— tniversal rack mounting standards, 19 in. (483 mm)

The QCA151A is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA151A includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—One per system

QCA152A PE Cabinet (Germany)

System hardware—MS/N/N(QCA96)/NT/XN/XN(QCA97)

Software generic—All

Purpose—Used for peripheral equipment. Accommodates one power control shelf and up to 14 PE shelves. A –48 V rectifier can replace two PE shelves. The QCA152A is designed for both front and rear access to accommodate the back-to-back shelf configuration and to meet Germany's EMI requirements.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA152A is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA152A includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—As required

QCA153A CE Cabinet (France)

System hardware—XN/XT

Software generic—X11, X08

Purpose—Used for common equipment (CE). Accommodates two central processing unit (CPU) shelves, one memory shelf, one tape shelf and up to six network shelves (e.g., network groups 0, 1, and 2). It also mounts the junctor board. The QCA153A is designed for both front and rear access to accommodate the back-to-back shelf configuration and to meet France's EMI requirements.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided) Side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA153A is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA153A includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—One per system

QCA154A PE Cabinet (France)

System hardware—MS/N/N(QCA96)/NT/XN/XN(QCA97)

Software generic—All

Purpose—Used for peripheral equipment. Accommodates one power control shelf and up to 14 PE shelves. A –48 V rectifier can replace two PE shelves. The QCA154A is designed for both front and rear access to accommodate the back-to-back shelf configuration and to meet France's EMI requirements.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA154A is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA154A includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—As required

QCA155A CE/PE Cabinet (France)

System hardware—N/NT

Software generic—X11, X08

Purpose—Used for CE and PE. Accommodates one power control shelf, one CPU/memory shelf, one tape shelf (or mass storage unit in the NT), one –48 V rectifier, two network shelves (i.e., a half or a full network group), and eight PE shelves. A maximum of ten PE shelves can be equipped under special circumstances. One PE shelf can be installed in one network shelf position in a half-group system or two PE shelves can be installed in place of the rectifier (only one if a message waiting power supply is equipped).

The QCA155A is designed for both front and rear access to accommodate the back-to-back shelf configuration and to meet France's EMI requirements.

Features—

— welded steel construction

— hinge-type metal front and rear door

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA155A is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA155A includes:

— cabinet and framework

— power distribution harness

— thermostat

— mini-terminal block assembly

Quantity—One per system

QCA156A PE/Network Cabinet (France)

System hardware—XN/XT (and N/NT when used as an expansion cabinet for DTI)

Software generic—X11, X08

Purpose—Used for network and peripheral equipment. Accommodates one power control shelf, four network shelves (e.g., network groups 3 and 4), and ten PE shelves. The QCA156A is designed for both front and rear access to accommodate the back-to-back shelf configuration and to meet France's EMI requirements.

The QCA156A is also used as an expansion cabinet for DTI cards. The Expansion cabinet accommodates one power control shelf, one QRF8 rectifier, four DTI shelves, and ten PE shelves. The expansion cabinet must be located within network range (50 ft/15.2 m) of the serving network packs.

Features—

— welded steel construction

— hinge-type metal front and rear doors

— key-operated door lock mechanisms (key provided)

— side panels

— provision for routing interconnecting cables

— universal rack mounting standards, 19 in. (483 mm)

The QCA156A is 28 in. (710 mm) deep by 52 in. (1320 mm) wide by 76 in. (1930 mm) high and weighs 1500 lb (680 kg) when fully equipped.

The QCA156A includes:

— cabinet and framework

— power distribution harness

— thermostat

Quantity—One per system (except when used as an xxpansion cabinet for DTI in N and NT)

QMM38 Mass Storage Unit

System hardware—All except S/SN/ST

Purpose—Mounts in the QSD33, QSD67, or QSD68 shelf. Used to load programs and office data from disks into the system memory. Provides a nonvolatile store of resident programs and data for automatic loading in case the system memory is erased due to a power or control failure.

The unit contains:

— one QPC585 Power Converter

— one QMT102 Controller Module

— two QMT104 Floppy Disk Drives

— one Winchester Disk Drive (optional)

Quantity—One per system

QMM43 Mass Storage Module

System hardware—S/SN/ST

Purpose—Used to load programs and office data from disks into the system memory. Provides a nonvolatile store of resident programs and data for automatic loading in case the system memory is erased due to a power or control failure. Used with the QPC584 MSI.

The module contains two floppy disk drives.

Quantity—One per system

QMM45 Floppy Disk Module

System hardware—S/SN/ST

Purpose—The QMM45 Floppy Disk Module (FDM) performs the same function as the QMM43 Mass Storage Module. Used with the QPC742 FDI.

The module contains two floppy disk drives.

Quantity—One per system

QSP45 Magnetic Tape Unit

System hardware—N/N(QCA96)/XN/XN(QCA97)

Purpose—Used to load the programs and office data into the system memory. Provides a nonvolatile store of resident programs and data for automatic loading in case the system memory is erased due to a power or control failure.

Features—

— tape drive

— power and control circuitry

— housing

— tape holder (optional Part No. P0552497)

The QSP45 weighs 25 lb (11.5 kg).

Quantity—One per system

QUW1 Magnetic Tape Unit

System hardware—N/N(QCA96)/XN/XN(QCA97)

Purpose—Mounts in the QSP45 Shelf. Used to load the programs and office data into the system memory. Provides a nonvolatile store of resident programs and data for automatic loading in case the system memory is erased due to a power or control failure.

Features—

— tape drive

— power and control circuitry

— housing

— tape holder (optional Part No. P0552497)

The QUW1 weighs 25 lb (11.5 kg).

Quantity—One per system

QUW9 Magnetic Tape Unit

System hardware—MS/S

Purpose—Provides the same function as the QUW1. In the Meridian SL-1 MS, two units can be installed in the QSD33 Tape Shelf: the first (always required) for the system tape and the second (optional) for the Mini-CDR feature. The Meridian SL-1 S does not require the QSD33 shelf because the tape drive mounts directly into the cabinet

Quantity—One QUW9A per system. If the Mini-CDR feature is used, QUW9B is also used (MS only).

Power and cooling equipment

A0321130 Fan Unit

System hardware—option 21A (X11 release 15–17)

Purpose—Provides cooling for the system to prevent over-temperature conditions. Attached to the fan and sensor panel at the base of the top cap. Power to the fans is controlled by the circuit breaker on the power distribution unit (PDU) in the pedestal.

Quantity—Two per system

A0355200 Power Failure Transfer Unit

System hardware—All

Purpose—Provides an interface between CO lines, the Meridian 1, and 500/2500 telephones (rotary dial and push-button). Allows eight telephones to be connected directly to the CO lines in the event of a power failure or malfunction. The PFTU is invisible to the Meridian 1 and CO lines during normal operations.

Approximately 12.1 cm wide by 34.3 cm long by 4.1 cm high (4.75 in. by 13.5 in. by 3.5 in.). The wall-mount unit connects to the main distribution frame and the Meridian 1 with two 25-pair cables.

Requires approximately 200 mA of –48 V dc power. In DC-powered systems, the PFTU is powered from a spare output on the power distribution panel in the power system. In AC-powered systems, the PFTU is powered by an AO367916 power supply.

Quantity—One per every eight bypass/transfer lines required in the system

A0367754 Top Cap Fan

System hardware—option 21A

Purpose—The A0367754 Top Cap Fan is located in the fan and sensor panel. It provides cooling for the NT7D14AA CE/PE Power Supply AC. There is no speed or temperature control provided with it. Power to the top cap fan is controlled by the circuit breaker located on the back panel of the pedestal.

Quantity—One per system

A0367916 Power Supply –48V

System hardware—All (AC-powered systems)

Purpose—A wall-mount unit that powers the PFTU in AC-powered systems. Converts 120 V ac (nominal) to –48 V dc (nominal) with a 1.25-amp output. Can also be used to power other auxiliary devices that require –48V power.

Quantity—One per every six PFTUs

A0634498 Carrier Remote Multi-IPE AC/DC Power Converter

System hardware—All AC Fiber Remote Multi-IPE Interface units

Purpose—Used to convert AC power to DC power for these units.

Quantity—One per Multi-IPE unit.

J2412A-1 Power Distribution Plant (also called the QCA Power Plant)

System hardware—XN/XN(QCA97)/XT and options 21/51/61 (DC versions)

Software generic—X11, X37

Purpose—Rectifies commercial AC to –48 V to float-charge the reserve battery string. The –48 V required by the system is derived from the reserve batteries.

Features—The power plant equipment is housed in QCA13 power cabinets and consists of a J2412 distribution and metering unit, up to ten 50 A rectifiers and fusing and alarm apparatus. Each QCA13 cabinet can house four 50 A rectifiers.

Note: When J2357D rectifiers are used, battery strings are required. Refer to *Power Distribution Plant J2412A* (167-2191-200) for details.

J-87122 Reserve Power Supply

System hardware—MS/N/N(QCA96)

Software generic—X11, X37

Purpose—To maintain service in the event of a power failure.

Features—Twenty-four NS-1554-type cells with a total capacity of 180 to 1680 ampere/hours. Trickle charged by the –48 V rectifier.

Refer to 553-2YY1-210 for details.

MFA150 Modular Power System

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Replaces the rectifier/rack assembly that includes the NT6D52 Rectifier and QBL15 Power Distribution Unit.

The MFA150 is a modular, front-access power system with a positive ground and –48 V dc output capacity of 150 amps, provided in 25-amp increments using plug-in NT5C06 rectifier modules. The MFA150 is suitable for any system with power requirements of less than 150 amps.

The ordering codes for the complete power plant are NT5C90EF and NT5C90EG. Each of these configurations is a complete power bay with an NT6C14GB Control and Distribution Panel mounted on an NT6C40DC Seismic Rack.

— NT5C90EF is a single MPS75 shelf, with a capacity of 75 amps

— NT5C90EG is a dual-shelf configuration, with a capacity of 150 amps

The MFA150 power system requires one 50-amp power feed per shelf.

Quantity—One MFA150 is required per DC system (configured with one to six NT5C06 rectifiers, as required by system power consumption), installed in one or two MPS75 shelves.

MPP600 Modular Power Plant

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Replaces the NT6D82 Power System and QCA13 Power Cabinet.

The MPP600 is a modular power distribution and control system. It is contained in a cabinet that provides front and rear access. The power plant provides –48 V dc output at a maximum capacity of 600 amps, provided in 50-amp increments by up to 12 plug-in rectifier modules. The NT5C07 Modular Power Rectifiers are contained in one or two cabinets, providing 300 amps per cabinet. Each rectifier requires one 20-amp feed of single-phase 60 Hz, 208 V or 240 V ac input.

For information on the MPP600 Modular Power Plant, see the following documents:

— *MPP600 Modular Power Plant: Description, installation, operation and maintenance manual* (167-9021-105) (P0741670)

— *50-amp Rectifier Expansion Assembly Installation* (P0743512)

Quantity—One per system, consisting of one or two cabinets housing as many rectifiers as required to meet system power needs

NT0R71 Rectifier –48V/25A

System hardware—option 21/51/61 (DC powered systems)

Purpose—The NT0R71 rectifier is a global replacement for the base rectifier unit (the QRF12 and NTD9697 variants) for all cabinet applications. This rectifier is designed to operate at 100 percent capacity (25 amps) continuously. It provides the following features:

— same physical packaging as the QRF12

— is IEC950 and Cispr 22 Class B compliant

— fan-cooled operation with low ambient noise

— uses NT5C07 (MPR50) –48 volt rectifier used in MFA150

— same alarms supported as on the QRF12

Quantity—As required by system power consumption

NT0R72 Rectifier –48V/25A

System hardware—option 21/51/61 (DC powered systems).-

Purpose—The NT0R72 rectifier is a global replacement for the rack-mounted rectifier unit (the NT6D52) for all rack-mounted applications. It consists of an NT0R71 plus exterior baffles for rack mounting. It provides the following features:

— same physical packaging as the NT6D52

— is IEC950 and Cispr 22 Class B compliant

— fan-cooled operation with low ambient noise

— uses NT5C07 (MPR50) –48 volt rectifier used in MFA150

— same alarms supported as on the NT6D52

Quantity—As required by system power consumption

NT5C03 Rectifier –48V/50A

System hardware—option 71/81/81C (DC-powered systems)

Purpose—Solid-state, switched-mode rectifier. Converts 208/240 V ac (nominal) to –48 V dc (nominal), with a 50-amp output. Used in the QCA13 Power Cabinet with up to ten rectifiers in parallel.

Quantity—As required by system power consumption

NT5C90EF, NT5C90EG Modular Power Systems

Product codes for MFA150 Modular Power System configurations. See MFA150 Modular Power System.

NT5K12 Enhanced Existing PE Power Supply DC

System hardware—All

Purpose—The NT5K12 Power Supply (EPEPS) DC is used to provide power and overvoltage and undervoltage protection to the EEPE module in DC systems. It converts –52 V dc to +5 V, +6 V, +15 V, –150 V, and ring and filtered –48 DC voltages to power equipment logic cards and to supply talk battery to lines and trunks. The ringing generator is a part of the power supply. This power supply is located in the far left-hand card slot labeled "PE Pwr Sup."

Quantity—One in each DC Existing Enhanced Peripheral Equipment Module (NT5K11 DC)

NT6D40 PE Power Supply DC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC only)

Purpose—Converts –48 V dc to +5 V, +8.5 V, ±10 V, ±15 V, and –48 V dc voltages used to power peripheral equipment circuit cards and to supply talk battery to lines and trunks. Located in the far left-hand card slot labeled "PE Pwr Sup."

Quantity—One in each of the following modules:

— NT8D13DC PE Module

— NT8D37DC or NT8D37EC IPE Module

NT6D41 CE Power Supply DC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Converts –48 V dc to +5 V and ±12 V dc to provide required voltages for CPU, network, and Meridian Mail equipment. Located in the far left-hand card slot labeled "CE Pwr Sup."

Quantity—One in each of the following modules:

— NT5D21DC Core/Network Module

— NT6D39DC CPU/Network Module

— NT6D60DA Core Module

— NT8D34DC CPU Module

— NT8D35DC Network Module

— NT9D11DC Core/Network Module

Two in an NT6D44DC Meridian Mail Module equipped with a tape drive.

NT6D42 Ringing Generator DC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Replaces the NT7D03 Ringing Generator DC.

A 16-ringer ringing generator. Operates from a nominal –52 V dc input and provides selectable AC ringing voltage outputs superimposed on –52 V dc. Frequency and voltage options are 20/25/50 Hz and 70/75/80/86 V ac. Supplies –120 (–100 with vintage NT6D42CC) or –150 V dc Message Waiting lamp voltages for 500/2500 telephones. Located to the right of the NT6D40 PE Power Supply.

Quantity—One in each of the following modules if the module supports 500/2500 telephones:

— NT8D13DC PE Module

— NT8D37DC or NT8D37EC IPE Module

NT6D43 CE/PE Power Supply DC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Replaces the NT7D04 CE/PE Power Supply DC.

Converts –52 V dc to +5 V, +8.5 V, ±15 V, ±12 V, –48 V, –120 V, and –150 V dc used to power peripheral and common equipment, supply talk battery, and light Message Waiting lamps on 500/2500 telephones. Provides selectable AC ringing voltage outputs superimposed on –48 V dc. Frequency and voltage options are 20/25/50 Hz and 70/75/80/86 V ac. Located in the far left-hand card slot labeled "CE/PE Pwr Sup."

Quantity—One in each of the following modules:

— NT8D11DC or NT8D11EC CE/PE Module

— NT8D47DC RPE Module

NT6D52 Rectifier –52V/30A

System hardware—option 21/21E/51/61 (DC-powered systems)

Purpose—Solid-state, switched-mode rectifier. Converts 208/240 V ac (nominal) to –48 V dc (nominal), with a 30-amp output. Connects to the system (and to other rectifiers in parallel) through the QBL15 Power Distribution Box. NT6D52 with field wiring accessories is NT0R72 power unit.

Quantity—As required by system power consumption

NT6D53 Junction Box

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Used when the distance from the rectifier to the pedestal is over 15.2 m (50 ft) or 24 m (80 ft). Provides a set of connection terminals for the 4-AWG wire that comes from the rectifier, and a set of 10-AWG wires that goes into the pedestal. See *Meridian 1 power engineering* (553-3001-152) for more information.

Quantity—One per pedestal

NT6D5303 Ground Bar/LRE (Large)

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used in multiple-column systems, usually with DC-powered systems. Serves as the point where logic return wires are connected together before connecting to the single-point ground.

Quantity—One per system

NT6D5304 Ground Bar/LRE (Small)

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used in multiple-column systems, usually with AC-powered systems. Serves as the point where logic return wires are connected together before connecting to the single-point ground.

Quantity—One per two- to six-column system; two per seven- to ten-column system

NT6D82 Power System

System hardware—option 21/21E/51/51C/61/71/81/81C (DC-powered systems)

Purpose—Replaced by the MPP600 Modular Power Plant (the NT6D82 formerly replaced the QCA13 Power Cabinet).

A positive ground, –48 V dc power plant. Consists of an enclosed, front-access power distribution and control panel mounted on a standard 23-in. relay rack with wiring and provision for up to three rectifiers per rack. The system utilizes 100-amp rectifiers and has a capacity of 100 to 300 amps in a single rack, with up to 900 amps total in a maximum configuration of three fully equipped racks.

The power system configurations are organized into power bays. A power bay is defined as a relay rack for power equipment, containing the power distribution and control circuitry. The main power bay contains both the control and distribution circuitry. The supplemental bay contains only the distribution elements and operates somewhat as a “slave” to the main bay. Each system consists of one main power bay and up to two supplemental power bays.

Quantity—One per system with one to three rectifiers per rack, up to nine rectifiers total in three racks, as required by system power consumption

NT7D0003 Fan and Sensor Panel

System hardware—option 21A (X11 release 15–17)

Purpose—Contains two 230 V ac tubeaxial fans and thermal sensors for a high-temperature/shutdown alarm to the system monitor. The fans operate continuously and receive power directly from the PDU through the module power harness.

The fan and sensor panel consists of:

— one perforated top shield (P0711481)

— two top cap fans (A0367754)

— one fan power harness (NT7D0004)

— one thermostat harness (NT8D46AC)

Quantity—One per system

NT7D03 Ringing Generator DC

System hardware—option 21/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Replaced by the NT6D42 Ringing Generator DC.

Operates from a nominal –48 V dc input and provides selectable AC ringing voltage outputs superimposed on –48 V dc. Frequency and voltage options are 20/25/50 Hz and 70/80/86 V ac. Supplies –150 V dc Message Waiting lamp for 500/2500 telephones. Located to the right of the NT6D40 PE Power Supply.

Quantity—One in each of the following modules if the module supports 500/2500 telephones:

— NT8D13DC PE Module

— NT8D37DC IPE Module

NT7D04 CE/PE Power Supply DC

System hardware—option 21/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Replaced by the NT6D43 CE/PE Power Supply DC.

Converts –48 V dc to +5 V, +8.5 V, ±15 V, ±12 V, –48 V, and –150 V dc used to power peripheral and common equipment, supply talk battery, and light Message Waiting lamps on 500/2500 telephones. Provides selectable AC ringing voltage outputs superimposed on –48 V dc. Frequency and voltage options are 20/25/50 Hz and 70/80/86 V ac. Located in the far left-hand card slot labeled "CE/PE Pwr Sup."

Quantity—One in each of the following modules:

— NT8D11DC CE/PE Module

— NT8D47DC RPE Module

NT7D10 Power Distribution Unit DC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Replaced by the NT7D67CB Power Distribution Unit DC. However, NT7D67 and NT7D10 PDUs can be mixed in a system.

Distributes power to the entire column. Located in the rear of the pedestal. Houses five circuit breakers (one for each module and one for the blower unit) and the system monitor.

Quantity—One per pedestal/column

NT7D12 Rectifier Rack

System hardware—option 21/21E/51/51C/61/61C (DC-powered systems)

Purpose—A 48.3 cm deep by 1.5 m high (19 in. by 5 ft) open relay rack. Holds up to three NT6D52 Rectifiers.

Quantity—One rack per every three NT6D52 Rectifiers to a maximum of two racks per system

NT7D1201 Rectifier Support/Air Baffle

System hardware—option 21/21E/51/51C/61/61C (DC-powered systems)

Purpose—Consists of a heat baffle plate and a set of support brackets for mounting the NT6D52 Rectifier to an NT7D12 rack. The baffle directs exhaust air from the lower rectifier away from the inlet to the upper rectifier, allowing cooling by natural convection.

Quantity—One per NT6D52 Rectifier

NT7D14 CE/PE Power Supply AC

System hardware—All (AC-powered systems)

Purpose—Converts 208/240 V ac to +5V, +8.5V, ±15V, ±12V, –48V, and –150 V dc voltages used to power peripheral and common equipment, supply talk battery, and light Message Waiting lamps on 500/2500 telephones. Provides AC ringing voltage outputs superimposed on –48 V dc. Frequencies and voltages provided are 20/25/50 Hz and 70/80/86 V ac. Located in the far left-hand card slot labeled “CE/PE Pwr Sup.”

Quantity—One in each of the following modules:

— NT8D11AC or NT8D11BC CE/PE Module

— NT8D47AA RPE Module

NT7D15 System Monitor

System hardware—option 21A (X11 release 15–17)

Purpose—Monitors system power, the module power supply, the CPU, and thermal conditions. Activates the PFTU, remote alarm, and/or column LED, as required, if there is a power failure, CPU failure, or over-temperature condition.

Quantity—One per system

NT7D17AC Fan Unit AC

System hardware—option 21 with up to two tiers

Purpose—The NT7D17AC Fan Unit AC is housed within the pedestal and provides cooling for the entire column. It consists of three fans and a circuit breaker located in the front.

Quantity—One per pedestal

NT7D17DC Fan Unit DC

System hardware—option 21 with up to two tiers

Purpose—The NT7D17DC Fan Unit DC is the same as the NT7D17AC Fan Unit AC except that it is used for DC systems. It has an on/off switch in the front and its own separate circuit breaker located on the Power Distribution Unit.

Quantity—One per pedestal

NT7D67CB Power Distribution Unit DC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Replaces the NT7D10 PDU. However, NT7D67 and NT7D10 PDUs can be mixed in a system.

Distributes power to the entire column. Located in the rear of the pedestal. Houses five circuit breakers (one for each module and one for the blower unit) and the system monitor.

Quantity—One per pedestal/column

NT8D06 PE Power Supply AC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (AC-powered systems)

Purpose—Converts 208/240 V ac to +5V, +8.5V, ±10V, ±15V, and –48 V dc voltages used to power peripheral equipment logic cards and to supply talk battery to lines and trunks. Located in the far left-hand card slot labeled "PE Pwr Sup."

Quantity—One in each of the following modules:

— NT8D13AA PE Module

— NT8D37AA or NT8D37BA IPE Module

NT8D21 Ringing Generator AC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (AC-powered systems)

Purpose—Operates from a nominal 208/240 V ac input and provides selectable AC ringing voltage outputs superimposed on –48 V dc. Frequency and voltage options are 20/25/50 Hz and 70/80/86 V ac. Supplies –150 V dc Message Waiting lamp voltages for 500/2500 telephones. Located to the right of the NT8D06 PE Power Supply.

Quantity—One in each of the following modules if the module supports 500/2500 telephones:

— NT8D13AA PE Module

— NT8D37AA or NT8D37BA IPE Module

NT8D22 System Monitor

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Monitors the status of all internal power and cooling-related components, as well as external DC rectifiers, batteries, and uninterruptible power supplies (UPS). Mounted in the rear of the pedestal.

The system monitor that handles the communication with the system CPU (via SDI port) is the master; all others function as slaves. There is a serial communication link between the master and the slaves. In addition to CPU status reporting, the system monitor controls all external visual status indications.

Quantity—One master and up to 63 slaves per system; one required for each column

NT8D29 CE Power Supply AC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (AC-powered systems)

Purpose—Converts 208/240 V ac to +5V and ±12 V dc to provide required voltages for CPU, network, and Meridian Mail equipment. Located in the far left-hand card slot labeled “CE Pwr Sup.”

Quantity—One in each of the following modules:

— NT5D21AA Core/Network Module

— NT6D39AA CPU/Network Module

— NT6D60CA Core Module

— NT8D34AA CPU Module

— NT8D35AA Network Module

— NT9D11AC Core/Network Module

Two in an NT6D44AC Meridian Mail Module equipped with a tape drive.

NT8D39AA Power Failure Transfer Unit

System hardware—All

Purpose—Provides an interface between CO lines, private branch exchange (PBX), and 500/2500 phones (rotary dial and push-button). The Power failure transfer unit allows eight phones to be connected to the CO lines in the event of a PBX power failure or malfunction. The power failure transfer unit is invisible to the switch and CO lines during normal PBX operations.

The power failure transfer unit is approximately 22.8 cm (9 in.) long by 22.8 cm (9 in.) wide by 8.8 cm (3.5 in.) deep. It is screw-mounted to the distribution frame and connects to the main distribution frame and switch by two 25-pair cables.

> ***Note:*** The power failure transfer unit is not recommended for use in international applications.

Quantity—One per system

NT8D46AC Thermostat Harness

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Part of the temperature sensor assembly. Contains two thermal sensors and a fault LED. At 70 degrees C (158 degrees F), the thermal sensors open and notify the system monitor, which shuts down the system. Plugs into the backplane of the top module.

Quantity—One per column

NT8D46AM Air Probe Harness AC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (AC-powered systems)

Purpose—Part of the temperature sensor assembly. Senses exit air temperature and relates the information to the blower unit.

Quantity—One per top cap

NT8D46DC Air Probe Harness DC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Part of the temperature sensor assembly. Senses exit air temperature and relates the information to the blower unit.

Quantity—One per top cap

NT8D52AB Pedestal Blower Unit AC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (AC-powered systems)

Purpose—Housed in the front of the pedestal. Provides forced-convection cooling. Contains two backward-curved cylindrically shaped impellers (rotor blades) that are approximately 22.8 cm (9 in.) in diameter and 6.9 cm (2.75 in.) thick. Each unit weighs about 1.5 kg (3.5 lb). Communicates with the power distribution system through a connector on the rear of the PDU.

A circuit breaker on the front of the blower chassis turns the unit on and off.

Quantity—One per pedestal

NT8D52DD Pedestal Blower Unit DC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Housed in the front of the pedestal. Provides forced-convection cooling. Contains two backward-curved cylindrically shaped impellers (rotor blades) that are approximately 22.8 cm (9 in.) in diameter and 6.9 cm (2.75 in.) thick. Each unit weighs about 1.5 kg (3.5 lb). Communicates with the power distribution system through a connector on the rear of the PDU.

A switch on the front of the blower chassis turns the unit on and off. There is also a dedicated circuit breaker on the PDU.

Quantity—One per pedestal

NT8D53AB Power Distribution Unit AC

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (AC-powered systems)

Purpose—Distributes power to the entire column. Located in the rear of the pedestal. Houses the main circuit breaker for the system.

Quantity—One per pedestal/column in AC systems

NT8D53AD Power Distribution Unit

System hardware—option 21A (X11 release 15–17)

Purpose—A panel located in the pedestal that distributes power to the module and top cap. Contains a circuit breaker and power distribution components optimized for single-module operation.

Quantity—One per system

NT8D56AA CE Module Power Distribution Unit

System hardware—All (AC-powered systems)

Purpose—The MPDU protects the power supply and distributes power within a module. Houses a single breaker used in conjunction with the NT8D29 CE Power Supply AC.

Quantity—One in each of the following modules:

— NT5D21AA Core/Network Module

— NT6D39AA CPU/Network Module

— NT6D44AC Meridian Mail Module

— NT6D60CA Core Module

— NT8D34AA CPU Module

— NT8D35AA Network Module

— NT9D11AC Core/Network Module

NT8D56AC CE/PE Module Power Distribution Unit

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (AC-powered systems)

Purpose—The MPDU protects the power supply and distributes power within a module. Houses a single breaker and is used in conjunction with the NT7D14 CE/PE Power Supply AC.

Quantity—One per NT8D47AA RPE Module

NT8D57AA PE Module Power Distribution Unit

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (AC-powered systems)

Purpose—The MPDU protects the power supply and distributes power within a module. Houses a dual breaker and is used in conjunction with the NT8D06 PE Power Supply AC and the NT8D21 Ringing Generator AC.

Quantity—One in each of the following modules:

— NT8D13AA PE Module

— NT8D37AA or NT8D37BA IPE Module

NT8D62AA Thermal Sensor Harness

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (AC-powered systems)

Purpose—Communicates with the NT8D22 System Monitor in the event of overheating. Contains two temperature sensors that protect against thermal damage by detecting extreme temperature.

Consists of:

— perforated shield panel

— LED bracket

— thermostat harness (NT8D46AC)

— air probe harness (NT8D46AM)

— air probe connector bracket

Quantity—One per top cap

NT8D62DC Thermal Sensor Harness

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Communicates with the NT8D22 System Monitor in the event of overheating. Contains two temperature sensors that protect against thermal damage by detecting extreme temperature.

Consists of:

— perforated shield panel

— LED bracket

— thermostat harness (NT8D46AC)

— air probe harness (NT8D46AM)

— air probe connector bracket

Quantity—One per top cap

NTAK04 AC/DC Power Supply for Small Carrier Remote Cabinet

System Hardware—All

Purpose—Used when small Carrier Remote IPE cabinet is AC-powered by the commercial power source or UPS.

Quantity—One per small Carrier Remote IPE cabinet.

NTAK05 DC Power Supply for Small Carrier Remote Cabinet

System Hardware—All

Purpose—Used when small Carrier Remote IPE cabinet is DC-powered by a –52 VDC power source.

Quantity—One per small Carrier Remote IPE cabinet.

NTBX81AA Stand-alone NT1 Power Supply

Purpose—Provides the stand-alone NT1 Network Termination Unit with an optional companion power supply that converts AC power to the –48 V dc used by the NT1 unit.

Dimensions—The NTBX81AA is approximately 8.3 in. x 4.3 in. x 2 in. (210 mm x 108 mm x 50 mm), wall or desk mount.

Features—The NTBX81AA provides the following features:

— power input, –120 V ac, three conductor AC line cord attached

— power output, approximately 12 watts, –48 V dc

— U interface connector—two female Teladapt eight-pin connectors to accommodate two standard eight-wire Teladapt cables equipped with eight-pin subminiature plugs at both ends; one plugs into a standard wall jack and the other plugs into the U interface connector on the stand-alone NT1 unit

— FCC class B EMI compliance

NTBX86AA Rack-mount NT1 Power Module

Purpose—Provides the rack-mount NT1 Network Termination Unit with an optional power supply that converts AC power to the –48 V dc used by the NT1 unit.

Dimensions—The NTBX86AA is approximately 19 in. x 13.6 in. x 4 in. (483 mm x345 mm x105 mm), wall or rack-mount, molded plastic housing

Features—The NTBX81AA provides the following features:

— power input, 120 V ac, three conductor AC line cord attached

— power output, approximately 150 watts, –48 V dc maximum

— power connectors, three female nine-pin power connectors to accommodate power distribution cables terminating at up to three NT1 modules

— battery connectors, two female six-pin power connectors to accommodate power distribution cables terminating at up to two battery modules

— supports up to three NT1 modules (150W maximum load) and two battery modules

— provides battery charge current and automatic regular interval battery test

— provides power mode and battery status information to the NT1 module

— provides low battery voltage shutdown

NTBX89AA Rack-mount NT1 Battery Module

Purpose—Provides the rack-mount NT1 power module with a battery backup so it can provide the rack mount NT1 Network Termination Unit with an optional power supply that delivers –48 V dc used by the NT1 unit.

Dimensions—The NTBX89AA is approximately 19 in. x 13.6 in. x 4 in. (483 mm x 345 mm x 105 mm), wall or rack-mount, molded plastic housing

Features—The NTBX89AA provides the following features:

— power output— approximately 30 AHR, –24 V dc

— battery connector—a single female six-pin power connector to accommodate a power distribution cable terminating at the NT1 power module

— contains two sealed Gel Cel technology batteries requiring no maintenance

P0547127/8 Supplementary Power Units

System hardware—All

Software generic—X11, X37

Purpose—To provide local supplementary power for attendant consoles and add-on units attached to SL-1 telephone sets or consoles when a centralized power unit (QUT1) is not provided.

Features—A 110 V ac low-voltage plug-in transformer.

P0547127 24V type is required for each console to power LED or for each set when a key/lamp module, Logic handsfree unit, or both are attached.

P0547128 15V type is required for each console or set equipped with a loop field array module.

P0552536 Fuse Kit

System hardware—All except ST

Software generic—X11, X37

Purpose—To replace burned out fuses. Located in the tape holder of the QUW1 magnetic tape unit.

Twelve (12) fuses are included in the kit:

— two QFF1A 1.33 A

— two QFF1B 2.00 A

— four QFF1C 3.00 A

— two QFF1F 0.25 A

— two QFF1G 0.50 A

P0575529 Filter Unit

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)

Software generic—X11, X37

Purpose—Ensures only filtered air is used to cool CE.

An expanded aluminum mesh filter (P0634911) held in a tray below each cooling unit.

QAA47 Power Monitor Adapter

System hardware—XN/XN(QCA97)

Software generic—X11, X37

Purpose—Provides a receptacle for the QPC173 Power Monitor and allows connection of cables from various CE locations.

Quantity—One per CE cabinet

QBL12 Battery Distribution Box

System hardware—option 21/21E/51/51C/61/61C/71/81/81C and systems XN/XN(QCA97)/XT (DC-powered systems)

Purpose—Connects customer-provided external power sources to the system. Allows connection of up to 12 columns.

Quantity—One per system when customer supplies power source

QBL14 Power Distribution Box

System hardware—XN/XN(QCA97)/XT

Software generic—X11, X37

Purpose—Distributes –48 V to a maximum of four RPE carrier shelves. Equipped with circuits to provide a low voltage (–48 V) disconnect.

Located above the QUX3 power distribution unit or above the QBL5 power distribution box in a QCA8 cabinet. Can also be installed in a QCA6 cabinet above the QUX1 or QBL3 units. In QCA28 and QCA6 cabinets, the unit can be mounted in any unequipped shelf location.

Quantity—One for every four carrier shelves.

QBL15 Power Distribution Box

System hardware—option 21/21E/51/61 and systems MS/N/N(QCA96)/ ST/NT/SN (DC-powered systems). It can also be used in the QCA137, QCA144, and QCA146 cabinets.

Purpose—Replaced by the MFA150 Modular Power System.

Allows the parallel connection of up to three NT6D52 Rectifiers, for connection to the system and to reserve batteries. Includes main fuses, diode blocking, test points, QPC188 Battery Monitor Card, and sense lead fusing on connections from each rectifier.

Quantity—One per every three NT6D52 Rectifiers, to a maximum of two QBL15s per system

QBL21 Power Distribution Box

System hardware—XN/XN(QCA97)/XT

Software generic—X11, X37

Purpose—Distributes power to secondary circuits of the CE Cabinet.

Includes circuit breakers for the CE shelves and fuses for the tape unit fan.

QBL24 Battery Unit

System hardware—SN/ST (can also be used in the QCA137, QCA144, and QCA146 cabinets)

Software generic—X11, X37

Purpose—This unit houses four packs of six rechargeable cells and is used as backup in case of power failure.

Quantity—Maximum two units per cabinet

Status—Retired

QBL25 Battery Unit

System hardware—SN/ST (can also be used in the QCA137, QCA144, and QCA146 cabinets)

Software generic—X11, X37

Purpose—This unit is the same as the QBL24 except it does not include the rechargeable cells. It is only used for the international market.

Quantity—Maximum two units per cabinet

QCA13 Power Cabinet

System hardware—option 71 (DC-powered system)

Purpose—Replaced by the MPP600 Modular Power Plant (formerly replaced by the NT6D82 Power System).

Consists of a primary power cabinet with fusing and distribution hardware, monitoring and control, and up to four NT5C03 50A Rectifiers. Up to two supplemental cabinets can be added, with up to four rectifiers in the first supplemental cabinet and up to two rectifiers in the second cabinet, for a total of ten rectifiers and a total system capacity of 500 amps. (This power system is also referred to as the J2412A power plant; QCA13 is actually the cabinet designation, but is the more commonly used name.)

Quantity—As required by system power consumption

QPAA21 Battery Monitor Panel

System hardware—S only

Software generic—X11, X37

Purpose—Required for battery backup. Monitors for low voltage and performs battery equalization as required.

Features—LED indication of low float (low voltage but system remains operable) and trip (enough voltage drop to render system inoperable).

Quantity—One per system

QPAE1 Power System

System hardware—S only

Software generic—X11, X37

Purpose—Required for battery backup to provide continuous –48 V dc power.

Features—The power system consists of one –48V, 25A switched mode rectifier and one –48V string of sealed rechargeable lead acid cells, factory wired and tested, assembled on two 16 in. (410 mm) high mounting bars.

Quantity—One per system

QPC80 10V Converter

System hardware—All except SN and ST

Software generic—X11, X37

Purpose—Converts –48 to +10 and –10 V supplies for peripheral equipment. Use QPC80E or later vintage. One QPC80 is required for every five PE shelves equipped with QPC464 Buffers. One QPC80 is required for every fourteen PE shelves equipped with QPC659 Dual Loop Buffers.

Features—Magnetic overcurrent short circuit protection. Regulation ±5 percent.

Note: The QPC80 card is adjusted at the factory to provide adequate voltage. Field testing is not required unless a complete failure is suspected. If the measured voltage is zero, the card needs to be replaced. Any voltage greater than zero indicates the card is fully operational, and within approved operating specifications.

QPC82 30V Converter

System hardware—All except SN and ST

Software generic—X11, X37

Purpose—Converts –48 to +15 and –15 V supplies for Meridian SL-1 line circuits. Use QPC82C or later vintage.

Features—Same as QPC80.

Note: The QPC80 card is adjusted at the factory to provide adequate voltage. Field testing is not required unless a complete failure is suspected. If the measured voltage is zero, the card needs to be replaced. Any voltage greater than zero indicates the card is fully operational, and within approved operating specifications.

Quantity—One for every 20 line circuit packs in a cabinet

QPC84 Power Monitor

System hardware—All except SN and ST

Software generic—X11, X37

Purpose—Monitors system voltage levels and fuse status. Controls major and minor alarm circuits, line transfer, and system reset. Use QPC84P or later vintage.

Features—LED tolerance indication of voltage levels, line transfer, and system reset. Option switches on the pack to allow or defeat certain alarm conditions.

Quantity—One per cabinet containing PE

QPC85 5/12V Converter

System hardware—MS/N/N(QCA96)

Software generic—X11, X37

Purpose—Superseded by the QPC190, QPC355, and QPC691. Converts –48 to ±12 and +5 V. Used primarily with remote peripheral equipment.

Features—Same as QPC80 and QPC691.

QPC163 48V Regulator

System hardware—All except SN and ST

Software generic—X11, X37

Purpose—Regulates –48 V output from the rectifier assembly for system talk battery. Use QPC163D or later vintage.

Quantity—One for each 15 amps of current drain from PE shelves

QPC173 Power Monitor

System hardware—XN/XN(QCA97)/XT

Software generic—X11, X37

Purpose—Monitors system voltage levels, fuse status, and cabinet temperature. Controls major and minor alarm circuits.

Features—LED indication of fuse failures and power out of tolerance.

Quantity—One QPC173 in the tape shelf of the CE cabinet

QPC187 Ringing Generator

System hardware—All except SN and ST

Software generic—X11, X37

Purpose—Generates 86V, 20 Hz and 105V, 20 Hz ringing supplies for 500/2500-type telephone sets.

The QPC187E Ringing Generator is designed to provide a greater ring capacity to accommodate considerably more than 20 ringers. Vintage D of the QSP43 or QSP44 shelf is required.

Features—Supplies sufficient power to ring 20 NE-C4-type ringers simultaneously. QPC187E and QPC187F provide sufficient power to ring 40 NE-C4-type ringing generators simultaneously.

Quantity—One ringing generator is required for each PE cabinet serving 500/2500-type line circuits.

QPC188 Battery Monitor

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-powered systems)

Purpose—Located in each battery distribution box to monitor rectifier and battery voltages. Generates low float alarm, low voltage trip alarm, and sense lead fuse conditions.

Quantity—One per QBL12 or QBL15

QPC190 5/12V Converter

System hardware—MS/N/N QCA96)/XN/XN(QCA97)

Software generic—X11, X37

Purpose—Converts –48 to ±5 and ±12 V supplies for CE shelves. Superseded by QPC355 and QPC691.

Features—Overvoltage shutdown and over-current protection.

Status—Retired

QPC273 Ringing Generator

System hardware—All except SN and ST

Software generic—X08, X11, X37

Purpose—Generates 75V (25 Hz) ringing supplies for 500/2500-type stations. Primarily used with Generics X08 and X37.

Note: The QPC273B Ringing Generator is designed for double or quad density cards to provide a greater ring capacity to accommodate considerably more than 20 ringers.

Vintage D of the QSP43 or QSP44 shelf is required.

Features—Supplies sufficient power to ring 20 NE-C4 ringers simultaneously.

QPC355 5/12V Converter

System hardware—All

Software generic—X11, X37

Purpose—Converts –48 to +5 and ±12 V supplies for common equipment.

Features—Over-voltage shutdown and over-current protection.

QPC502 Power Backplane

System hardware—S

Software generic—X11, X37

Purpose—Provides intrashelf connections for the power converter shelf.

Quantity—One per power converter shelf

QPC509 Message Waiting Power Supply

System hardware—S

Software generic—X11, X37

Purpose—Supplies –150 V to the Message Waiting Line pack.

QPC585 Power Converter

System hardware—All that are equipped with a QMM38 Mass Storage Unit (MSU)

Software generic—X11, X37

Purpose—Supplies power to the QMM38 MSU.

QPC691 5/12V Converter

System hardware—All

Software generic—X11, X37

Purpose—Converts –48 to +5 and ±12 V supplies for CE shelves. Replaces QPC85 and QPC190.

Features—Overvoltage shutdown and over-current protection.

QPC705 ±15V,–150V Converter

System hardware—SN and ST

Software generic—X11, X37

Purpose—Used when ±15 or –150 V is required on the first peripheral shelf in a basic cabinet.

Quantity—One per QCA136 or QCA141 cabinet

Status—Retired

QPC706 ±10, ±15, –150V Converter

System hardware—SN and ST

Software generic—X11 (release 9 and later for ST)

Purpose—Converts –52 V into ±10 V for the second and third PE levels.

Provides a line transfer when faults are detected or when requested by the system processor.

Quantity—One per QPC702 PE Backplane

QRF8 48 V Rectifier Assembly

System hardware—MSNN(QCA96)ST (can also be used in the QCA108 expansion cabinets for N and NT)

Software generic—X11, X37

Purpose—Accommodates transformer and rectifier assembly to convert 50 Hz or 60 Hz, 115, 208, or 230V, single-phase or phase-to-phase commercial power supplies to –52.08 V (nominal).

Used as a battery eliminator to supply 40 amp to the second stage of power conversion in the system and as a battery charger for a reserve battery supply.

> ***Note:*** QRF8X1 rectifiers are used in Meridian SL-1 international applications; X is the vintage

Features—

— 48 V dc regulator

— strap options for 115, 208 and 230V operation

— maintains delivery of power at 42 V during momentary fluctuations in commercial input supply voltage of less than 100 ms

Weight—85 lb (40 kg)

Status—Retired

QRF9 48V Rectifier

System hardware—S

Software generic—X11, X37

Purpose—Converts commercial 117, 208, and 230 V ac to 48 V dc for the Meridian SL-1 S.

QRF12 –52V Rectifier

System hardware—SN/ST and option 21/51/61 (DC version).

Software generic—X11, X37

Purpose—Converts 115 V ac and 220 V ac to –52 V dc (nominal). QRF12B voltage conversions from 90V to 129V, and 190V to 250V.

Weight—80 lb (36.5 kg)

Quantity—One for every two modules when used with option 21/51/61

Status—Retired

QSP43 Power Control Shelf

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)

Software generic—X11, X37

Purpose—Converts the system –48 V to the secondary voltages that supply the equipment in the QCA58, QCA96, QCA98, QCA108, and QCA109 cabinets.

> ***Note:*** If the –52V fuses are found to be rated at 1/2 amp, they must be replaced with 3 amp fuses.

Weight—50 lb (22.5 kg) fully equipped

QSP44 Power Control Shelf

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)

Software generic—X11, X37

Note: If the –52V fuses are found to be rated at 1/2 amp, they are to be replaced with 3 amp fuses.

Purpose—Converts –48 V to the secondary voltages that supply the QCA74 Peripheral Equipment cabinet.

QSY22 Message Waiting Power Supply

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)/NT/XT

Note: Use QSY22C or later vintage.

Software generic—X11, X37

Purpose—Provides –150 V for Message Waiting lamps.

Features—Contains a fuse panel to distribute the –150 V to PE shelves.

Refer to *Message Center description and operation* (553-2691-100) for details.

Status—Retired

QSY27 MCDS Power Supply

System hardware—All

Software generic—X11

Purpose—Provides the following voltages and currents for the Multi-Channel Data Channel (MCDS) from a 110 V ac commercial supply:

Voltage	Current
+5 V, ± 5%	7.0 A, max.
+9 V (+9 to +12 V)	1.6 A, max.
–9 V (–9 to –12 V)	1.6 A, max.
+12 V, ± 5%	1.6 A, max.

QSY32 MCDS Power Supply

System hardware—All

Software generic—X11

Purpose—Same as QSY27, derived from a 220 V ac commercial supply.

QUAA1/QUAA2 Centralized Power Supply

System hardware—All

Software generic—X11, X37

Purpose—Same as the QUT1 power supply for a 220 V ac input. (Can also be used in the QCA137, QCA144, and QCA146 cabinets.)

QUAA3 Power Unit

System hardware—SN and ST

Software generic—X11 Release 9 and later

Purpose—Provides all the voltages necessary to power the first layer of Common and Peripheral Equipment, and the ringing power for a full three-tier (except for ±15 V and –150 V). Specifically:

— QPC703 Power Converter provides 5, ±10, and ±12 V.

— QPC704 Power Monitor provides –48 V regulated to the first peripheral shelf, as well as monitoring system voltages, fusing, etc.

Quantity—One per QCA136, QCA137, QCA141, QCA144, and QCA146

QUA4 Transfer Unit

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)/NT/XT

Software generic—X11, X37

Purpose—Automatically connects preselected CO trunks to preselected 500-type telephone sets when:

— the CPU detects a fault with a control command that it cannot clear by internal diagnostic routines

— the power monitor circuit pack detects a major power fault

— the manual transfer switch on the monitor pack or attendant console is operated

Features—The QUA4 has eight transfer relays and two control relays and can transfer up to 12 lines. The control relays allow two customers to be served by each unit.

Two units can be mounted in the power control shelf, and additional units can be located in any PE shelf (requires two adjacent circuit pack slots).

QUA5 Transfer Unit

System hardware—S

Software generic—X11, X37

Purpose—Provides the same function as the QUA4. The QUA5 can transfer up to eight lines.

QUA6 Transfer Unit

System hardware—SN/ST

Software generic—X11

Purpose—Automatically connects preselected CO trunks to prewired 500-type telephone sets when:

— the CPU detects fails

— the system loses power

— the manual transfer switch on the monitor pack or attendant console is operated

Features—Each unit has the capability of transferring up to five lines, and any number of units can be used with a system depending on available power.

The unit mounts on the wall near the MDF.

QUD5 Cooling Unit

System hardware—XN/XN(QCA97)/NT/XT

Software generic—X11, X37

Purpose—To dissipate heat generated by common equipment.

For mounting on center mount shelf QSD17.

Features—Removable fan units, fuses. Operates on –48 V.

Fans operate during a commercial power failure from the reserve battery supply.

Contains air-flow monitoring switches.

Status—Retired

QUD15 Cooling Unit

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)

Software generic—X11, X37

Purpose—To dissipate heat generated by common equipment. Manufacture discontinued—replaced by QUD20.

Features—Two removable fan units, fuses. Operates on –48V.

Fans operate during a commercial power failure from the reserve battery supply.

Contains air-flow monitoring switches.

QUD20 Cooling Unit

System hardware—Can be used where the QUD15 is required. Is always used with the NT and XT.

Software generic—X11, X37

Purpose—To dissipate heat generated by common equipment. Replaces the QUD15. Is the same as the QUD15 unit except it has a different colored faceplate.

Features—Two removable fan units, fuses. Operates on –48V.

Fans operate during a commercial power failure from the reserve battery supply.

Contains air-flow monitoring switches.

QUD24 Cooling Unit

System hardware—SN/ST (normally used in a three-tier system, can also be used in the QCA137, QCA144, and QCA146 cabinets).

Software generic—X11

Purpose—To dissipate heat generated by common equipment.

Features—Two removable fan units, fuses. Operates on –48V.

Fans operate during a commercial power failure from the reserve battery supply.

Contains air-flow monitoring switches.

Quantity—Up to four units per cabinet

Status—Retired

QUT1 Centralized Power Unit

System hardware—All

Software generic—X11, X37

Purpose—Supplies supplementary power from a centralized position to attendant consoles, and SL-1 station add-on modules.

Features—Self-contained unit that provides independently fused supplies from 110V, 60 Hz input. Supplies available:

— nine 25 V ac for console and added key/lamp strips

— four 12.5 V ac for lamp field array

Refer to *UT1 Power Unit description, installation and maintenance* (167-4201-200) for description and installation.

QUX16 Power Distribution Unit

System hardware—SN/ST

Software generic—X11, X37

Purpose—Distributes power supplied by the rectifier to CE and PE.

Features—Plug-ended and lug-ended wire harness, circuit breaker, and fuse panel.

Quantity—One unit per system

QUX19 Power Distribution Unit

System hardware—SN/ST

Software generic—X11, X37

Purpose—Distributes power supplied by the rectifier to the CE and the first PE shelf.

Features—Main breaker, auxiliary fuse, and CE/PE breaker.

Quantity—One per QCA136 and QCA141 cabinets

Status—Retired

QUX20 Power Distribution Unit

System hardware—SN/ST

Software generic—X11

Purpose—Distributes power required by the PE expansion shelves.

Features—Breakers for power to PE shelves (PE2 through PE5).

Quantity—One per QCA136 and QCA141 cabinet

QUX21 Power Distribution Unit

System hardware—SN/ST

Software generic—X11

Purpose—Distributes power in the PE expansion cabinet to PE shelves.

Features—Breakers for power to PE shelves.

Quantity—One per QCA137 cabinet

Common equipment cards

NT1P61 Fibre Superloop Network Card

System hardware—All

Purpose—Provides 120-timeslot (one superloop) interface between network and intelligent peripheral equipment. Utilizes the equivalent of four network loops. Can be connected to one NT1P62 Fibre Peripheral Controller card.

The superloop network card is equipped with a Motorola 68000-type microprocessor that performs network diagnostics and signaling control, and communicates with the intelligent peripheral controller over a fibre-optic span.

Quantity—As required. See *Meridian 1 system engineering* (553-3001-151) for engineering details.

NT1P63 Fibre Electro-optical Interface packlet

System hardware—All

Purpose—Provides a synchronous 155.52 MBps point-to-point transmission facility between the Fibre Superloop Network card MPU and the Fibre Peripheral Controller card MPU.

Quantity—Up to two on each Fibre Syperloop Network card (NT1P61). The second packlet on the Network card provides a redundant fibre-optic link.

NT5D03 Call Processor Card

System hardware—Options 51C/61C/81/81C

Purpose—The Call Processor card, the main processor in the system, is a 32-bit Motorola 68LC060, 66 MHz microprocessor. The NT5D03 CP card delivers a real-time capability improvement to the NT5D10 CP card. The Call Processor card performs the following main functions:

- Executes all call processing software at a higher clock rate than the NT5D10 CP card.
- Interfaces with the interprocessor bus over the backplane for communication with other cards on the IPB, using the Bus Interface Circuit (BIC) for communication with the IPB.
- Provides on-board main memory and cache memory
- Provides a system time-of-day clock/calendar
- Provides a pair of serial data ports for maintenance and administration.

Note: Cabling the Call Processor cards together allows memory shadowing and dual-CPU operation.The CP card is available in the following memory configurations:

CP Memory	Product code
48 MB	NT5D03AA
64 MB	NT5D03BA
80 MB	NT5D03CA
112 MB	NT5D03EA
128 MB	NT5D03FA

Quantity—One per NT6D60 Core Module for option 81 and one per NT5D21 Core/Network Module for options 51C/61C/81C. Each CP card occupies two card slots.

NT5D10 Call Processor Card

System hardware—Options 51C/61C/81/81C

Purpose—The Call Processor card, the main processor in the system, is a 32-bit Motorola 68LC060, 66 MHz microprocessor. The Call Processor card performs the following main functions:

- Executes all call processing software
- Interfaces with the interprocessor bus over the backplane for communication with other cards on the IPB, using the Bus Interface Circuit (BIC) for communication with the IPB.
- Provides on-board main memory and cache memory
- Provides a system time-of-day clock/calendar
- Provides a pair of serial data ports for maintenance and administration.
- Cabling the Call Processor cards together allows memory shadowing and dual-CPU operation.

Note: The CP card is available in the following memory configurations:

CP Memory	Product code
48 MB	NT5D10AA
64 MB	NT5D10CA
80 MB	NT5D10EA
112 MB	NT5D10JA

Quantity—One per NT6D60 Core Module for option 81 and one per NT5D21 Core/Network Module for options 51C/61C/81C. Each CP card occupies two card slots.

NT5D12AA Dual DTI/PRI (DDP) Card

System Hardware—option 21/21E/51/51C/61/61C/71/81/81C and system STE/RT/XT/NT. X11 release 18 or later; requires the DP patch.

Purpose—Provides two DTI/PRI network connections, an optional connection to an external D-Channel Handler (QPC757 DCHI or NT6D80 MSDL), and an optional plug-on D-Channel Daughterboard (DDCH, NTBK51AA). The card integrates the functionality of two QPC472 DTI/QPC720 PRI cards and one QPC414 ENET card into a single card.

The NT5D12AA occupies a single Network shelf slot. The DDP card supports all features (except the echo canceller and protocol conversion) of the QPC720. It provides an interface to the 1.5 Mbps external digital line, either directly or through an office repeater, Line Terminating Unit (LTU), or Channel Service Unit (CSU).

Quantity—As required.

NT5D20 I/O Processor/Core Multi Drive Unit (IOP/CMDU)

System hardware—options 51C/61C/81/81C

Purpose—The IOP/CMDU is used to load the programs and office data into the system memory. The IOP/CMDU contains:

— I/O processor circuitry

— one 3.5-inch super-high-density floppy drive with a formatted capacity of 2.88 MB

— one 3.5-inch hard disk drive with a minimum capacity of 120 MB

The IOP/CMDU occupies three adjacent card slots in the NT5D21 Core/Network Module (starting with slot 17) for options 51C, 61C, and 81C and requires 5 V and 12 V from the module. In the NT9D11 Core/Network Module and NT6D60 Core Module, the IOP/CMDU plugs into three adjacent slots starting with slot 16.

The IOP/CMDU supports card-ID, which includes the card type, NT code, serial number, and any other relevant data for the IOP/CMDU.

Quantity—One per NT5D21 Core/Network Module for options 51C, 61C, and 81C; one per NT6D60 Core Module for option 81; one per NT9D11 Core/Network Module for option 51C, and 61C.

NT5D30AA Dual InterGroup Switch (DIGS) card

System hardware—options 71/81/81C and system XT

Purpose—In X11 release 23, the NT5D30AA Dual InterGroup Switch (DIGS) card replaces two QPC412 InterGroup Switch cards. The DIGS card provides the same function of space switching for digital speech between network groups in multigroup systems that the two QPC412 IGS cards provide.

The faceplate of the DIGS card has two 25-pair connectors, each of which connects an IGS cable. The IGS 1 cable connects to the top connector, and the IGS 0 cable connects to the bottom connector.

Quantity—One per NT8D35 Network module, NT5D21 Core/Network module, QSD39 Network shelf, or QSD40 Network shelf.

NT5D61 Input/Output Disk Unit with CD-ROM (IODU/C)

System hardware—options 51C/61C/81/81C

Purpose—Introduced in X11 release 23, the Input/Output Disk Unit with CD-ROM (IODU/C) is used to load the programs and office data into the system memory. IODU/C uses an industry-standard 2MB floppy drive instead of a 4MB floppy drive. Additionally, the NT5D61AA IODU/C has a CD-ROM drive accessed on the faceplate, to facilitate loading software from a CD-ROM containing system software.

A Security Device attached to the IODU/C and an electronic Keycode file are used to perform the validation of the customers' specific features and software release. The Security Device is a removable component to allow the replacement of an IODU/C without the need to order a new Security Device.

The IODU/C also contains:

— I/O processor circuitry

— one 2MB 3.5-inch high-density floppy drive with a formatted capacity of 1.44 MB.

— one CD-ROM drive (in NT5D61AA vintage only)

— one 3.5-inch hard disk drive with a minimum capacity of 120 MB

The IODU/C occupies slots 17, 18, and 19 in the NT5D21 Core/Network Module for options 51C, 61C, and 81C and requires 5 V and 12 V from the module. In the NT9D11 Core/Network Module and NT6D60 Core Module, the IODU/C plugs into slots 16, 17, and 18.

The IODU/C is available in two vintages:

NT5D61AA	Includes harddrive, 2MB floppy drive, and CD-ROM drive.
NT5D61AB	Includes harddrive and 2MB floppy drive.

Note: NT5D61AA is mandatory on Option 51C systems. Option 61C/81/81C systems must have at least one NT5D61AA IODU/C to allow software installation from CD-ROM.

The IODU/C supports card-ID, which includes the card type, NT code, serial number, and any other relevant data for the IODU/C.

NT5K35 DASS2/DPNSS1 D-Channel Handler Interface

System hardware—All UK Meridian 1 systems

Purpose—Provides the Meridian 1 processor with one serial input/output port dedicated to DASS/DPNSS D-channel operations.

Features—This circuit card is physically identical to the NT6D11 D-channel interface. Modifications to the firmware allow the NT5K35AA DCHI to support DASS2/DPNSS/APNSS during D-channel operations. For more information see the DASS and DPNSS series of NTPs (553-3911-XXX and 553-3921-XXX, respectively).

Quantity—One for every PRI card installed

NT5K75 Enhanced DASS2/DPNSS1 D-Channel Handler Interface

System hardware—All UK Meridian 1 systems

Purpose—Provides a switch-selectable option for operating in one of two addressing modes. In the standard mode it uses SDI port addresses in the range 0 to 15. In the expanded mode it uses dedicated input/output addresses in the range 0 to 159. It also provides a single DASS or DPNSS D-channel interface.

Features—

— full backward compatibility with the NT5K35AA card

— switch-selectable dual mode of operation

— Increases the effective SDI port and D-channel interface capacity of Meridian 1 systems using DASS2 and DPNSS interfaces

— APNSS supported in standard mode only

Quantity—One for every PRI card installed up to a maximum of 40 per system.

> ***Note:*** Any system using more than 25 D-channels should be treated as a special case and custom engineering/analysis should be performed.

NT6D11AB D-channel Interface (DCHI)

System hardware—All Meridian 1 systems

Purpose—Same as QPC757 D-channel interface except for allowing an addressing capability of 16 D-channels on a system instead of 8. This DCHI is available for the international ISDN environment. It is not normally available in North America.

NT6D11AD D-channel Interface (DCHI)

System hardware—All Meridian 1 systems

Purpose—The NT6D11AD is an enhanced card that supports DPNSS1/DASS2 in both Expanded and Standard mode as well as Q.931 signaling protocols. Each function is switch (DIP) selectable. The NT6D11AD is hardware and software backward compatible, and is a direct replacement for existing NT6D11, NT5K75, or NT5K35 DCHI cards.

Features—The NT6D11AD provides the following features:

— Full backward compatibility with the following cards:

- QPC757C (D)
- NT5K35AA card
- NT5K75AA card
- NT6D11AB (AC)

— Supports expanded 160 port DPNSS1 addressing scheme.

— Switch-selectable firmware with options for DPNSS/DASS and Q.931.

— Each port (asynchronous and synchronous) on the card has its own set of dip switches for address selection.

— Each port can be independently disabled.

Quantity—One for every PRI card installed, up to a maximum of 40 per system, when used in DPNSS/DASS mode. One for every 16 PRI cards installed when used in Q.931 mode.

> ***Note:*** Any system using more than 25 D-channels should be treated as a special case and custom engineering/analysis should be performed.

NT6D6003 Core Bus Terminator Card

System hardware—option 61C (with NT9D11 backplane) and 81

Purpose—The CBT card provides logical terminations to 32-bit address/data multiplexed interprocessor bus signals across the common control section of the Core Module backplane.

Quantity—One per NT6D60 Core Module for option 81 and one per NT9D11 Core/Network Module for option 61C (Options 51C, 61C (NT5D21), and 81C do not use a CBT card.)

NT6D63 I/O Processor Card

System hardware—option 51C, 61C, 81 and 81C

Purpose—The IOP card, based on a Motorola 68020 microprocessor, interfaces with the interprocessor bus and the NT6D64 CMDU. The QMM42 Security Data Cartridge mounts on the IOP card.

The IOP card provides card-ID, which includes the card type, NT code, serial number, and any other relevant data for the particular card.

> ***Note:*** The IOP card provides functions similar to the QPC584 MSI Card in option 71.

Quantity—One per NT6D60 Core Module for option 81 and one per NT9D11 Core/Network Module for option 61C (Options 51C, 61C (NT5D21), and 81C use an NT5D20 IOP/CMDU card.)

NT6D64 Core Multi Drive Unit

System hardware—option 51C, 61C, 81 and 81C

Purpose—The CMDU is used to load the programs and office data into the system memory. The CMDU contains:

— one 3.5-inch super-high-density floppy drive with a formatted capacity of 2.88 MB

— one 3.5-inch hard disk drive with a minimum capacity of 120 MB

The CMDU occupies three adjacent card slots in the Core module for option 81 and Core/Network module for option 61C (NT9D11) and requires 5 V and 12 V from the module. Each CMDU is controlled by an NT6D63 IOP Card in the module. Hard disk redundancy is provided through a SCSI bus connection between the IOP cards.

The CMDU supports card-ID, which includes the card type, NT code, serial number, and any other relevant data for the CMDU.

Note: The CMDU provides functions similar to the NT8D69 or NTND16 MDU in option 71.

Quantity—One per NT6D60 Core Module for option 81 and one per NT9D11 Core/Network Module for option 61C (Options 51C, 61C (NT5D21), and 81C use an NT5D20 IOP/CMDU card.)

NT6D65 Core to Network Interface Card

System hardware—option 51C/61C/81/81C

Purpose—The CNI card provides the interface between the interprocessor bus and the network shelves, and between the Call Processor Card and QPC441 3PE Cards in the network shelf. Each CNI card provides two ports (you are not required to use both ports).

Note: Each port on the CNI card provides functions similar to one QPC215 SBE Card in option 71.

CNI cards are used in the NT6D60 Core Module for option 81, NT9D11 Core/Network Module for option 51C and 61C, and NT5D21 Core/Network Module for options 51C, 61C, and 81C:

System type	Network Groups	CNI cards required	Module	Slots used
51C	1/2	1	NT9D11 Core/ Network Module NT9D11 Core/ Network Module	12
61C	1	1	NT9D11 Core/ Network Module NT5D21 Core/ Network Module	12
81	1 2 3 4 5	1 2 2 3 3	NT6D60 Core Module	8 8, 9 8, 9 8, 9, 10 8, 9, 10
81C	1 2 3 4 5	1 1 2 2 3	NT5D21 Core/ Network Module	12 12 12, 13 12, 13 12, 13, 14

NT6D66 Call Processor Card

System hardware—option 51C/61C/81/81C

Purpose—The CP card, the main processor in the system, is a 32-bit Motorola 68030, 33 MHz microprocessor. The CP card executes all call processing software, interfaces with the interprocessor bus, and provides on-board main memory and cache memory, a system time-of-day clock/calendar, and a pair of serial data ports for maintenance. Cabling the CP cards together allows memory shadowing and dual-CPU operation.

The CP card provides card-ID, which includes the card type, NT code, serial number, and any other relevant data for the particular card.

The CP is available in 24MB and 48MB versions. Options 51C, 61C, 81, and 81C must use the 48MB version for X11 release 22.

Note: The CP card is upgraded as follows:

CP Memory	Old CP	New CP
24 MB	NT6D66AA	NT6D66AB
48 MB	NT6D66DA	NT6D66DB

Quantity—One per NT6D60 Core Module for option 81, one per NT9D11 Core/Network Module for options 51C and 61C, and one per NT5D21 Core/Network Module for options 51C, 61C, and 81C. Each CP card occupies two card slots. Refer to *Software conversion procedures* (553-2001-320) for the CP upgrade.

NT6D73 Multipurpose ISDN Signaling Processor

System hardware—option 21E/51/51C/61/61C/71/81/81C (minimum X11 release 18)

Purpose—The MISP card is a microprocessor-controlled signaling processor that provides a communication interface between the CPU and peripheral devices. The MISP card interfaces with S/T Interface Line Cards (SILCs) and U Interface Line Cards (UILCs). The main functions of the MISP are to:

— communicate with the CPU to report ISDN BRI status and receive downloaded application software and configuration parameters

— manage data link layer and network layer signaling that controls call connection and terminal identification

— control terminal initialization and addressing

— assign B-channels for switched voice and data transmission by communicating with the BRI terminal over the D-channel and allocating to it an idle B-channel with appropriate bearer capabilities

— separate D-channel data from signaling information and route the data to the packet handler

— send call control messages to ISDN BRI terminals over the D-channel

The MISP occupies one slot in the Network module. It uses one of the network loops to interface with SILCs and UILCs and to provide 32 timeslots for D-channel signaling and packet data transmission. The other loop address is used to communicate with the CPU.

Quantity—See *ISDN Basic Rate Interface product description* (553-3901-101) for capacity requirements.

NT6D80 Multipurpose Serial Data Link Card

System hardware—option 21E/51/51C/61/61C/71/81/81C (minimum X11 release 18)

Purpose—The MSDL card provides the signaling interface for primary rate interface (PRI) D-channels or application module link (AML) applications. It utilizes four full-duplex serial I/O ports that are independently configured. The MSDL card can coexist with other cards that support the same functions (such as QPC757 DCHI and QPC513 ESDI Cards).

> ***Note:*** This card currently does not support asynchronous mode, thus with release 18 the realistic maximum number of MSDL cards is 14. This leaves two SDI port addresses for communication with the Meridian 1 via a terminal.

A Meridian 1 can support 16 MSDL cards. Since each card has four ports, a maximum of 64 ports are supported.

Quantity—Up to 16 per system

NT7R51 Local Carrier Interface Card

System hardware—All

Purpose—Provides 120-timeslot (one superloop) interface between network and intelligent peripheral equipment. Utilizes the equivalent of four network loops. Can be connected to one NT1R52 Remote Carrier Interface Card.

The Superloop Network card is equipped with a Motorola 68000-type microprocessor that performs network diagnostics and signaling control, and communicates with the Intelligent Peripheral Controller over a T1 or E1 carrier span.

Quantity—As required; see *Meridian 1 system engineering* (553-3001-151)

NT8D04 Superloop Network Card

System hardware—All

Purpose—Provides 120-timeslot (one superloop) interface between network and intelligent peripheral equipment. Utilizes the equivalent of four network loops. Can be connected to one or two NT8D01 Controller Cards.

The Superloop Network card is equipped with a Motorola 68000-type microprocessor that performs network diagnostics and signaling control, and communicates with the Intelligent Peripheral Controller.

Quantity—As required; see *Meridian 1 system engineering* (553-3001-151)for engineering details.

NT8D17 Conference/TDS Card

System hardware—All

Purpose—Provides both conference and tone and digit switch (TDS) functions. Accesses two network loops, one for each function.

The conference circuitry has a warning tone option and supports broadcast mode. Up to 15 simultaneous conferences can be controlled with the restriction that the total number of conferees in all conferences is not greater than 30. The TDS circuitry provides tones for different countries (up to 256 tones and cadences).

The Multi-frequency signaling (MSF) provides Automatic Number Identification (ANI) digits over Centralized Automatic Message Accounting (CAMA) trunks to a toll switching CAMA, Traffic Operator Positioning System (TOPS), or Traffic Service Positioning System (TSPS) office

Quantity—As required; see *Meridian 1 system engineering* (553-3001-151)

NT8D18 Network/DTR Card

System hardware—option 21A/21/21E

Purpose—Combines the functionality of the Superloop Network, Controller, and Digitone Receiver cards in a mother/daughterboard assembly. The network is a full superloop (120 timeslots). Plugs into a dedicated slot on the backplane. The daughterboard, which contains eight separate DTR circuits, attaches to the motherboard through an SDI/ESDI connector and does not connect to the backplane.

Quantity—One per NT8D11 CE/PE Module

NT8D19 Memory/Peripheral Signaling Card

System hardware—option 21A/21 (X11 release 15–17)

Purpose—Combines the functionality of the memory and peripheral signaling cards, as well as miscellaneous CPU functions. The CPU functions include interrupt and fault monitoring.

The peripheral signaling function provides:

— signaling interface between the CPU and peripheral equipment for up to 32 network loops

— clock and timing signals for real-time transmission functions

Quantity—One per NT8D11 CE/PE Module

NT8D41AA Dual Port Serial Data Interface Paddleboard

System hardware—option 21A/21/21E/51/51C/61/61C/81C

Purpose—Provides two serial ports between the Meridian 1 processor and an external device. Each port supports:

— RS-232-C interface

— 8-bit ASCII data with parity and stop bit

— asynchronous, start-stop operation

— data rates of 300, 600, 1200, 2400, 4800, and 9600 baud

— DTE mode

— DCE mode

Quantity—Three maximum per NT8D11 CE/PE Module; two maximum per NT6D39 CPU/Network Module and NT5D21 Core/Network Module

NT8D41BA Quad Density Serial Data Interface

System hardware—option 51/51C/61/61C/81/81C

Purpose—Replaces the QPC841 Quad Density Serial Data Interface, NT8D14AA Extended Dual Density Serial Data Interface, and QPC139 Dual Density Serial Data Interface cards. For dual density cards, it is a one for two replacement. Provides four serial ports between the Meridian 1 processor and an external device. Each port supports:

— RS-232-C interface

— 8-bit ASCII data, no parity and 1 stop bit

— asynchronous, start-stop operation

— data rates of 150, 300, 600, 1200, 2400, 4800, 9600, and 19200 baud

— DTE mode

— DCE mode

Quantity—One per Core/Network Module on options 51C/61C/81/81C. One per CPU/Network Module on options 51/61.

NT8D68 Floppy Disk Unit

System hardware—option 21A/21/51/61/71 (X11 release 15–17)

Note: For option 71, can be used with release 15 only.

Purpose—The FDU is used to load system software, overlay programs, and office data into the system memory. The FDU is controlled and powered by the QPC742 FDI Card.

The FDU contains two 3.5-inch 2MB disk drives that take high-density floppy disks with a formatted capacity of 1.44 MB each, for a total of 2.88 MB of formatted capacity.

The FDU occupies two adjacent card slots in the CPU, Network, or PE Module. The FDU can be connected to one or two FDIs as required by the system.

Quantity—One per system

NT8D69 Multi Disk Unit

System hardware—option 51/61/71 (X11 release 15–17)

Purpose—The MDU is used to load system software, overlay programs, and office data into the system memory. The MDU contains:

— two 3.5-inch 2MB disk drives that take high-density floppy disks with a formatted capacity of 1.44 MB each, for a total of 2.88 MB of formatted capacity

— a 3.5-inch hard disk with a capacity of 20 MB

The MDU occupies three adjacent card slots in the CPU, CPU/Network, or Network module and requires 5 V and 12 V from the module. The MDU is controlled by the QPC584 MSI Card. The MDU can be connected to one or two MSIs as needed.

Quantity—One per system

NT8D72 Primary Rate Interface 2 Mbps

System hardware—option 21/51/51C/61/61C/71/81/81C and N/XN/NT/XT/ST/SN

Software generic—X11 International Phase 5 and later

Purpose—The Primary Rate Interface (PRI) card allows thirty 64 kbps clear channel operation with a single 64 kbps common signaling channel. The PRI circuit card provides the physical carrier interface.

The NT8D72BA vintage card provides a fully compliant card for the introduction of Euro ISDN. It complies with the following:

— CCITT G.703 specification for both Private and CO connectivity

— Euro ISDN requirements including ETSI specifications and country application requirements

— PTT 850.614

— ETS 300 001

Quantity—One per Primary Rate Access (PRA) link

NT9D19 Call Processor Card

System hardware—options 51C/61C (X11 release 22 and higher); options 81 and 81C (X11 release 21 and higher)

Purpose—The Call Processor card, the main processor in the system, is a 32-bit Motorola 68LC040 microprocessor. The Call Processor card executes all call processing software, interfaces with the interprocessor bus, and provides on-board main memory and cache memory, a system time-of-day clock/calendar, and a pair of serial data ports for maintenance. Cabling the Call Processor cards together allows memory shadowing and dual-CPU operation.

On options 51C and 61C, NT9D19 CP cards require a minimum of 48 MB and options 81 and 81C require a minimum of 64 MB.

> ***Note:*** In market regions where the NT9D19 64 MB CP card is not available, options 81 and 81C require NT9D19 96 MB CP cards to run X11 release 22.

The Call Processor card provides card-ID, which includes the card type, NT code, serial number, and any other relevant data for the particular card.

> ***Note:*** The CP card provides functions similar to the CPU function, CPU Interface, CMA, Memory, and ROM cards in option 71.

Quantity—One per NT6D60 Core Module for option 81 and one per NT5D21 Core/Network Module for options 51C/61C/81C. Each CP card occupies two card slots.

NT9D33 Small System Multi Drive Unit

System hardware—STE system, option 21E only (NT9D33 is required with X11 release 20 and later software)

Purpose—The SMDU is used to load system software, overlay programs, and office data into the system memory. The SMDU contains:

— two 3.5-inch 4MB disk drives that take extra-high-density (ED) floppy disks with a formatted capacity of 2.88 MB each, for a total of 5.76 MB of formatted capacity

— a 3.5-inch hard disk drive with a minimum capacity of 120 MB

The SMDU occupies two adjacent card slots in the CE/PE module, CE/PE shelf, PE module, or IPE module and requires 5 V and 12 V via the faceplate power connector. The SMDU is controlled by an NT9D34 EMSI Card. The SMDU can be connected to one EMSI.

Quantity—One per system

NT9D34 Enhanced Mass Storage Interface Card

System hardware—option 21E/51/61/71, STE system

Purpose—Interface between the MDU or SMDU and the CPUs. Provides address matching, disk drive control, data buffering, and interrupt control circuits. The QMM42 Security Data Cartridge mounts on this card.

> ***Note:*** The EMSI card requires the NT9D89 EMSI to MDU data cable to interface with the NTND16 or NT8D69 MDU card.

Quantity—One per CPU

NTBK51AA Downloadable D-Channel daughterboard

System hardware—option 21/21E/51/51C/61/61C/71/81/81C and system STE/RT/XT/NT

Purpose—Supports all the features of the existing four-port MSDL (NT6D80). Performs two-port serial communication controller message handling with Direct Memory Access (DMA) for support of 2 D-channels.

> ***Note:*** Only one version, the NTBK51AA, can be used in DDP cards. The newer NTBK51BA version has only 30+30 pin connectors (instead of 40+30 pins in the AA version). The missing 10 pins in the BA version prohibits usage of port 0 on the DDP card.

This optional daughterboard on the NT5D12AA Dual DTI/PRI (DDP) card is a two-port D-Channel Handler card that eliminates the need for a D-Channel handler or an MSDL pack and associated cables.

Quantity—Up to one per NT5D12AA DDP card.

NTD9770C Tone and Digit Switch

System hardware—All

Software generic—X11 International

Purpose—Provides specific tones, cadences, and announcements that are required in various applications as designed to meet Swedish requirements. The TDS also contains a Music Trunk Interface and dual tone multifrequency (DTMF) digit buffer.

Quantity—One for each network shelf

NTND01 Integrated CPU Memory Card

System hardware— STE system, option 21E (NTND01 with 12 MB of memory is required with X11 release 20 and later software)

Purpose—The ICM card contains CPU logic circuitry, interrupt control, fault monitoring, real-time clock (RTC), and 2 Mword (24 bit) or 4 Mword, (6 MB or 12 MB respectively) of RAM. The NTND31 ROM daughterboard attaches to the ICM card.

Quantity—One per system

NTND02 Misc/SDI/Peripheral Signaling Card

System hardware—option 21E

Purpose—The MSPS card provides miscellaneous CPU functions, two SDI ports, and peripheral signaling interfaces. Equipped with an A0378252 Battery Card Assembly that provides CPU memory backup during power failures of up to 60 minutes.

The peripheral signaling function provides:

— signaling interface between the CPU and peripheral equipment for up to 32 network loops

— clock and timing signals for real-time transmission functions

Quantity—One per system

NTND08 ROM Card

System hardware—option 51/61/71 (minimum X11 release 18)

Purpose—ROM daughterboard on the QPC579 CPU Function Card.

Quantity—One per CPU

NTND09B*x* 6MB Memory Card

System hardware—option 51/61/71 (minimum X11 release 18)

Purpose—Provides 2 Mwords (6 MB) of 24-bit RAM.

The NTND10 CMA Card is required for compatibility. Do not mix different types of memory cards.

Quantity—One per CPU for option 51/61; two maximum per CPU for option 71

NTND09C*x* 12MB Memory Card

System hardware—option 51/61/71 and RT/NT/XT (minimum X11 release 18)

Purpose—Provides 4 Mwords (12 MB) of 24-bit RAM.

The NTND10 CMA Card is required for compatibility. Do not mix different types of memory cards.

Quantity—One per CPU

NTND10 Changeover and Memory Arbitrator Card

System hardware—option 51/61/71 (minimum X11 release 15); system RT/NT/XT (minimum X11 release 8)

Purpose—The CMA card controls CPU access to the duplicated memory in dual-CPU systems, automatically disables faulty memory cards, and controls CPU changeover. If a fault occurs on an active CPU, whenever possible the CMA automatically transfers the function to the appropriate circuit cards on the other CPU without a loss of service.

NTND10 CMA Cards are compatible with QPC583 Memory Cards and QPC581 CMA Cards when the jumper on the CMA card is set for 768 K memory.

Quantity—One per CPU/memory configuration

NTND15 Floppy Disk Unit

System hardware—21E (minimum X11 release 18)

Purpose—The NTND15 FDU is used to load system software, overlay programs, and office data into the system memory. The FDU is controlled and powered by the QPC742 Floppy Disk Interface (FDI) Card, which must be minimum vintage F.

The FDU contains two 3.5-inch 4MB disk drives that take extra-high-density (ED) floppy disks with a formatted capacity of 2.88 MB each, for a total of 5.76 MB of formatted capacity.

The FDU occupies two adjacent card slots in the CPU, Network, or PE module.

Quantity—One per system

NTND16 Multi Disk Unit

System hardware—option 51/61/71 (minimum X11 release 18)

Purpose—The MDU is used to load system software, overlay programs, and office data into the system memory. The MDU contains:

— two 3.5-inch 4MB disk drives that take extra-high-density (ED) floppy disks with a formatted capacity of 2.88 MB each, for a total of 5.76 MB of formatted capacity

— a 3.5-inch hard disk drive with a capacity of 120 MB

The MDU occupies three adjacent card slots in the CPU, CPU/Network, or Network module and requires 5 V and 12 V from the module. The MDU is controlled by the QPC584 MSI Card, which must be minimum vintage L. The MDU can be connected to one or two MSIs, EMSIs, or a combination of these, as needed.

Quantity—One per system

NTND31 ROM Card

System hardware—option 21E

Purpose—ROM daughterboard on the NTND01 ICM Card.

Quantity—One per CPU

QMM42 Security Data Cartridge

System hardware—All

Purpose—Allows a customer to access only software packages purchased for each particular system. The cartridge mounts on the QPC584 Mass Storage Interface, QPC742 Floppy Disk Interface, or NT6D63 I/O Processor Card.

Quantity—One per interface card

QPA57 Function

System hardware—XN/XN(QCA97)

Software generic—X08, X37, X11 Release 4

Purpose—Contains the Arithmetic Logic Unit (ALU), fast-stack, and base registers and associated logic for the CPU. Superseded in Generic X11 release 5 by QPC553.

Quantity—One per CPU

QPA58 Interface Card

System hardware—XN/XN(QCA97)

Software generic—X08, X37, X11 Release 4

Purpose—Contains the logic required to interface the CPU with the external address bus, and detects, identifies, and isolates bus faults. Superseded in Generic X11 Release 5 by QPC554.

Quantity—One per CPU

QPA59 Miscellaneous Card

System hardware—XN/XN(QCA97)

Software generic—X08, X37, X11 release 4

Purpose—Has a RESET LED, MAN INT (manual initialize) button, RUN/HALT switch, and three-character maintenance display on its faceplate and provides miscellaneous data storage registers for the CPU. Superseded in Generic X11 release 5 by QPC555.

Quantity—One per CPU

QPA62 CDR RAM Card

System hardware—Single/multi-port CDR systems

Software generic—All

Purpose—Random access memory (RAM) for buffering CDR call records. Refer to 553-2631-110.

Quantity—One per QCA11 CDR cabinet. QPA62 and QPC31 are interchangeable in single-port systems; QPA62 must be used in multiport systems.

QPC33 Tape Interface Card

System hardware—All except NT, XT, and MS with disk drives

Software generic—All

Purpose—Interface between QUW-type tape unit and CPU. Provides address matching, tape unit control, data buffering, and interrupt control circuits.

Quantity—One circuit card for each CPU/tape unit interface. A QCB6 connector cable (QCAD40 in Meridian SL-1 S) is required to connect the tape unit to the QPC33 circuit card.

QPC39 CDR Timing Card

System hardware—Single/multi-port CDR systems

Software generic—All

Purpose—Provides timing signals to the CDR tape control card (QPC130) and a real-time clock for CDR systems. Refer to 553-2631-110.

Quantity—One for each CDR system

QPC40 Arithmetic Logic Unit

System hardware—Single/multi-port CDR systems

Software generic—All

Purpose—The Arithmetic Logic Unit (ALU) performs the required data manipulation within the CPU.

Quantity—One per CPU

QPC41 Miscellaneous Card

System hardware—MS/N/N(QCA96)/S/SN/single-port CDR/multi-port CDR.

Software generic—All

Purpose—Contains various registers for the holding of address and data information.

Use QPC41M or later vintage.

QPC42 Sequencer

System hardware—Single/multi-port CDR systems

Software generic—All

Purpose—The sequencer (SEQ) provides clock and timing signals for the CPU.

Quantity—One per CPU

QPC43 Peripheral Signaling Card

System hardware—option 51/51C/61/61C/71/81/81C

Purpose—Provides a signaling interface between the CPU and PE through the network cards. Provides basic bit rate 2.048 MHz clock and timing signals for real-time functions.

Quantity—One per NT8D35 Network Module, NT6D39 CPU/Network Module, NT9D11 Core/Network Module, or NT8D21 Core/Network Module

QPC45 Serial Data Interface

System hardware—All (Manufacture discontinued. Replaced by QPC139 or QPC841.)

Software generic—All

QPC50 Network Card

System hardware—N(QCA96)/S/XN(QCA97)

Software generic—All for S; X37 only for N(QCA96) and XN(QCA97)

Purpose—Provides the speech path switching and control signals for one multiplex loop.

Quantity—A single network circuit card serves one multiplex loop or a conference circuit (QPC53). Refer to *Meridian 1 system engineering* (553-3001-151).

Status—Retired

QPC52 Network Extender

System hardware—N(QCA96)

Software generic—X37

Purpose—Links network information between the 16 multiplex loops contained in a single network group.

Use QPC52D or later vintage.

Quantity—One QPC52 is required in each of the two network shelves needed to house the full network group. The QPC158 Multigroup Extender (MGE) provides the same functions as the QPC52 plus additional features.

Two NE-A18Q connector cables are required to connect the pair of QPC52 circuit cards.

QPC53 Conference

System hardware—MS/N(QCA96)/XN(QCA97)

Software generic—All for MS; X37 only for N(QCA96) and XN(QCA97)

Purpose—Controls up to ten simultaneous conferences (µ-Law applications). As many as six conferees are allowed per conference, provided that the total number of conferees in all simultaneous conference calls does not exceed 30.

Quantity—One for each conference loop

QPC130 CDR Tape Control

Purpose—Used on the single/multi-port CDR system. Refer to 553-2631-110.

QPC139 Serial Data Interface

System hardware—All

Software generic—All

Purpose—Provides an interface between the CPU and two terminals conforming to EIA Data Interchange Standard RS-232-C. Serial data from the external equipment is converted to parallel data on the CPU control bus and vice versa. Replaces the QPC45.

Data rates of 150, 300, 600, 1200, 2400, 4800, and 9600 baud are selected by the switches on the card.

Input/output addresses are selected by switches on the card to allow a maximum of 16 terminals per system.

Quantity—One circuit card for two terminals

QPC156 Multigroup Control

System hardware—XN(QCA97)

Software generic—X08, X37

Purpose—The multigroup control (MGC) is connected by faceplate cables to a CE bus extender to receive data from the CPU. Address, data, and control signals are decoded and sent to the appropriate multigroup switch (MGS). One of the multigroup control cards supplies the system clock, which is transmitted to the other multigroup shelf via a faceplate cable. If the system clock fails, the clock source automatically switches to another MGC card.

Quantity—One circuit card for each multigroup shelf (two per system)

QPC157 Multigroup Switch

System hardware—XN(QCA97)

Software generic—X08 and X37

Purpose—The multigroup switch (MGS) contains the memory and multiplexers necessary to perform switching between network groups.

Quantity—Two circuit cards for each network group

QPC158 Multigroup Extender

System hardware—N(QCA96)/XN(QCA97)

Software generic—X08, X37

Purpose—The MGE is inserted in a network shelf to extend the network switching bus to other network groups (multigroup system) or network shelf (single group systems). The multigroup extender is a SEND or RECEIVE card depending on its position in the shelf.

Quantity—Four required for each network group

QPC164 Bus Terminating Unit

System hardware—XN/XN(QCA97)

Software generic—All

Purpose—Terminates CE buses as follows:

— QPC164-40 CPU 0 Shelf

— QPC164-41 CPU 1 Shelf

Quantity—One per CPU

Status—Retired

QPC189 Multifrequency Sender

System hardware—All

Software generic—All

Purpose—Provides multifrequency signaling (MFS) of Automatic Number Identification (ANI) digits over Central Automatic Message Accounting (CAMA) trunks to a toll-switching CAMA, Traffic Operator Position System (TOPS), or Traffic Service Position System (TSPS) office. Refer to *Automatic Number Identification description* (553-2611-200).

Quantity—One per system equipped with ANI features

QPC197 Tone and Digit Switch

System hardware—All

Software generic—All

Purpose—The Tone and Digit Switch (TDS) provides all tones, tone ringing, and Digitone outpulsing required by µ-Law systems, except for multifrequency tone.

Quantity—One for each network shelf

QPC213 Changeover and Memory Arbitrator

System hardware—N/N(QCA96)/XN/XN(QCA97)

Software generic—X08, X37, X11 release 4

Purpose—The Changeover and Memory Arbitrator (CMA) card controls CPU access to the duplicated memory systems, automatically disables faulty memory cards, and controls CPU changeover. The CMA switches from one CPU to the other in the event of a CPU fault. Superseded in Generic X11 release 5 by QPC556.

Quantity—Two are required (one per CPU/memory configuration)

QPC215 Segmented Bus Extender Card

System hardware—All except option 21/51/61

Software generic—All

Purpose—The Segmented Bus Extender (SBE) extends CPU address, data, and control signals between the CPU and a single network shelf (half-group) or SL-1 MS or S optional CE shelf via cables connected to the faceplate. Switches on the card are set to address the shelf to which it is connected.

For option 71, it extends the CPU bus signals to the Network module and allows recovery of calls by isolating bus faults to a single network group.

Note: Use C or later vintage.

Quantity—Depends on system requirements; refer to *Meridian 1 system engineering* (553-3001-151). One card is required in each CPU shelf to connect to each half of a network group. For a full network group Meridian SL-1 N, use QPC496.

For option 71, one circuit card is required in each CPU per network group, with a maximum of five per CPU.

QPC251 Tone and Digit Switch (CAS)

System hardware—All

Software generic—X11, X37 (The QPC609 can be installed instead of the QPC251 for generic X11.)

Purpose—This TDS must be used at a remote Meridian SL-1 private branch exchange (PBX) arranged for the Centralized Attendant Service (CAS) feature. The TDS provides all tones, tone ringing, digit outpulsing, and Digitone outpulsing for the system. In addition, tones are sent to the CAS attendant at the main PBX to identify the type of call being presented.

(The QPC609 can be installed instead of the QPC251 TDS for generic X11.)

Quantity—One TDS card is required in every network shelf of a remote PBX arranged for CAS.

QPC25X/26X Flexible Tone and Digit Switches

System hardware—All

Software generic—X08, X37, X11 with supplementary features

Purpose—The Flexible Tone and Digit Switch cards provide specific tones and cadences required in various applications, as programmed by the manufacturer. For descriptions of available flexible TDS cards, refer to *Flexible Tone and Digit Switch cards description* (553-2711-180).

Quantity—One TDS card per network shelf

QPC268 Control, Interface, and Memory

System hardware—XN/XN(QCA97)

Software generic—All

Purpose—Control, interface and memory (CIM) circuitry provides read-only memory (ROM) and real-time clock (RTC) for the CPU.

Quantity—One circuit card for each CPU

QPC280 Conference

System hardware—MS/N(QCA96)/XN(QCA97)

Software generic—X08, X37 (also Generic X11 on SL-1 MS)

Purpose—Same as QPC53 for Meridian SL-1 using A-Law.

Quantity—One for each conference loop

QPC301 CDR ROM

System hardware—Multi-port CDR systems

Software generic—All

Purpose—Read-only memory (ROM). Used with multi-port CDR systems. Refer to 553-2631-110.

Quantity—One circuit card for each CPU.

QPC362 Conference/Network

System hardware—MS/N(QCA96)/S/SN/XN(QCA97)

Software generic—X08, X37 (also X11 with MS and S)

Purpose—This card combines the function of a QPC53 conference card and a QPC50 network card (µ-Law applications).

Quantity—One circuit card for each required conference loop

QPC363 Conference/Network

Purpose—Same as QPC362 for Meridian SL-1 using A-law.

QPC376 Dual Network

System hardware—MS/N(QCA96)/S/XN(QCA97)/S

Software generic—X08, X37 (also X11 with MS and S)

Purpose—This card combines two complete network circuits on a single card. The QPC376 has two faceplate connectors to accommodate the two network circuits.

Quantity—Depends on system size. Refer to 553-2YY1-210

QPC377 Conference (Warning Tone)

System hardware—MS/N(QCA96)/S/XN(QCA97)/SN

Software generic—All

Purpose—Same as QPC363 with the addition of a warning tone to indicate to all parties that an established connection is actually a conference call. Used in A-Law Meridian SL-1.

The warning tone can be disabled by changing the position of a jumper plug on the circuit card.

QPC379 Conference (Warning Tone)

Purpose—Same as QPC377 for Meridian SL-1 using µ-Law.

QPC411 System Clock Generator

System hardware—XNXT

Software generic—X11 and X08

Purpose—Provides system clock for the XT network equipment.

Quantity—Two per system

QPC412 InterGroup Switch Card

System hardware—option 71/81/81C and system XN/XT

Software generic—X11 and X08

Purpose—Provides space switching between network groups in multigroup systems.

Quantity—Two per NT8D35 Network Module or NT5D21 Core/Network Module (use vintage C if two or more groups are installed)

QPC414 Network Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C and system N/XN/NT/XT

Software generic—X11 and X08

Purpose—Provides 30 traffic timeslots for every network loop. Provides speech path switching, signaling, and control circuits for two network loops. Interfaces between network and NT8D13 PE, NT8D47 RPE, Meridian Mail Modules, and PRI and DTI cards.

For N, XN, NT, and XT, provides speech path switching, signaling, and control circuits for two multiplex loops.

Quantity—As required; see *Meridian 1 system engineering* (553-3001-151)

QPC417 Junctor Board

System hardware—option 71/81/81C and system XN/XT

Software generic—X11 and X08

Purpose—Provides space switching paths between network groups in multigroup systems for up to five groups.

Quantity—One per system

QPC423 Memory (Error Correction) Card

System hardware—MS/S (Manufacture discontinued; replaced by QPC674)

Software generic—All

Purpose—Provides 192 K of RAM with error correction.

Quantity—Maximum two per system

QPC424 Central Processing Unit

System hardware—N/N(QCA96)

Software generic—All

Purpose—CPU providing arithmetic/logical functions and instruction decoding/system hardware code timing. Requires a daughterboard ROM (e.g., QPC485, QPC487, or QPC488).

Quantity—Two per system

Status—Retired

QPC425 Central Processing Unit

System hardware—MS/S/SN

Software generic—All

Purpose—Central processing unit providing arithmetic/logical functions and instruction decoding/system hardware code timing. Requires a daughterboard ROM (e.g., QPC484 or QPC486). Also provides an SDI port accessible via the faceplate.

Quantity—One per system

QPC426 Memory Card

System hardware—N/N(QCA96)/XN/XN(QCA97) (replaced by QPC672)

Software generic—All

Purpose—Provides 192 K of RAM.

Quantity—Maximum two per CPU in N/N(QCA96) and four in XN/XN(QCA97).

QPC441 Three-Port Extender Card

System hardware—option 51/51C/61/61C/71/81/81C and system N/N(QCA96)/XN/XN(QCA97)

Software generic—X11 and X08 for N/XN, X37 for N(QCA96)/XN(QCA97)

> ***Note:*** Replace QPC441 vintages for systems with X11 release 18 and higher software as follows: A or B with B1, C with D, E (series A) with E (series B), E1 (series A) with E1 (series B), or with F.

Purpose—The 3PE card extends CPU data, address, and control signals to network loops:

— In option 71, 3PE cards interface with QPC215 Segmented Bus Extender Cards.

— In options 51C, 61C, 81, and 81C, 3PE cards interface with NT6D65 Core to Network Interface Cards.

— Minimum vintage F is required for the 3PE cards in NT6D60 Core and NT9D11 Core/Net Modules.

— For option 81C systems, vintage F or later is required in all modules (i.e., Core/Net and Network).

> ***Note:*** Port 0 on the 3PE card in each Core and Core/Network Module extends the interprocessor bus to the interface section on the backplane, not to a network loop.

Quantity—One per NT6D39 CPU/Network, NT6D60 Core, NT9D11 and NT5D21 Core/Network, or NT8D35 Network Module

QPC443 Control and Timing Card

System hardware—XN

Software generic—X11

Purpose—The Control and Timing (CT) card provides read only memory (ROM) and System hardware code timing signals for the CPU. Superseded by the QPC552.

Quantity—One circuit card per CPU

QPC444 Conference Card

System hardware—N/XN/NT/XT/ST

Software generic—X11

Purpose—Provides µ-Law conference. Controls up to ten simultaneous conferences, providing the total number of conferees does not exceed 30.

QPC445 Conference Card

System hardware—N/XN/ST

Software generic—X11 and X08

Purpose—Provides A-Law conference. Controls up to ten simultaneous conferences, providing the total number of conferees does not exceed 30. Manufacture discontinued. Replaced by the QPC447.

QPC446 Conference Card

System hardware—N/XN/NT/ST/XT

Software generic—X11

Purpose—Provides µ-Law conference with warning tone. Controls up to ten simultaneous conferences, providing the total number of conferees does not exceed 30.

QPC447 Conference Card

System hardware—N/ST/XN

Software generic—X11 and X08

Purpose—Provides A-Law conference with warning tone. Controls up to ten simultaneous conferences, providing the total number of conferees does not exceed 30.

QPC471 Clock Controller Card

System hardware—All

Software generic—X11 release 5 and later for systems N/XN; X11 release 8 and later for systems NT/ST/XT; X08 release 10 or later for systems N/SN/XN

Purpose—Used in options 71, 81, and 81C to synchronize the Meridian 1 network to an external source clock and to generate and distribute clock to the Meridian 1 system. Also used with PRI and DTI in all options. In option 51C, used only when equipped with PRI or DTI.

> ***Note:*** Without ISDN applications, minimum vintage C is required. With ISDN applications and X11 release 16 or later software, minimum vintage G is required. With options 51C, 61C, 81, and 81C, minimum vintage H is required.

Quantity—Two for options 61C/71/81/81C; one for option 51C; one per CPU in other systems if they are equipped with PRI or DTI

QPC472 Digital Trunk Interface or Computer PBX Interface

System hardware—For DTI: MS/N/XN/NT/XT/ST;
for CPI: LE/VLE/XL/M/N/XN/NT/XT/ST

Software generic—X11 release 5 and later for all these machines except NT and XT; X11 release 8 and later for NT and XT; X11 release 9 and later for ST

Purpose—

— The DTI interfaces the Meridian SL-1 to digital transmission lines. The DTI supports both DTMF and dial pulse address signaling.

— With CPI (as an interface with a circuit card in both Meridian SL-1 and in the host computer), 24 or more terminals or personal computers gain access to the host computer but require only one port on the computer for connection.

QPC477 Bus Terminating Unit

System hardware—option 51/61/61C(NT9D11)/71/81 and systems N/N(QCA96)/NT/XN/XN(QCA97)/XT

Software generic—All

Purpose—BTUs are paddleboards installed in dedicated slots between circuit cards in common equipment modules. They provide a logical termination to the CPU and network buses.

> ***Note:*** QPC477A9 and QPC477B10 are replaced by hybrid bus terminators in the NT5D21 Core/Network Module and the NT8D35BA/NT8D35EA Network Modules. Hybrid terminators are an integral part of the backplane and are not field replaceable. Modules and their card slots are listed as follows except for the NT6D39 CPU/Network Module.

Bus terminating units (BTU) are required to correctly terminate CE buses.

The following vintages are required for the shelves listed:

QPC477-1	One required for CPU 1 on QSP41 CPU/Memory shelf
QPC477-2	One required for each CPU on QSP41 CPU/Memory shelf
QPC477-4	One required for CPU 0 on QSP41 CPU/Memory shelf
QPC477-5	One required for memory 1 on QSP40 Memory shelf
QPC477-6	One required for memory 0 and one for memory 1 on QSP40 Memory shelf
QPC477-8	One required for memory 0 on QSP40 Memory shelf
QPC477-9/10	One required for each QSD39 and QSD40 Network shelf
QPC477-12	One required for QSD39 Network shelf in Meridian SL-1 N half-group configuration (used in place of QPC477-10)
QPC477-13	One required for each QSD55 Network shelf
QPC477-14	One required for QSD54 and QSD55 Network Shelf used in XN (QCA97)
QPC477-15/16	One required for QSD55 Multigroup Switch shelf used in XN (QCA97)
QPC477-17	One required for each QSD54 and QSD55 Network shelf used in N (QCA96)
QPC477-18	One required for the QSD54 Multigroup Switch shelf used in XN (QCA97)
QPC477-19	One required for the QSD55 Multigroup Switch shelf used in XN (QCA97)
QPC477-20	One required for the QSD61 or QSD62 shelves used in XT
QPC477-21	One required for the QSD61 or QSD62 shelves used in XT
QPC477-22	Two required for the QSD59 or QSD60 shelves used in NT

QPC477-23 Three required for the QSD74 Shelf and used in the QCA146 cabinet

QPC477-24 Three required for the QSD74 Shelf and used in either QCA136 or QCA141 CE cabinet

For options 51, 61, and 71, BTUs are installed in the CE modules. They provide a logical termination to the CPU and network buses.

Quantity—One required per module:

— QPC477A9
NT6D39 CPU/Network Module, between slots 2 and 3
NT6D60 Core Module, between slots 4 and 5
NT8D35 Network Module, between slots 11 and 12
NT9D11 Core/Network Module, between slots 0 and 1

— QPC477A10 (replaced by QPC477B10)
NT6D39 CPU/Network Module, between slots 1 and 2
NT8D35 Network Module, between slots 12 and 13

— QPC477A20
NT8D34 CPU Module with CPU 0, between slots 13 and 14

— QPC477A21
NT8D34 CPU Module with CPU 1, between slots 13 and 14

— QPC477A22
NT6D39 CPU/Network Module, between slots 12 and 13

— QPC477B10 (replaces QPC477A10)
NT6D39 CPU/Network Module, between slots 1 and 2
NT6D60 Core Module, between slots 5 and 6
NT8D35 Network Module, between slots 12 and 13
NT9D11 Core/Network Module, between slots 1 and 2

Note: QPC477B10 must be used in NT6D60 Core and NT9D11 Core/Network modules. However, in NT8D35 Network modules the QPC477A10 and QPC477B10 BTUs can be mixed within a system.

QPC478 Memory (Error Correction) Card

System hardware—MS/S (manufacture discontinued; replaced by QPC674)

Software generic—All

Purpose—Provides 128 K of RAM with error correction.

Quantity—Maximum two per system

QPC479 Memory Card

System hardware—N, N QCA96), XN and XN (QCA97) (manufacture discontinued; replaced by QPC672)

Software generic—All

Purpose—Provides 128 K of RAM.

Quantity—Maximum two per CPU (not used in N half-group system)

QPC480 Control and Timing Card

System hardware—XN(QCA97)

Software generic—X37 eelease 3 and later

Purpose—The CT provides ROM and the system hardware code timing signals for the CPU.

Quantity—One circuit card per CPU

QPC484 Read-Only Memory

System hardware—MS/S

Software generic—X08

Purpose—Daughterboard ROM for the QPC425 CPU when used with Generic X08.

Quantity—One per CPU

QPC485 Read-Only Memory

System hardware—N(QCA96)

Software generic—X08

Purpose—Daughterboard ROM for the QPC424 CPU when used with Generic X08.

Quantity—One per CPU

QPC486 Read-Only Memory

System hardware—MS/S

Software generic—X11, X37

Purpose—Daughterboard ROM for the QPC425 CPU when used with Generics X11 and X37.

Quantity—One per CPU

QPC487 Read-Only Memory

System hardware—N

Software generic—X11

Purpose—Daughterboard ROM for the QPC424 CPU when used with Generic X11.

Quantity—One per CPU

QPC488 Read-Only Memory

System hardware—N(QCA96)

Software generic—X37

Purpose—Daughterboard ROM for the QPC424 CPU when used with Generic X37.

Quantity—One per CPU

QPC496 Bus Extender

System hardware—N/N(QCA96)/NT

Software generic—X11 and X08 for N and NT;
X37 for N (QCA96)

Purpose—Provides passive extension of CE bus to network equipment. In half-group Meridian SL-1 N and NT, use QPC215.

Quantity—One per CPU/memory shelf

QPC498 Control and Timing Card

System hardware—XN(QCA97)

Software generic—X08

Purpose—Control and Timing (CT) card provides ROM and the system hardware code timing signals for the CPU.

Quantity—One circuit card per CPU

QPC503 CE Backplane

System hardware—S

Purpose—The CE backplane provides intrashelf connections for the main and optional common equipment shelves.

Quantity—One per CE shelf

Status—Retired

QPC513 Enhanced Serial Data Interface Card

System hardware—All

Purpose—Provides two synchronous serial data interface ports that can be configured for data communications at rates of up to 64 kbps.

> ***Note:*** Use minimum vintage D with Meridian Mail options and other application links.

Quantity—As required per application

QPC536 Digital Trunk Interface

System hardware—MS/N/NT/XN/XT/SN

Software generic—X08 release 10 and later for MS/N/XN/SN; X08 release 11 and later for NT/XT

Purpose—The 2.048 Mbp/s DTI prompts the capability of digital voice and data transmission between a Meridian SL-1 network loop and an external digital carrier terminal. Requires a QPC471 or QPC577 (meets CCITT specifications) Clock Controller to synchronize the Meridian SL-1 network to an external source clock and to generate and distribute clock pulses to the Meridian SL-1.

QPC552 Control and Timing Card

System hardware—XN

Software generic—X11 release 5 and later

Purpose—Control and Timing (CT) card provides ROM and the system hardware code timing signals for the CPU. Supersedes QPC443.

Quantity—One circuit card per CPU

QPC553 Function Card

System hardware—XN

Software generic—X11 release 5 and later, and X08

Purpose—Contains the Arithmetic Logic Unit (ALU), fast-stack, and base registers and associated logic for the CPU in the SL-1 XN. Supersedes the QPA57.

Quantity—One per CPU

QPC554 Interface Card

System hardware—XN

Software generic—X11 release 5 and later, and X08

Purpose—Contains the logic required to interface the Meridian SL-1 XN CPU with the external address bus and detects, identifies, and isolates bus faults. Supersedes the QPA58.

Quantity—One per CPU

QPC555 Miscellaneous Card

System hardware—XN

Software generic—X11 release 5 and later, and X08

Purpose—Has a RESET LED, MAN INT (manual initialize) button, RUN/HALT switch, and three-character maintenance display on its faceplate and provides miscellaneous data storage registers for the Meridian SL-1 XN CPU. Supersedes the QPA59.

Quantity—One per CPU

QPC556 Changeover and Memory Arbitrator

System hardware—XN

Software generic—X11 release 5 and later, and X08

Purpose—The Changeover and Memory Arbitrator (CMA) card controls CPU access to the duplicated memory systems, automatically disables faulty memory cards and controls CPU changeover. The CMA switches from one CPU to the other in the event of a CPU fault. Supersedes the QPC213.

Quantity—Two per system (one per CPU/memory configuration)

QPC573 Control and Timing Card

System hardware—LE

Software generic—X11 release 8 and later

Purpose—Replaces QPC300 when PTE applications are used with Generic X11 release 8 and later.

Quantity—One per CPU

Status—Retired

QPC579 CPU Function Card

System hardware—option 51/61/71 and system NT/XT

Software generic—X11 release 8 and later; X08 release 11 and later

Purpose—Contains the main CPU logic circuitry and works in conjunction with the QPC580 CPU Interface Card. The CPU provides a 24-bit data bus. A ROM daughterboard mounts on the CPU function card.

Quantity—One per CPU module

QPC580 CPU Interface Card

System hardware—option 51/61/71 and system NT/XT

Software generic—X11 release 8 and later; X08 release 11 and later

Purpose—Contains the logic required to interface the CPU with the external address bus and detects, identifies, and isolates bus faults. Works in conjunction with the QPC579 CPU Function Card.

Quantity—One per CPU module

QPC581 Changeover and Memory Arbitrator Card

System hardware—option 51/61/71 and system NT/XT

Software generic—X11 release 8 and later; X08 release 11 and later

Purpose—The CMA card controls CPU access to the duplicated memory in dual-CPU systems, automatically disables faulty memory cards, and controls CPU changeover. If a fault occurs on an active CPU, whenever possible the CMA automatically transfers the function to the appropriate circuit cards on the other CPU without a loss of service.

Quantity—One per CPU/memory configuration

QPC583 768 K Memory Card

System hardware—option 51/61/71and system NT/XT

Software generic—X11 release 8 and later; X08 release 11 and later

Purpose—Provides 768 Kword (24-bit), which equals 2.3 MB, of RAM.

Quantity—One per CPU for option 51/61; two maximum per CPU for option 71; one per CPU for NT; and three per CPU for XT

QPC584 Mass Storage Interface Card

System hardware—option 51/61/71 and all SL-1 systems except ST

Software generic—X11 release 8 and later; X08 release 11 and later

Purpose—Interface between the MDU and the CPUs. Provides address matching, disk drive control, data buffering, and interrupt control circuits. Superseded in Generic X11 release 9 by QPC742 for S and ST systems. Vintage D or later is required for conversion from X11 release 10 to release 12. The QMM42 Security Data Cartridge mounts on this card.

> ***Note:*** With release 15 and 16, minimum vintage D is required. With release 17, minimum vintage F4 or K is required. With release 18, minimum vintage L is required.

Quantity—One per CPU

QPC599 Control and Timing Card

System hardware—X

Software generic—X11 release 8 and later

Purpose—Replaces the QPC557 board for PTE applications.

Quantity—One per CPU

QPC600 Control and Timing Card

System hardware—XN

Software generic—X11 release 8 and later

Purpose—The Control and Timing (CT) card provides read-only memory (ROM) and system hardware code timing signals for the CPU. Supersedes QPC443 for Meridian Mail applications.

Quantity—One per CPU

Status—Retired

QPC601 Control and Timing Card

System hardware—XN (with memory enhancement)

Software generic—X11 release 8 and later

Purpose—The Control and Timing (CT) card provides read only memory (ROM) and system hardware code timing signals for the CPU. Supersedes QPC552 for Meridian Mail applications.

Quantity—One circuit card per CPU

Status—Retired

QPC602 Read-Only Memory

System hardware—NT/XT

Software generic—X11 release 8 and later

Purpose—Daughterboard ROM for the QPC579 CPU when used with Generic X11 release 8 and later.

Quantity—One per CPU

QPC603 Control and Timing Card

System hardware—XN

Software generic—X08 release 9 and later

Purpose—Provides ROM and the system hardware code timing signals for the CPU.

Quantity—One per CPU

Status—Retired

QPC605–QPC608 Announcement Tone and Digit Switch

System hardware—All

Software generic—X08, X37, X11

Purpose—Provides specific tones, cadences, and announcements that are required in various applications as programmed by the manufacturer.

Quantity—One required for each network shelf

QPC609 Tone and Digit Switch

System hardware—All (for TDS application) and MS/S/N/SN/XN (for ATDS application)

Software generic—X11 release 7 and later (for TDS) and X08 (for ATDS)

Purpose—As a TDS it provides all tones and digit outpulsing (dial pulse and DTMF) required by µ-Law systems. It is the same as the QPC197 TDS except that it has faster DTMF outpulsing (up to ten digits per second using 50 ms bursts of DTMF or up to five digits per second using 100 ms bursts of DTMF).

The QPC609 can be used for Centralized Attendant Service (CAS) instead of the QPC251 for Generic X11.

Quantity—One TDS/ATDS card required for each network shelf

QPC611 Announcement Tone and Digit Switch with CAS

System hardware—All

Software generic—X37 and X11

Purpose—Provides specific tones, cadences, and announcements, plus Centralized Attendant Service (CAS), that are required in various applications as programmed by the manufacturer.

The QPC611 replaces the QPC608 in Australia, except in systems running Generic X08. The QPC608 cannot be intermixed with QPC611 in the same system hardware.

Quantity—One ATDS required for each network shelf

QPC662 Read-Only Memory

System hardware—MS

Software generic—X11 release 8 and later

Purpose—Replaces daughterboard ROM QPC486 on the QPC425 CPU when used for Meridian Mail applications with Generic X11 release 8.

Quantity—One per CPU

QPC672 512K Memory Card

System hardware—LE/VLE/XL (for six-page operations, N/XN)

Software generic—All

Purpose—Provides 512 K of RAM. Replaces QPC426 (194K) and QPC479 (128K) memory cards in N and XN. Replaces QPC51 (64K) Memory card and QPC214 Memory Controller in LE, VLE, and XL.

Quantity—One per CPU

Status—Retired

QPC673 512K Memory (Error Correction) Card

System hardware—MS/S/XT/SN/ST

Software generic—X11 release 9 and later for ST

Purpose—Provides 512 K of RAM with error correction for single-memory Meridian SL-1.

Quantity—One per system or CPU

Status—Retired

QPC674 256K Memory (Error Correction) Card

System hardware—S/SN/MS

Software generic—All

Purpose—Provides 256 K of RAM with error correction. Replaces QPC423 (192 K of RAM) and QPC478 (128 K of RAM).

Quantity—Maximum one per system

Status—Retired

QPC687 CPU with SDI/DTC/ROM

System hardware—option 21A/21 and system ST

Software generic—X11 release 9 or later

Purpose—Provides arithmetic/logic functions and insertion decoding System hardware code, as well as ROM.

Quantity—One per system

Status—Retired

QPC687 CPU Card

System hardware—option 21A/21 and system ST

Software generic—X11 release 9 or later

Purpose—This is a stand-alone CPU card with error correction, a real-time clock, and one SDI port.

Note: Minimum vintage B is required.

Quantity—One per system

QPC698 CE Backplane

System hardware—SN

Software generic—All

Purpose—Accommodates 13 CE cards (including eight Dual Network cards, one or several Conference cards, and one SDI card).

Quantity—One per CE system (and comes with the QCA141 cabinet)

QPC699 CE Backplane

System hardware—S

Software generic—All

Purpose—Provides intrashelf connections for the main and optional equipment shelves.

Quantity—One per system; also used in the QSD73 shelf

QPC700 CE Backplane

System hardware—ST

Software generic—X11

Purpose—Accommodates 13 CE cards (including eight Enhanced Network cards, one or several Conference cards, and one SDI card).

Quantity—One per system (and comes with the QCA136 cabinet)

Status—Retired

QPC709 Miscellaneous and Peripheral Signaling

System hardware—ST

Software generic—X11 release 9 and higher

Purpose—

— contains various registers for the holding of address and data information

— provides a signaling interface between the CPU bus and the serial PE bit stream

— generates and distributes timing signals for synchronous PCM transmission throughout the system

Quantity—One per CPU

Status—Retired

QPC717 Read-Only Memory

System hardware—ST

Software generic—X11 release 9 and 10

Purpose—Daughterboard ROM for the QPC687 CPU when used with Generic X11.

Quantity—One per CPU

QPC720 Primary Rate Interface Card

System hardware—All

Purpose—The ISDN PRI card allows 64 kbps clear 23-channel operation with a single 64 kbps common signaling channel. It is used in conjunction with the QPC757 DCHI Card to provide Primary Rate Access (PRA). The PRI circuit card provides the physical DS-1 interface and is also used for DTI applications.

Quantity—One per PRA or DTI link

QPC742 Floppy Disk Interface Card

System hardware—option 21A/21/21E/51/61/71 and system S/ST

Software generic—X11 release 8 or later

Purpose—Interface between the FDU and CPU. Provides power to the FDU and address matching, disk drive control, data buffering, and interrupt control circuits.

Note: With X11 release 18, minimum vintage F is required.

Quantity—One per CPU

QPC755 Network Extender

System hardware—SN/ST

Software generic—X11 release 9 and later

Purpose—Extends network loops to the RPE hardware.

Quantity—One for each QSD69 shelf to connect with a maximum of two network loops in the RPE hardware

QPC756 RPE Backplane

System hardware—SN/ST (used on 1.5 Mbps RPE)

Software generic—X11 release 9 and later

Purpose—Provides intrashelf connections for the main RPE shelf. It accommodates a peripheral buffer card, ten PE line cards, and the associated power equipment.

Quantity—One for each QSD69 shelf to connect with a maximum of two network loops in the RPE hardware

QPC757 D-channel Handler Interface Card

System hardware—All

Software generic—X11 release 11 or later

Purpose—The DCHI card processes the LAPD protocol for ISDN primary rate signaling channel and ISDN Signaling Link (ISL). It also provides a single asynchronous serial data interface (SDI) port.

Quantity—One per 16 PRI links to the same location (eight DCHI cards maximum per system)

QPC775 Clock Controller

System hardware—MS/N(QCA58)/XN(QCA55)/NT/ST/SN/XT

Software generic—X11 release 5 and later for N and XN; X11 release 8 and later for ST, NT, and XT; X11 release 10 and later for SN and MS; X08 release 11 and later for NT and XT

Purpose—The Clock Controller (CC) is used with the Digital Trunk Interface feature to synchronize the Meridian SL-1 network to an external source clock and to generate and distribute clock to the Meridian SL-1. Works in both 1.5 and 2.0 MB applications, meets CCITT specifications, and supersedes QPC471.

The QPC775 can also be used to replace the QPC411 (System Clock Generator); but it cannot be used in conjunction with either the QPC471 or the QPC411. All cards in the system must be of the same type.

The QPC775E vintage Clock Controller circuit card permits basic rate trunk connections from the Meridian 1 to the European Public Network to maintain a more consistent clock.

QPC782 Read-Only Memory

System hardware—N

Software generic—X11 release 10

Purpose—Daughterboard ROM for the QPC424 CPU when used with Generic X11 release 10.

Quantity—One per CPU

QPC814 Memory

System hardware—ST

Software generic—X11 release 9 and later

Purpose—Provides 768 K of RAM. However, if it is used prior to X11 release 12, only 320 K of the 768K memory is addressable.

Quantity—One per system

Status—Retired

QPC841 Four-Port Serial Data Interface Card

System hardware—All

Software generic—X11, X37

Purpose—Provides four serial ports between the system processor and an external device. Each port supports:

— RS-232-C interface

— 8-bit ASCII data with parity and stop bit

— asynchronous, start-stop operation

— data rates of 300, 600, 1200, 2400, 4800, and 9600 baud

— DTE mode

— DCE mode

Quantity—Up to four per system

QPC915 Digital Trunk Interface Card

Purpose—Same as QPC536 for Meridian SL-1 except for changes in transmission requirements for France.

QPC939 ROM Card

System hardware—option 51/61/71 (X11 release 15–17)

Purpose—ROM daughterboard on the QPC579 CPU Function Card.

Quantity—One per CPU

QPC940 ROM Card

System hardware—option 21A/21 (X11 release 15–17)

Purpose—ROM daughterboard on the QPC687 CPU Card.

Quantity—One per CPU

QPC948 Read-Only Memory

System hardware—ST

Purpose—Read-only memory (ROM) daughterboard on the QPC687 CPU for X11 supplementary features.

Quantity—One per CPU

QPC949 Read-Only Memory

System hardware—NT/XT

Purpose—Read-only memory (ROM) daughterboard on the QPC579 CPU for X11 supplementary features.

Quantity—One per CPU

Peripheral equipment cards

NT1P62 Fibre Peripheral Controller Card

System hardware—Fibre Remote IPE floor-standing module and wall-mounted cabinet.

Purpose—Provides a primary interface and control function between the NT1P61 Fibre Superloop Network Card in Meridian 1 and the IPE module at the Fibre Remote IPE site. Each controller card serves up to 16 IPE cards. The controller card is equipped with a Motorola 68000-type microprocessor that performs some local call processing and maintenance diagnostics.

Quantity—One per NT8D37 IPE Module

NT1R20 OPS Analog Line Card

System hardware—option 21E/51/51C/61/61C/71/81/81C (minimum X11 release 18)

Purpose—The Off-Premises Station Analog Line card provides eight full duplex interfaces used to connect off-premises terminals to the Meridian 1 system. Each interface provides lightning protectors for external line connection to the station.

The NT1R20BA OPS Analog Line Card provides:

— line supervision

— hookflash

— battery reversal

Quantity—Up to 15 per IPE module. It can also be installed in the CE/PE module PE slots.

NT5D11AA Line side T1 Line Card

System hardware—option 21E/51/51C/61/61C/71/81/81C

Purpose—An intelligent IPE line card that provides an all-digital connection between T1-compatible terminal equipment. Supports supervisory features and has access to 2500-type functionality. Use only on terminal equipment that has a T1 interface and line side feature capability.

Quantity—Up to fifteen per IPE module.

NT5D14AA Line side T1 Line Card

System hardware—All (Meridian systems: in small Remote Fiber IPE cabinets)

Purpose—An intelligent IPE line card that provides an all-digital connection between T1-compatible terminal equipment. Supports supervisory features and has access to 2500-type functionality. Use only on terminal equipment that has a T1 interface and line side feature capability.

Quantity—Up to ten in the small Remote IPE main cabinet; up to six additional in small Remote IPE expansion cabinet.

NT5D51 Meridian Integrated Conference Bridge (MICB)

System hardware—option 11E/11C/21/21E/51/51C/61/61C/71/81/81C and systems NT and XT upgraded to support IPE cards. Systems with X11 release 22 or higher support 32 ports per MICB card, while systems with X11 release 19 through 21 support only 16 ports per MICB card.

Purpose—The NT5D51 Meridian Integrated Conference Bridge (MICB) card provides up to 32 ports supporting bridge and conference scheduling for up to ten simultaneous conferences. For a single MICB card with 32 ports, there can be a maximum of ten simultaneous conferences with three or four participants in each conference, one conference with a maximum of 32 participants, or any combination in between. A customer can purchase a single MICB card with either a 12 port, 16 port, 24 port, or 32 port package.

Each MICB port is configured as a M2616 digital telephone set. The Meridian 1 system ACD function routes the incoming calls to an MICB card, where each MICB port is treated as an ACD agent. All ports on an MICB card belong to the same ACD queue and are treated as a pool of ports with equal status.

The MICB supports one chairperson per conference who can control conference activities by executing commands on his or her telephone set, such as dialing out to a new party outside of the conference, dropping all participants, and locking or unlocking the conference to prevent or allow new participants in the conference

The original MICB card (NT5D51AA) provides a command line interface (CLI) for scheduling and managing conferences as well as performing certain administrative and maintenance functions. The user accesses the CLI through a VT-100 terminal that is connected directly to the card, or through a terminal-emulating PC that is connected to the customer's LAN.

The MICB Release 2.0 card (NT5D51AB) provides both a browser user interface (BUI) and a telephone user interface (TUI) for scheduling and managing conferences; the CLI is still used for certain adminstrative and maintenance functions. The user accesses the BUI via a web browser and the LAN. The user access the TUI through any DTMF telephone.

Two MICB Release 2.0 cards (NT5D51AB) can be linked in a dual-card configuration to allow up to 62 participants in a single conference. In the dual-card configuration, one card acts as the primary card and the other acts as the secondary card. Two ports from the primary MICB card are used to transfer calls and open a talk path to the secondary card and are thus unavailable to host conference participants. The dual-card configuration can come in a 42 port, 50 port, or 62 port package.

For more information on the NT5D51 Meridian Integrated Conference Bridge card, please refer to *Meridian Integrated Conference Bridge Description, installation, administration, and maintenance* (553-3001-102).

NT5D60AA CLASS Modem Card (XCMC)

System hardware—All systems equipped with a Meridian 1 IPE shelf and X11 release 23 or later.

Purpose—The NT5D60AA CLASS Modem card is introduced in X11 release 23 to support the Custom Local Area Signaling Services (CLASS) feature. The CLASS Modem card receives Calling Number and Calling Name Delivery (CND) data and time/date data from an NT8D01 Controller card and transmits it to a line port, such as a port on an Analog Line card, which delivers the CND data to a CLASS telephone set when presenting the set with a new call.

The CLASS Modem card is designed to plug into any one of the peripheral card slots of the IPE module. Supports up to 32 transmit-only modem resources using a DS30X interface. Up to 255 modems are may be configured per system.

For information about the CLASS: Calling Number and Name Delivery feature, please refer to the *X11 software features guide*. For administration and maintenance commands, see the *X11 input/output guide*.

Uses +5v power supplied by the power converter in the IPE shelf.

Quantity—One per IPE shelf.

NT5G11 Meridian Integrated Call Assistant (MICA) Card

System hardware—option 21E/51/51C/61/61C/71/81/81C, SL-1 systems, NT, and XT upgraded to support IPE cards and Option 11E, 11C.

Purpose—Provides Intelligent Peripheral Equipment (IPE) that automatically answers incoming calls. Based on caller input and other information, the MICA card routes callers to their desired destination. MICA can be configured in several ways, from basic, menu-driven call handling to complex Automatic Caller Distribution (ACD) applications.

Systems with X11 Release 22 or higher support 32 MICA ports, while systems with X11 Release 19 through 21 support only 16 ports.

Quantity—One to eight Meridian Integrated Call Assistant Cards (MICA) per IPE module, and one to six per option 11C.

NT5K02 Flexible Analog Line Card

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—Provides interface to up to 16 analog telephone sets (500/2500-type) equipped with either ground button recall switches, high-voltage Message Waiting lamps, or low-voltage Message Waiting LEDs. It performs several functions, some of which are:

— flexible transmission

— ground button operation

— low-voltage Message Waiting option

— card self-ID for auto-configuration

Application

— NT5K02AA high-voltage Message Waiting, analog line card typically used in Australia

— NT5K02DA ground button, low-voltage Message Waiting, analog line card typically used in France (see following description)

— NT5K02EA ground button, low-voltage Message Waiting, analog line card typically used in Germany

— NT5K02FA ground button, low-voltage Message Waiting, analog line card with 600¾ termination (A/D –4 dB, D/A–1 dB)

— NT5K02GA same as NT5K02FA with a different loss plan (A/D –4 dB, D/A –3 dB)

— NT5K02HA ground button, low-voltage Message Waiting, analog line card typically used in Belgium

— NT5K02JA low-voltage Message Waiting, analog line card typically used in Denmark (see following description)

— NT5K02KA ground button, low-voltage Message Waiting, analog line card typically used in Netherlands (see following description)

— NT5K02LA & LB analog line card typically used in New Zealand (see following description)

— NT5K02MA ground button, low-voltage Message Waiting, analog line card typically used in Norway (see following description)

— NT5K02NA ground button, low-voltage message Waiting, analog line card typically used in Sweden

— NT5K02PA ground button, low-voltage Message Waiting, analog line card typically used in Switzerland

— NT5K02QA ground button, low-voltage Message Waiting, analog line card typically used in United Kingdom

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K02AB Flexible Analog Line Card (Australia)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The NT5K02AB Flexible Analog Line Card with Message Waiting provides an interface for up to 16 analog (500/2500-type) telephone lines.

Application—The flexible analog line card can be installed in any PE slot that supports Intelligent peripheral equipment (IPE).

Features—The NT5K02AB Flexible Analog Line Card provides the following features:

— direct reporting of digits dialed (500 sets) by collecting 10 and 20 pps dial pulses

— telephone on hook and off hook detection

— relay for connecting an AC ringer

— automatic disconnection when the telephone set goes off hook

— flashing high-voltage 1 Hz Message Waiting signal

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K02DA Flexible Analog Line Card (France)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The flexible analog line card provides an interface for up to 16 analog (500/2500-type) telephone lines.

Application—The NT5K02DA can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The flexible analog line card provides the following features:

— Message Waiting

— support of Digipulse or Digitone telephones

— telephone on hook and off hook detection based on loop current

— ground button detection

— relay for connecting an AC ringing signal

— collection of dial pulses (10 and 20 pps) from 500-type telephones

— analog to digital and digital to analog conversion for 16 analog telephone lines

— terminating impedance of French Complex Impedance

— software-selectable A-Law or µ-Law companding

— provision of line current to telephones (Line current is limited on short loops or under fault conditions. Otherwise, current varies according to loop length to allow automatic gain compensation.)

NT5K02JA Flexible Analog Line Card (Denmark)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The flexible analog line card provides an interface for up to 16 analog (500/2500-type) telephone lines. It provides the following:

— hookswitch flash detection

— ground button detection

— variable loop current to allow automatic gain compensation according to loop length

— a flashing low-voltage 1 Hz Message Waiting signal

Application—The NT5K02JA is used in Denmark. On Meridian 1 systems, the NT5K02JA can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K02KA Flexible Analog Line Card (Holland)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The flexible analog line card with Message Waiting provides an interface for up to 16 analog (500/2500-type) telephone lines. The NT5K02KA Flexible Analog line card provides the following features:

— Message Waiting indicator flashing at a rate of 1 Hz at the telephone set

— support of Digipulse or Digitone telephones

— telephone on hook and off hook detection based on loop current

— ground button detection

— relay for connecting an AC ringing signal

— collection of dial pulses (10 and 20 pps) from 500-type telephones

— analog to digital and digital to analog conversion for 16 analog telephone lines

— terminating impedance of 600 ohms

— software-selectable A-Law or µ-Law companding

— provision of line current to telephones (Line current is limited on short loops or under fault conditions. Otherwise, current varies according to loop length to allow automatic gain compensation.)

Application—The NT5K02KA is used in Holland. It can be installed in any PE slot that supports Intelligent Peripheral Equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K02LB Flexible Analog Line Card (New Zealand)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The NT5K02LB Flexible Analog Line Card with Message Waiting provides an interface for up to 16 analog (500/2500-type) telephone lines. It provides the following features:

— telephone on hook and off hook detection

— ground button detection

— relay for connecting an AC ringer

— variable loop current to allow automatic gain compensation according to loop length

— flashing high-voltage 1 Hz Message Waiting signal

Application—The NT5K02LB Is used in New Zealand. It can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K02MA Flexible Analog Line Card (Norway)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The flexible analog line card provides an interface for up to 16 analog (500/2500-type) telephone lines. It provides the following:

— hookswitch flash detection

— ground button detection

— variable loop current to allow automatic gain compensation according to loop length

— a flashing low-voltage 1 Hz Message Waiting signal

Application—The NT5K02MA is used in Norway. On Meridian 1 systems, the NT5K02MA can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K02NB Flexible Analog Line Card (Sweden)

System hardware—All

Purpose—The Flexible Analog Line Card provides an interface for up to 16 analog (500/2500-type) telephone lines.

Application—The NT5K02NB can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

There are two types of flexible analog line cards available for use in Sweden:

— the NT5K02NB line card with Message Waiting

— the NT5K96NB line card without Message Waiting

Both flexible analog line cards provide the following features:

— support of Digipulse or Digitone telephones

— telephone on hook and off hook detection based on loop current

— ground button detection

— relay for connecting an AC ringing signal

— collection of dial pulses (10 and 20 pps) from 500-type telephones

— analog to digital and digital to analog conversion for 16 analog telephone lines

— terminating impedance of 600 ohms

— software-selectable A-Law or µ-Law companding

— provision of line current to telephones (Line current is limited on short loops or under fault conditions. Otherwise, current varies according to loop length to allow automatic gain compensation.)

NT5K02SA Flexible Analog Line Card (Spain)

System hardware—All

Purpose—The NT5K02SA Flexible Analog Line Card provides an interface for up to 16 analog (500/2500-type) telephones lines.

Application—On Meridian 1 systems, the analog line card can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The flexible analog line card provides the following features:

— analog to digital and digital to analog conversion for 16 analog telephone lines

— software-selectable A-Law or µ-Law companding

— card-identification for auto-configuration

— software-downloadable loss plan

— on hook/off hook detection

— connection for an AC ringing signal

— automatic disconnection when the telephone set goes off hook

— ground button detection

— direct reporting of digits dialed (500 sets) by collecting dial pulses (10 and 20 pulses per second)

— limited line current to telephone sets on short loops and under fault conditions; otherwise, loop current varies to allow automatic gain compensation according to loop length

— flashing low-voltage 1 Hz Message Waiting signal

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K07 Universal Trunk Card (Hong Kong)

System hardware—All

Purpose—The NT5K07 Universal Trunk Card provides the interface between a trunk facility and either an NT8D37 Intelligent Peripheral Equipment (IPE) Module or an NT8D11 Common/Peripheral Equipment (CE/PE) Module.

Application—The Hong Kong universal trunk card has eight units that can be configured as:

— central office (CO), foreign exchange (FX), and wide area telephone service (WATS)

— direct inward dial (DID) and direct outward dial (DOD)

— tie two-way dial repeating (2DR) and two-way outgoing automatic incoming dial (OAID)

— Paging (PAG)

Note: All-call zone paging is not supported.

— Recorded Announcement (RAN)

The universal trunk card also supports Music, Automatic Wake Up, and Direct Inward System Access (DISA). It does not support Message Registration or periodic pulse metering (PPM).

Table 4 is a matrix of the trunk types and signaling supported by the universal trunk card.

Table 4
Supported trunk type and signaling matrix

	CO/FX/ WATS	DID/ DOD	Tie	PAG	RAN
Loop start	yes	no (see Note)	no	no	no
Ground start	yes	no	no	no	no
Loop dial repeating	no	yes	yes	no	no
Loop OAID	no	no	yes	no	no
Note: DID trunks are loop dial repeating (loop start); however, programming trunks as loop start is not supported.					

On Meridian 1 systems, the universal trunk card can be installed in any PE slot that supports intelligent peripheral equipment.

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K09 Quad DTMF Receiver

System hardware—NT5K11 EEPE module

Purpose—Converts multifrequency dialing signals from a Digitone station to DC pulses suitable for processing in the system control in A-Law applications.

The NT5K09 Quad DTMF Receiver reroutes dial tone to and receives Digitone from up to four Digitone telephones simultaneously. It converts the received Digitone into digital outputs suitable to the SL-1.

The receiver differentiates between valid Digitone signals and speech or noise without using out-of-band signals. Four receivers are available on each pack.

Application—

— NT5K09AA typically used in Austria, Germany, France, Switzerland

— NT5K09BA typically used in Norway, Denmark

— NT5K09CA typically used in Belgium, Holland

Quantity—Two cards per NT5K11 EEPE module

NT5K10 Enhanced Dual Loop Peripheral Buffer

System hardware—NT5K11 EEPE module

Purpose—Interfaces to eight peripheral equipment cards and one or two network loops.

Quantity—Two cards per NT5K11 EEPE module

NT5K17 Direct Dial Inward (DDI) Trunk Card (UK)

System hardware—All

Purpose—Provides interface connecting the trunk facility to the NT8D37 IPE Module. It is equipped with an Intel 8052-type microprocessor that performs several functions, some of which are card identification, self-test, status reporting to the controller, and maintenance diagnostics.

The DDI provides eight analog trunks, each of which can be individually configured to operate as Direct Dial Inward units (DDI).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K17BA DDI Trunk Card (New Zealand)

System hardware—All

Purpose—The NT5K17BA Direct Dial Inward (DDI) Trunk Card provides the interface between the Meridian 1 system and up to eight analog DDI trunk lines. The NT5K17BA DDI card supports the following:

— pulse detection up to 22 pps

— dialing in the form of DTMF signaling or loop disconnect signaling

— New Zealand inverted dialing

Application—The NT5K17BA is used in New Zealand. It can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Each NT5K17BA DDI Trunk Card:

— allows trunk signaling type to be configured on a per unit basis

— allows individual units or the entire board to be disabled by software

— provides indication of card status on the faceplate LED

— converts transmission signals from analog to digital and from digital to analog for up to eight audio paths

— supports the New Zealand loss plan

— provides termination impedance to match the New Zealand three-component complex network

— provides transhybrid balance matching against the New Zealand complex impedance

— provides analog to digital and digital to analog call path losses for DDI trunk units, values downloadable in the initial configuration stage

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K18 Flexible Central Office Trunk Card (UK)

System hardware—All

Purpose—Provides interface connecting the trunk facility to the NT8D37 IPE Module. It is equipped with an Intel 8052-type microprocessor that performs several functions, some of which are control of card operation, card identification, self-test, status reporting to the controller, and maintenance diagnostics.

The card interfaces eight central office trunks with the system and can be configured in software for either A-Law or µ-Law operation. Each interface provides the appropriate complex impedance to the line in compliance with UK regulatory specifications.

Each of these ports can be individually configured to operate as follows:

— Ground Start CO trunk

— Loop Disconnect Clear

— Loop Guarded Release

Each of the above signaling schemes is designed in compliance with the relevant UK specifications.

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K18BA Central Office Trunk Card (New Zealand)

System hardware—All

Purpose—The NT5K18BA Central Office Trunk Card has eight identical units that provide the interface between the Meridian 1 system and up to eight analog Central Office (CO) trunks. The trunk type of each unit is configured independently in the trunk data block (LD 14) as one of the following:

— central office, ground start

— central office, loop start

The NT5K18BA central office card supports Direct Inward System Access (DISA), battery supervision, and inverted dialing.

Application—The NT5K18BA is used in New Zealand. It can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

The NT5K18BA Central Office Trunk Card:

— allows the trunk type to be configured on a per unit basis

— provides disabling of individual units or the entire card through software

— indicates self-test status during an automatic or manual self-test

— converts transmission signals from analog to digital and from digital to analog

— provides complex terminating impedance in compliance with regulatory New Zealand standards

— provides complex balance impedance in compliance with regulatory New Zealand standards

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K19 Flexible E&M Trunk Card (UK)

System hardware—All

Purpose—Provides interface connecting the trunk facility to the NT8D37 IPE Module. It is equipped with an Intel 8052-type microprocessor that performs several functions, some of which are card identification, self-test, status reporting to the controller, and maintenance diagnostics.

The Flexible E&M provides four analog trunks, each of which can be individually configured to operate as follows:

— 4-wire E&M Type 1 tie trunk (DC5)

— 2-wire E&M TYPE 1 tie trunk (DC5)

— 2280 Hz tie trunk (AC15)

— Music trunk

— Paging trunk

— Emergency Recorder trunk

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K19BA E&M Tie Trunk Card (New Zealand)

System hardware—All

Purpose—The NT5K19BA E&M Tie Trunk Card provides the interface between the Meridian 1 system and up to four analog trunks. Each trunk circuit can be individually configured as:

— 4-wire E&M Type 1 tie trunk (DC5)

— Recorded Announcement trunk (RAN)

— Music trunk (MUS)

— Paging trunk (PAG)

The NT5K19BA E&M TieTrunk Card supports New Zealand inverted dialing.

The NT5K19BA E&M Tie Trunk Card supports the following types of announcement machines:

— start mode announcement machines

— continuous mode announcement machines

Recorded announcers supported include the Cook Digital 4-channel announcer and the Audichron HQI-112.

Application—The NT5K19BA is used in New Zealand. It can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

The NT5K19BA E&M Tie Trunk Card:

— converts transmission signals from analog to digital and from digital to analog

— provides software-selectable A-Law or µ-Law operation

— enables and disables individual units or the entire card under software control

— provides outpulsing on the card; make break ratios are defined in software and downloaded during power up and by software commands

— provides indication of card status on the faceplate LED

— allows the trunk type to be configured on a per unit basis in software

— provides termination against 600 ohms for 4-wire E&M DC5 trunk circuits

— provides flexible transmission for various loss plans

— provides Paging (PAG), Recorded Announcement (RAN), and Music (MUS) interfaces

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K20 Extended Tone Detector (UK)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—Provides eight channels of dual tone multifrequency (DTMF) and dial tone detection configurable on a per call basis. In addition, the type of dial tone to be detected is downloaded to the pack upon initialization. Dial tone is either 330 Hz plus 440 Hz or 50 Hz. The channels are assigned on the DS30X loop. There is one 8 kbps signaling channel provided for maintenance messaging and tone reporting.

Application—This tone detector has been replaced by the NT5K48 tone detector.

Quantity—Up to 16 cards per NT8D37 IPE module

NT5K21AA Extended Multifrequency Compelled Sender/Receiver (XMFC/XMFE)

System hardware—All Systems equipped with Meridian 1 IPE shelf

Purpose—Provides signaling across a trunk interface according to CCITT R2 signaling standard (XMFC). This pack also provides signaling across a trunk interface according to French Socotel standards (XMFE), and operates in either A-Law or µ-Law companding.

Application—The NT5K21AA has four units, each capable of handling one call.

Quantity—Refer to *Meridian 1 system engineering* (553-3001-151) for engineering details

NT5K36AA DID/DOD Trunk Card (Germany)

System hardware—All

Purpose—The NT5K36AA Direct Inward Dial/Direct Outward Dial Trunk Card provides the interface between the Meridian 1 system and up to four analog trunks.

The NT5K36AA DID/DOD card supports three central office types: IKZ1, IKZ2, and IKZ3.

Each unit on the NT5K36AA DID/DOD card operates as a DID/DOD trunk and supports 16 kHz pulse detection. There are three modes of operation for the NT5K36AA circuit card:

— outgoing calls placed by Meridian 1

— short distance incoming calls from the central office

— long distance incoming calls from the central office

Application—The NT5K36AA is used in Germany. It can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K36AB DID/DOD Trunk Card (Austria/Germany)

System hardware—All

Purpose—The NT5K36AB Direct Inward Dial/Direct Outward Dial Trunk Card provides the interface between the Meridian 1 system and up to four analog trunks.

Application—It can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

Each NT5K36AB DID/DOD Trunk Card:

— indicates self-test status during an automatic or manual self-test (self-test pass is indicated on the faceplate LED)

— converts transmission signals from analog to digital and from digital to analog for up to four audio paths

— disables individual circuits or the entire board under software control

— provides internal 16 kHz pulse detection

— provides transmission performance according to German specifications

— provides the correct signaling impedances and voltages to operate with the German central office

NT5K48 Tone Detector Card (Global)

System hardware—All

Purpose—The NT5K48 Global Tone Detector circuit card provides tone detection for dual tone multifrequency (DTMF) or dial tone detection (DTD).

The NT5K48 Global Tone Detector circuit card:

— provides eight channels of DTMF or dial tone detection

— provides both first stage dial tone detection and second stage DTD on a call-by-call basis

Note: The NT5K48 Tone Detector remains dedicated to the call while the connecting process is progressing. Once the call is connected, the tone detector is released. It does not detect dial tone after the call is established.

— supports both A-Law and µ-Law companding

— provides card-identification for auto-configuration and for determining the serial number and firmware level of the card

— provides for hardware self-test

— allows country-specific DTMF and dial tone characteristics to be downloaded from software

Application—The Global Tone Detector circuit card replaces the NT5K20 tone detector and operates in the following countries:

— Australia

— Denmark

— France

— Germany

— Holland

— Italy

— New Zealand

— Norway

— Spain

— Sweden

— Switzerland

— United Kingdom

Note: The NT5K48 is configured in software. There are no switch settings on the card.

Quantity—Up to 16 cards per NT8D37 IPE module

NT5K48BA Tone Detector Card (Denmark)

System hardware—All

Purpose—The NT5K48BA Tone Detector circuit card provides tone detection for either dual tone multifrequency (DTMF) or dial tone detection (DTD). It does the following:

— provides eight channels of tone detection configurable on a call connection basis

— DTD configurable on a call connection basis

Note: The NT5K48 Tone Detector operates during call setup only. When a connection is established, it drops out of the call.

— allows country-specific DTMF and dial tone characteristics to be downloaded from software (using overlay 97)

Application—The NT5K48BA tone detector is designed for use in Denmark.

Quantity—Up to 16 cards per NT8D37 IPE module

NT5K48DA Tone Detector Card (Norway)

System hardware—All

Purpose—The NT5K48 Tone Detector circuit card provides tone detection for either dual tone multifrequency (DTMF) or dial tone detection (DTD). The NT5K48DA tone detector is designed for use in Norway. It does the following:

— provides eight channels of tone detection configurable on a call connection basis

— provides both first stage dial tone detection and second stage DTD configurable on a call connection basis

Note: The NT5K48 Tone Detector operates during call setup only. When a connection is established, it drops out of the call.

— allows country-specific DTMF and dial tone characteristics to be downloaded from software (using overlay 97)

Application—The NT5K48DA is designed for use in Norway.

Quantity—Up to 16 cards per NT8D37 IPE module

NT5K50AA E&M Tie Trunk Card (France)

System hardware—All

Purpose—The NT5K50AA E&M Tie Trunk Card provides the interface between the Meridian 1 system and up to four analog trunks.

Application—The NT5K50AA can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NT5K50AA E&M Tie Trunk Card supports four analog trunks. Each trunk circuit can be individually configured as:

— 4-wire E&M BPO (Type V)

— 4-wire E&M Type II

— Recorded Announcement (RAN) trunk

— Paging (PAG) trunk

— Music (MUS) trunk

The NT5K50AA E&M Tie Trunk Card:

— has four switch settings (one per unit) used to select BPO (Type V) E&M signaling.

Note: Systems using Phase 8B or later software can select BPO signaling in overlay 14.

— supports wink, immediate start, or delay dial signaling

— converts transmission signals from analog to digital and from digital to analog

— provides software-selectable A-Law or µ-Law operation

— enables and disables individual units or the entire card under software control

— provides indication of card status on the faceplate LED

— allows the trunk type to be configured on a per unit basis in software

— provides termination against 600 ohms for 4-wire trunk circuits

— provides flexible transmission for various loss plans

— provides Paging (PAG), Recorded Announcement (RAN), and Music (MUS) interfaces

NT5K70AA Central Office Trunk Card (Finland/Germany)

System hardware—All

Purpose—The NT5K70AA Central Office Trunk Card supports eight analog central office (CO) trunks. It provides the following:

— loop start operation

— 16 kHz periodic pulse metering (PPM)

Application—The NT5K70AA is designed for use in Germany. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K70AB Central Office Trunk Card (Austria/Finland/Germany)

System hardware—All

Purpose—The NT5K70AB Central Office Trunk Card for Austria provides the interface between the Meridian 1 system and up to eight analog central office (CO) trunks.

Application—The NT5K70AB Trunk Card can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NT5K70AB Central Office Trunk Card:

— supports internal 16 kHz periodic pulse metering (PPM)

— allows individual units or the entire board to be disabled by software

— provides software-selectable A-Law companding

— indicates self-test status during an automatic or manual self-test

— converts transmission signals from analog to digital and from digital to analog

— provides 2 dB transmission pads for long/short line operation

— provides termination and transhybrid balance impedance to match the German complex impedance network

— provides busy tone detection on a per unit basis, when configured to do so in software

— provides 100 ms flashhook for feature access

— provides direct reporting of periodic pulse metering (PPM) pulses to software in either buffered or unbuffered format

NT5K71AA Central Office Trunk Card (Germany)

System hardware—All

Purpose—The NT5K71AA Central Office Trunk Card is based on the NT5K70AA Trunk Card, but it supports four analog central office (CO) trunks instead of eight. The NT5K71AA provides the following:

— loop start operation, and

— 16 kHz periodic pulse metering (PPM)

Application—The NT5K71AA is designed for use in Germany. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K71AB Central Office Trunk Card (Austria/Germany)

System hardware—All

Purpose—The NT5K71AB Central Office Trunk Card is the same as the NT5K70AB Trunk Card, but it connects up to four analog trunks instead of eight.

Application—The NT5K71AB Trunk Card can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NT5K71AB Central Office Trunk Card:

— supports internal 16 kHz periodic pulse metering (PPM)

— allows individual units or the entire board to be disabled by software

— provides software-selectable A-Law companding

— indicates self-test status during an automatic or manual self-test

— converts transmission signals from analog to digital and from digital to analog

— provides 2 dB transmission pads for long/short line operation

— provides termination and transhybrid balance impedance to match the German complex impedance network

— provides busy tone detection on a per unit basis, when configured to do so in software

— provides 100 ms Flashhook for feature access

— provides direct reporting of periodic pulse metering (PPM) pulses to software in either buffered or unbuffered format

NT5K72AA E&M Tie Trunk Card (Austria/Finland/Germany)

System hardware—All

Purpose—The NT5K72 E&M TieTrunk Card supports four analog trunks. Each trunk circuit can be individually configured as:

— 4-wire E&M Type 1 and 2 trunk

— Recorded Anouncement (RAN) trunk

— Music on Hold (MUS) trunk

— Paging (PAG) trunk

Recorded announcers supported include the Cook Digital 4-channel announcer, the Audichron HQI-112, and the Kreutler-Announcer.

Application—The NT5K72AA is designed for use in Germany. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K82AA Central Office Trunk Card (Switzerland)

System hardware—All

Purpose—The NT5K82AA Central Office Trunk Card supports eight analog central office (CO) trunks. It provides the following:

— loop start operation

— 12 kHz periodic pulse metering (PPM)

— a choice between the old Swiss loss plan and the new Swiss loss plan, depending on the hardware configuration of the system.

— trunk type to be configured on a per unit basis

— individual units or the entire board to be disabled by software

— software-selectable A-Law or µ-Law companding

— self-test status during an automatic or manual self-test

— card-identification for auto-configuration and for determining the serial number and firmware level of the card

— transmission signals from analog to digital and from digital to analog

— the new Swiss loss plan

— adjustable transmission pads for long or short line operation

— termination and transhybrid balance impedance to match the Swiss complex impedance network

— direct reporting of periodic pulse metering (PPM) pulses to software in either buffered or unbuffered format

— loop break detection and supervision on a per unit basis

— barring detection and supervision on a per unit basis

— busy tone detection and supervision on a per unit basis

Application—The NT5K82AA is designed for use in Switzerland. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K82BA/CA Central Office Trunk Card (Australia)

System hardware—All

Purpose—The central office trunk card for Australia comes in two versions: NT5K82BA and NT5K82CA. The NT5K82CA card has an on-board 12 kHz PPM pulse detector, while the NT5K82BA card does not. The NT5K82BA card counts 50 Hz pulses that are detected using external filters.

Application—The central office trunk card has eight units and:

— supports loop start signaling

— allows the trunk type to be configured on a per unit basis

— allows individual units or the entire board to be disabled by software

— provides software-selectable A-Law or µ-Law companding

— indicates self-test status during an automatic or manual self-test

— provides card-identification for auto-configuration and for determining the serial number and firmware level of the card

— converts transmission signals from analog to digital and from digital to analog

— downloads transmit and receive losses to the B34 codec for operation over long and short lines

— provides termination and transhybrid balance impedance to match the Australian complex impedance network

— provides direct reporting of periodic pulse metering (PPM) pulses to software in either buffered or unbuffered format

— provides Autoguard fault detection to prevent a faulty trunk from being seized on an outgoing call

— provides Fastguard (battery reversal) detection on incoming calls prior to ringing

— supports dynamic loss switching on a call by call basis

— provides busy tone detection to support far end release

On Meridian 1 systems, the central office trunk card can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K82HA Central Office Trunk Card (Belgium)

System hardware—All

Purpose—The NT5K82HA Central Office Trunk Card provides the interface between the Meridian 1 system and up to eight analog central office (CO) trunks.

Application—This pack can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NT5K82HA card has an on-board 12 kHz PPM pulse detector that counts 50 Hz pulses using external filters.

The NT5K82HA Central Office Trunk Card:

— provides conversion for eight audio paths

— provides software-selectable A-Law and µ-Law operations

— provides indication of board status with faceplate-mounted LED

— provides for disabling of individual units or the entire board under software or XPEC control

— provides loopback of pulse code modulation (PCM) signals to DS30X for testing and diagnostic purposes

— indicates self-test status with faceplate LED

— provides termination impedance to match Belgian complex impedance Z1

— provides transhybrid balance matching against Belgian complex impedance Z1

— provides for loss pads (analog to digital and digital to analog) as per the Belgian loss plan and call path set-up

— meets the Belgian loss plan and provide a base for future loss plan change by use of the B34 Codec with software-selectable loss pads (phase 8B software)

— corrects signaling impedances to operate with the Belgian central office

— supports multifrequency compelled (MFC) signaling when used with the NT5K21 XMFC Sender/Receiver Pack

NT5K83AA E&M Tie Trunk Card (Spain/Switzerland)

System hardware—All

Purpose—The NT5K83AA E&M Tie Trunk supports four analog trunks. Each trunk circuit can be individually configured as:

— 4-wire E&M Type 1 and 2 trunk

— Recorded Announcement (RAN) trunk

— Music on Hold (MUS) trunk

— Paging (PAG) trunk

Announcement machines supported include the Cook Digital 4-channel announcer and the Audichron HQI-112.

Application—The NT5K83AA is designed for use in Switzerland. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

The NT5K83AA E&M Tie Trunk Card:

— is equipped with four trunk units

— converts transmission signals from analog to digital and from digital-to-analog

— provides software-selectable A-Law or µ-Law operation

— enables and disables individual units or the entire card under software control

— provides outpulsing on the card (make break ratios are defined in software and downloaded during power up and by software commands)

— provides indication of card status from self-test diagnostics on the LED

— allows the trunk type to be configured on a per unit basis in software

— provides termination against 600 ohms for 4-wire E&M trunk circuits

— provides flexible transmission for various loss plans

— provides Paging (PAG), Recorded Announcement (RAN), and Music (MUS) interfaces

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K83BA E&M Tie Trunk Card (Denmark)

System hardware—All

Purpose—The NT5K83BA E&M Tie Trunk supports four analog trunks. Each trunk circuit can be individually configured as:

— 4-wire E&M Type 1 and 2 trunk

— Recorded Announcement (RAN) trunk

— Music on Hold (MUS) trunk

— Paging (PAG) trunk

The NT5K83BA E&M Tie Trunk provides the choice between the old Danish loss plan and the new Danish loss plan. The old plan is chosen when existing peripheral equipment (EPE) or enhanced existing peripheral equipment (EEPE) is used on the system. The new loss plan is chosen when only intelligent peripheral equipment (IPE) is used.

Application—The NT5K83BA is designed for use in Denmark. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K83CA E&M Tie Trunk Card (Norway)

System hardware—All

Purpose—The NT5K83CA E&M Tie Trunk supports four analog trunks. Each trunk circuit can be individually configured as:

— 4-wire E&M Type 1 and 2 trunk

— Recorded Announcement (RAN) trunk

— Music on Hold (MUS) trunk

— Paging (PAG) trunk

The NT5K83CA E&M Tie Trunk provides the choice between the old Norwegian loss plan and the new Norwegian loss plan. The old plan is chosen when existing peripheral equipment (EPE) or enhanced existing peripheral equipment (EEPE) is used on the system. The new loss plan is chosen when only intelligent peripheral equipment (IPE) is used.

Application—The NT5K83CA is designed for use in Norway. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

The NT5K83CA E&M Tie Trunk Card:

— is equipped with four trunk units

— converts transmission signals from analog to digital and from digital to analog

— enables and disables individual units or the entire card under software control

— provides outpulsing on the card (make break ratios are defined in software and down loaded during power up and by software commands)

— provides indication of card status from self-test diagnostics on the LED

— allows the trunk type to be configured on a per unit basis in software

— provides termination against 600 ohms for 4-wire E&M trunk circuits

— provides Paging (PAG), Recorded Announcement (RAN), and Music interfaces

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K83DA E&M Tie Trunk Card (Holland)

System hardware—All

Purpose—The NT5K83DA E&M Tie Trunk Card provides the interface between the Meridian 1 system and up to four analog trunks. Each trunk circuit can be individually configured as:

— 2-wire E&M BPO (Type V)

— 4-wire E&M Type I, Type II, BPO (Type V)

— Cept L1 2280 Hz tie trunk (AC15 signaling in the UK)

— Recorded Announcement (RAN) trunk

— Paging (PAG) trunk

— Music (MUS) trunk

The NT5K83DA E&M Tie Trunk Card:

— has four switch settings (one per unit) used to select BPO (Type V) E&M signaling (Phase 8B software allows the signaling to be service changeable through overlay 14, eliminating the need to set the hardware switches.)

— supports wink, immediate start, or delayed dialing signaling

The NT5K83DA E&M Tie Trunk Card supports the following types of announcement machines:

— start mode announcement machines

— continuous mode announcement machines

Recorded announcement machines supported include the Cook Digital 4-channel announcer and the Audichron HQI-112.

Application—The NT5K83DA is designed for use in Holland. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

The NT5K83DA E&M Tie Trunk Card:

— supports wink, immediate start, or delay dial signaling

— converts transmission signals from analog to digital and from digital to analog

— provides software-selectable A-Law or µ-Law operation

— enables and disables individual units or the entire card under software control

— provides indication of card status on the faceplate LED

— allows the trunk type to be configured on a per unit basis in software

— provides termination and transhybrid balance matching against 600 ohms for 2-wire E&M trunk circuits

— provides termination against 600 ohms for 4-wire and CEPT L1 E&M trunk circuits

— provides flexible transmission for various loss plans

— provides Paging (PAG), Recorded Announcement (RAN), and Music (MUS) interfaces

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K83EA E&M Tie Trunk Card (Australia)

System hardware—All

Purpose—The NT5K83EA E&M Tie Trunk Card provides the interface between the Meridian 1 system and up to four analog trunks.

Application—The E&M trunk card can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NT5K83EA E&M Tie Trunk Card supports four analog trunks. Each trunk circuit can be individually configured as:

— 4-wire E&M Type C2 Earth-off idle (configured as Type 1 in software)

— Recorded Announcement trunk (RAN)

— Music trunk (MUS)

— Paging trunk (PAG)

The NT5K83EA E&M Tie Trunk Card:

— downloads transmit and receive losses to the B34 codec

— supports dynamic loss switching on a call-by-call basis

— converts transmission signals from analog to digital and from digital to analog

— enables and disables individual units or the entire card under software control

— provides outpulsing on the card. (ake break ratios are defined in software and down loaded during power up and by software commands)

— provides indication of card status from self-test diagnostics on the LED

— allows the trunk type to be configured on a per unit basis in software

— provides termination against 600 ohms for 4-wire E&M trunk circuits

— provides Paging (PAG), Recorded Announcement (RAN), and Music interfaces

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K83FA E&M Tie Trunk Card (Sweden)

System hardware—All

Purpose—The NT5K83FA E&M Tie Trunk Card provides the interface between the Meridian 1 system and up to four analog trunks.

Application—The NT5K83FA can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NT5K83FA E&M Tie Trunk Card supports four analog trunks. Each trunk circuit can be individually configured as:

— 2-wire E&M BPO (Type V)

— 4-wire E&M Type II

— Recorded Announcement (RAN) trunk

— Paging (PAG) trunk

— Music (MUS) trunk

The NT5K83FA E&M Tie Trunk Card:

— has four switch settings (one per unit) used to select BPO (Type V) E&M signaling.

Note: Systems using Phase 8B or later software can select BPO signaling in overlay 14.

— supports wink, immediate start, or delay dial signaling

— converts transmission signals from analog to digital and from digital to analog

— provides software-selectable A-Law or µ-Law operation

— enables and disables individual units or the entire card under software control

— provides indication of card status on the faceplate LED

— allows the trunk type to be configured on a per unit basis in software

— provides termination and transhybrid balance matching against Sweden Complex impedance for 2-wire E&M trunk circuits

— provides termination against 600 ohms for 4-wire trunk circuits

— provides flexible transmission for various loss plans

— provides Paging (PAG), Recorded Announcement (RAN), and Music (MUS) interfaces

NT5K83GA E&M Tie Trunk Card (Italy)

System hardware—All

Purpose—The NT5K83GA E&M Tie Trunk Card provides the interface between the Meridian 1 system and up to four analog trunks.

Application—It can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NT5K83GA E&M Tie Trunk Card supports four analog trunks. Each trunk circuit can be individually configured as:

— 4-wire E&M Type 1 and 2

— 2-wire E&M Type 1, 2, and 5 (BPO)

— Recorded Announcement (RAN) trunk

— Music trunk (MUS)

— Paging trunk (PAG)

The NT5K83GA E&M Tie Trunk Card:

— is equipped with four trunk units

— converts transmission signals from analog to digital and from digital to analog

— provides software-selectable A-Law or µ-Law operation

— enables and disables individual units or the entire card under software control

— provides outpulsing on the card (make break ratios are defined in software and downloaded during power up and by software commands)

— provides indication of card status from self-test diagnostics on the LED

— allows the trunk type to be configured on a per unit basis in software

— provides 600 ohm termination for 2- and 4-wire E&M trunk circuits

— provides flexible transmission for various loss plans

— provides Paging (PAG), Recorded Announcement (RAN), and Music (MUS) interfaces

NT5K83HA E&M Tie Trunk Card (Belgium)

System hardware—All

Purpose—The NT5K83HA E&M Tie Trunk Card provides the interface between the Meridian 1 system and up to four analog trunks.

Application—The NT5K83HA can be installed in any PE slot that supports Intelligent Peripheral Equipment (IPE).

The NT5K83HA E&M Tie Trunk Card supports four analog trunks. Each trunk circuit can be individually configured as:

— 2- and 4-wire E&M Transmission

— Type I, Type II and Type V E&M signaling

— Recorded Announcement (RAN) trunk

— Voice Paging Trunk features

The card supports these features on a per unit basis.

The NT5K83HA E&M Tie Trunk Card:

— provides analog to digital and digital to analog conversion for four audio paths

— allows the trunk type to be configured on a per channel basis

— provides software-selectable A-Law and µ-Law operation

— indicates self-test status with faceplate LED

— provides for disabling of individual units or the entire board under software or XPEC control

— provides outpulsing on the card; the make break ratios are software downloadable in the initial configuration stage

— provides loopback of pulse code modulation (PCM) signals to DS30X for testing and diagnostic purposes

— provides termination against 600 ohms for 4-wire E&M trunk circuits

— provides termination and transhybrid balance matching against 600 ohms for 2-wire E&M trunk circuits

— provides a PAG (Voice Paging) interface

— provides a RAN (Recorded Announcement/Music) interface

— provides a Radio Paging interface

— provides flexible transmission for various loss plans

— interfaces each of the four PCM digital signals to one DS30X channel in A10 format

— sends transmit and receive SSD signaling messages over a DS30X signaling channel in A10 format

NT5K84AA Direct Inward Dial (DID) Trunk Card (Switzerland)

System hardware—All

Purpose—The NT5K84AA Direct Inward Dial (DID) Trunk Card supports eight analog trunks. Each trunk circuit operates as a DID trunk.

The NT5K84AA DID trunk provides a choice between the old Swiss loss plan and the new loss plan. The old plan is used when existing peripheral equipment (EPE) or enhanced existing peripheral equipment (EEPE) is present on the system. The new loss plan is used when only intelligent peripheral equipment (IPE) is present.

Application—The NT5K84AA is designed for use in Switzerland. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Each NT5K84AA DID Trunk Card:

— converts transmission signals from analog to digital and from digital to analog for up to eight audio paths

— supports the new Swiss loss plan

— provides adjustable transmission pads for long line or short line operation

— provides termination and transhybrid balance impedance to match the Swiss complex impedance network

— provides the correct signaling impedances and voltages to operate with the Swiss central office

— supports multifrequency compelled (MFC) signaling when used with the MFC Sender/Receiver card (NT5K21)

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K84BA Direct Dial Inward (DDI) Trunk Card (Australia)

System hardware—All

Purpose—The NT5K84BA Direct Dial Inward (DDI) Trunk Card provides the interface between the Meridian 1 system and up to eight analog DDI trunk lines.

Application—The direct inward dial trunk card can be installed in any slot that supports intelligent peripheral equipment (IPE).

Each NT5K84BA DDI Trunk Card:

— allows the trunk signaling type to be configured on a per unit basis

— indicates self-test status during an automatic or manual self-test (self-test pass is indicated on the faceplate LED

— converts transmission signals from analog to digital and from digital to analog for up to eight audio paths

— supports dynamic loss switching on a call by call basis

— provides termination impedance to match the Australian three-component complex network

— provides transhybrid balance matching against the Australian complex impedance

— provides analog to digital and digital to analog call path losses for DDI trunk units, values downloadable in the initial configuration stage

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K84HA Direct Inward Dial (DID) Trunk Card (Belgium)

System hardware—All

Purpose—The NT5K84HA Direct Inward Dial (DID) Trunk Card provides the interface between the Meridian 1 system and up to eight analog DID trunk lines.

Application—The NT5K84HA can be installed in any slot that supports intelligent peripheral equipment (IPE).

The NT5K84HA supports the Belgian Direct Inward Dialing Signaling protocol.

Each NT5K84HA DID Trunk Card:

— provides analog to digital and digital to analog conversion for eight audio paths

— uses software-selectable A-Law and µ-Law operation

— indicates self-test status with faceplate LED

— provides for disabling of individual units or the entire board under software or XPEC control

— provides loopback of pulse code modulation (PCM) signals to DS30X for testing and diagnostic purposes

— provides termination impedance to match Belgian complex impedance Z1

— provides transhybrid balance matching against Belgian complex impedance Z1

— provides for loss pads (analog to digital and digital to analog) as per the Belgian loss plan and call path setup

— meets the Belgian loss plan and provides a base for future loss plan change by use of the B34 codec with software-selectable loss pads (phase 8B software)

— corrects signaling impedances to operate with the Belgian central office

— supports multifrequency compelled (MFC) signaling when used with the NT5K21 XMFC Sender/Receiver pack

NT5K90AA Central Office Trunk Card (Denmark)

System hardware—All

Purpose—The NT5K90AA Central Office Trunk Card supports eight analog central office (CO) trunks. It provides:

— loop start operation

— supervised loop start signaling using CO polarity reversals (ARF signaling)

— Direct Inward System Access (DISA), but only when configured in the supervised loop start signaling mode

— a choice between the old Danish loss plan and the new Danish loss plan, depending on the hardware configuration of the system.

— busy tone detection (detection of far end release)

— 12 kHz periodic pulse metering (PPM), also referred to as subscriber pulse metering (SPM)

Application—The NT5K90AA is designed for use in Denmark. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K90BA Central Office Trunk Card (Denmark)

System hardware—All

Purpose—The NT5K90BA Central Office Trunk Card is the same as the NT5K90AA Trunk Card, but does not support periodic pulse metering (PPM) or busy tone detection.

Application—The NT5K90BA is designed for use in Denmark. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K92AA Direct Inward Dial Auto Answer Circuit (DID Tester) (Austria/France/Germany/Switzerland)

System hardware—All

Purpose—The NT5K92AA Direct Inward Dial (DID) Auto Answer Circuit is used to test the condition of the DID lines on a Meridian 1 system. It does the following:

— answers an incoming DID call

— holds the call for a predetermined length of time

— sends tones or remains silent

— disconnects the call

NT5K93AA Central Office Trunk Card (Norway)

System hardware—All

Purpose—The NT5K93 Central Office Trunk Card provides the interface between the Meridian 1 system and up to eight analog Central Office (CO) trunks.

Application—The NT5K93AA is designed for use in Norway. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

The NT5K93AA Central Office Trunk Card:

— provides loop start operation

— is equipped with eight trunk units

— allows the trunk type to be configured on a per unit basis

— provides software-selectable A-Law or µ-Law companding

— indicates self-test status during an automatic or manual self-test

— provides card-identification for auto-configuration and for determining the serial number and firmware level of the card

— converts transmission signals from analog to digital and from digital to analog

— provides a choice between old or new Norwegian loss plans

— provides adjustable transmission pads for long/short line operation

— provides direct reporting of periodic pulse metering (PPM) pulses to software in either buffered or unbuffered format

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K93BA Central Office Trunk Card (Norway)

System hardware—All

Purpose—The NT5K93BA Central Office Trunk Card is the same as the NT5K93AA Central Office Trunk Card, but does not support the periodic pulse metering (PPM) feature.

Application—The NT5K93BA is designed for use in Norway. On Meridian 1 systems, it can be installed in any peripheral equipment (PE) slot that supports intelligent peripheral equipment (IPE).

The NT5K93BA Central Office Trunk Card:

— provides loop start operation

— is equipped with eight trunk units

— allowsthe trunk type to be configured on a per unit basis

— provides software-selectable A-Law or µ-Law companding

— indicates self-test status during an automatic or manual self-test

— provides card-identification for auto-configuration and for determining the serial number and firmware level of the card

— converts transmission signals from analog to digital and from digital to analog

— provides a choice between old or new Norwegian loss plans

— provides adjustable transmission pads for long/short line operation

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K96JA Flexible Analog Line Card (Denmark)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The NT5K96JA Flexible Analog Line Card is the same as the NT5K02JA line card, but does not have the Message Waiting feature.

Application—The NT5K96JA is designed for use in Denmark.

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K96KA Flexible Analog Line Card (Holland)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The NT5K96KA line card is exactly the same as the NT5K02KA Analog line card, but does not support a Message Waiting indicator.

Application—The NT5K96KA is designed for use in Holland.

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K96MA Flexible Analog Line Card (Norway)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The NT5K96MA Flexible Analog Line Card is the same as the NT5K02MA line card, but it does not have the Message Waiting feature.

Application—The NT5K96MA is designed for use in Norway.

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K96NB Flexible Analog Line Card (Sweden)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The NT5K96NB Flexible Analog Line Card is the same as the NT5K02NB line card, but it does not have the Message Waiting feature.

Application—The NT5K96NB is designed for use in Sweden.

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K96SA Flexible Analog Line Card (Spain)

System hardware—All systems equipped with a Meridian 1 IPE shelf.

Purpose—The NT5K96SA Flexible Analog Line Card is the same as the NT5K02SA line card, but it does not have the Message Waiting feature.

Application—The NT5K96SA is designed for use in Spain.

Quantity—Up to 16 cards per NT8D37 IPE Module

NT5K99AA/BA Central Office Trunk Card (Spain)

System hardware—All

Purpose—The NT5K99AA and NT5K99BA Central Office Trunk Cards provide the interface between the Meridian 1 system and up to eight analog central office (CO) trunks. The NT5K99AA card supports internal 12 kHz PPM but the NT5K99BA card does not.

Application—On Meridian 1 systems, the central office trunk card can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NT5K99AA and NT5K99BA Central Office Trunk Cards:

— provide loop start operation

— provide battery reversal detection

— are equipped with eight trunk units

— allow the trunk type to be configured on a per unit basis

— allow individual units or the entire board to be disabled by software

— provide software-selectable A-Law companding

— indicate self-test status during an automatic or manual self-test

— provide card-identification for auto-configuration and for determining the serial number and firmware level of the card

— convert transmission signals from analog to digital and from digital to analog

— provide 2 dB transmission pads for operation over long or short lines

— provide termination and transhybrid balance impedance to match the Spanish complex impedance network

— provide direct reporting of periodic pulse metering (PPM) pulses to software in either buffered or unbuffered format

— provide detection and reporting of battery reversals from the central office

NT6D70BA S/T Interface Line Card (SILC)

System hardware—All

Purpose—Provides eight S/T four-wire full duplex interfaces that are used to connect ISDN BRI compatible terminals over DSLs to the Meridian 1 system. Each S/T interface provides two B-channels and one D-channel and supports a maximum of eight physical connections that can link up to 20 logical terminals on one DSL. The main functions are to:

— provide eight ISDN S/T interfaces conforming to ANSI, CCITT, INS-NET, and ETSI standards

— support point-to-point and multipoint DSL terminal connections

— execute instructions received from the Meridian 1 CPU to configure and control the S/T interfaces

— provide channel mapping between ISDN Basic Rate format 2B+D and IPE bus format

— multiplex four D-channels onto one 64 kbps network timeslot

— provide 2 watts of power to terminals on a DSL

— support S/Q layer 1 maintenance channels between a terminal and a network terminator

— perform activation and deactivation of DSLs

— provide loopback control of DSLs

The SILC is housed in the IPE module and communicates with the MISP through the peripheral controller card.

Quantity—Up to 15 per module. Refer to *ISDN Basic Rate Interface product description* (553-3901-101) for capacity requirements.

NT6D71 U Interface Line Card (UILC)

System hardware—All

Purpose—Provides eight two-wire full duplex U interfaces that are used to connect ISDN BRI-compatible terminals over DSLs to the Meridian 1 system. Each U interface provides two B-channels and one D-channel and supports one physical termination. The length of a DSL should not exceed 5þkm (16,404 ft).

The main functions are to:

— provide eight ISDN U interfaces conforming to ANSI standards

— support point-to-point DSL terminal connections

— provide channel mapping between ISDN BRI and IPE bus formats

— support M-channel functions as specified by ANSI standards

— multiplex four D-channels onto one 64 kbps timeslot

— support maintenance information messages

— perform activation and deactivation of DSLs

— provide loopback control of DSLs

The UILC is housed in the IPE module and communicates with the MISP over the peripheral controller card, which is also housed in the IPE Module.

Quantity—Up to eight per module. Refer to *ISDN Basic Rate Interface product description* (553-3901-101) for capacity requirements.

NT6D72 Basic Rate Concentrator Signaling Card

System hardware—option 21E/51/51C/61/61C/71/81/81C (minimum X11 release 18)

Purpose—The BRSC processes signaling messages from ISDN BRI line cards and transmits the resulting messages to the MISP. It also separates D-channel Packet Switched Data (DPSD) from signaling information and routes it to the packet handler.

Quantity—One per each IPE module with BRI line cards; see *ISDN Basic Rate Interface product description* (553-3901-101) for capacity requirements

NT7D16 Data Access Card

System hardware—All

Purpose—Provides interface to up to six data units, or ports, with each port operating in either RS-232-C or RS-422 mode. Used in the system to provide connections for data terminal equipment (DTE) or data communications equipment (DCE) such as terminals, personal computers, modems, and mainframe host computers.

Quantity—Up to 16 cards per NT8D37 IPE Module; up to 10 cards per NT8D11 CE/PE Module

NT7R52 Remote Carrier Interface Card

System hardware—Carrier Remote IPE floor-standing module and wall-mounted cabinet

Purpose—Provides a primary interface and control function between the NT1R51 Local Carrier Interface Card and the Carrier Remote IPE site. Each controller card serves up to 16 IPE cards. The controller card is equipped with a Motorola 68000-type microprocessor that performs some local call processing and maintenance diagnostics.

Quantity—One per NT8D37 IPE Module at the Carrier Remote IPE site

NT8D01 Controller Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Provides a primary interface and control function between the NT8D04 Superloop Network Card and the IPE Module. Each controller card serves up to 16 IPE cards. The controller card is equipped with a Motorola 68000-type microprocessor that performs some local call processing and maintenance diagnostics.

The NT8D01BC Controller-4 Card (formerly NT8D01BA) interfaces with up to four superloop network cards.

The NT8D01BD Controller-2 Card (formerly NT8D01BB) interfaces with up to two superloop network cards.

Quantity—One per NT8D37 IPE Module

NT8D01AC Controller-4 Card

System hardware—All

Purpose—Provides a primary interface and control function between the superloop network card and the IPE module over up to four 1.024 Mbps superloops. Each Controller-4 card serves up to 16 IPE cards.

The Controller-4 card interfaces with up to four NT8D04AA Superloop Network Cards. It is equipped with a Motorola 68000-type microprocessor that performs some local call processing and maintenance diagnostics, thus off-loading the system CPU.

Quantity—One per NT8D37 IPE Module

NT8D01AD Controller-2 Card

System hardware—All

Purpose—Provides a primary interface and control function between the superloop network card and the IPE module over up to two 10.24 Mbps superloops. Each Controller-2 card serves up to 16 IPE cards.

The Controller-2 card interfaces with up to two NT8D04AA Superloop Network Cards. It is equipped with a Motorola 68000-type microprocessor that performs some local call processing and maintenance diagnostics, thus off-loading the system CPU.

Quantity—One per NT8D37 IPE Module

NT8D02 Digital Line Card

System hardware—All

Purpose—Provides interface to up to 16 digital integrated voice and data sets for a total of 32 ports. It is equipped with an 8051-family microprocessor that performs functions including:

— control of card operation

— card identification

— self-test

— status reporting to the controller

— maintenance diagnostics

See *Meridian 1 line cards description* (553-3001-105) for more details.

Quantity—Up to 16 cards per NT8D37 IPE Module; up to 10 cards per NT8D11 CE/PE Module

NT8D03 Analog Line Card

System hardware—All

Purpose—Replaced by NT8D09 Analog Message Waiting Line Card as of January 1992.

Provides interface to up to 16 analog telephones (500/2500). It is equipped with an 8051-family microprocessor that performs functions including:

— control of card operation

— card identification

— self-test

— status reporting to the controller

— maintenance diagnostics

Quantity—Up to 16 cards per NT8D37 IPE Module; up to 10 cards per NT8D11 CE/PE Module

NT8D09 Analog Message Waiting Line Card

System hardware—All

Purpose—Provides interface to up to 16 analog telephones (500/2500) with Message Waiting lamp feature. It is equipped with an 8051-family microprocessor that performs functions including:

— control of card operation

— card identification

— self-test

— status reporting to the controller

— maintenance diagnostics

See *Meridian 1 line cards description* (553-3001-105) for more details.

Quantity—Up to 16 cards per NT8D37 IPE Module; up to 10 cards per NT8D11 CE/PE Module

NT8D14 Universal Trunk Card

System hardware—All

Purpose—Provides interface to up to eight trunk facilities in A-Law or µ-Law applications. Each trunk unit is independently configured to operate as a:

— central office (CO), foreign exchange (FX), or wide area telephone service (WATS) trunk

— direct inward dialing (DID) trunk

— two-way tie trunk

— Recorded Announcement (RAN) trunk

— Paging trunk

Each unit also provides the following signaling operation:

— ground start (CO/FX/WATS trunks)

— loop start (CO/FX/WATS trunks) (minimum vintage BA)

— loop dial repeating (DR) (DID and two-way tie trunks)

— loop outgoing automatic, incoming dial (OAID) (two-way tie trunks)

— continuous operation, pulse start, or level start (RAN trunks)

Trunk unit termination and balance impedance is selectable to 600 or 900 ohms, and balance or complex: 3COM1 or 3COM2 (minimum vintage BA for 3COM2).

The universal trunk card also supports Music, Automatic Wake Up, and Direct Inward System Access (DISA) features.

The card is equipped with a microprocessor that performs functions including:

— control of card operation

— card identification

— self-test

— status reporting to the controller

— maintenance diagnostics

The card complies with CSA Standard C82.2 No. 0.7-M1985 and EIA Standard 464A.

See *Meridian 1 trunk cards description* (553-3001-106) for more details.

Quantity—One per eight trunks; up to 16 cards per NT8D37 IPE Module; up to ten cards per NT8D11 CE/PE Module

NT8D15 E&M Trunk Card

System hardware—All

Purpose—Provides interface to up to four analog trunk facilities in A-Law and µ-Law applications. Provides interface connecting the trunk facility to the NT8D37 IPE Module. Each trunk unit is individually configured to operate as:

— two-wire E&M Type I signaling trunk

— four-wire E&M trunk

- Type I or Type II signaling
- Duplex (DX) signaling

— paging trunk

The card is equipped with a microprocessor that performs functions including:

— control of card operation

— card identification

— self-test

— status reporting to the controller

— maintenance diagnostics

The card complies with CSA Standard C82.2 No. 0.7-M1985 and EIA Standard 464A.

See *Meridian 1 trunk cards description* (553-3001-106) for more details.

Quantity—One per four trunks; up to 16 cards per NT8D37 IPE Module; up to ten cards per NT8D11 CE/PE Module.

Application

— NT8D15AA µ-Law only

— NT8D15AF µ-Law/A-Law software-selectable

NT8D16 Digitone Receiver Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Provides eight channels of dual tone multifrequency (DTMF) detection. These channels are assigned on the DS30X loop. There is one 8 kbps signaling channel provided for maintenance messaging and tone reporting.

The NT8D16 Digitone Receiver Card allows access to the filters for parameter alterations to service different environments (for example, international applications).

Quantity—See *Meridian 1 system engineering* (553-3001-151) for engineering details.

NT9C14AA CO/FX/WATS Trunk Card

System hardware—All

Software generic—All

Purpose—Same as QPC527 but the output PAD value has been altered for the China market.

NTAG03AA Central Office Trunk Card (Holland)

System hardware—All

Purpose—Provides the interface between the Meridian 1 system and up to eight analog central office (CO) trunks.

Application—The NTAG03AA is designed for use in Holland. On Meridian 1 systems, it can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NTAG03AA Central Office Trunk Card:

— supports A-type signaling and 50 Hz periodic pulse metering (PPM) detection

— receives tone detection information from the tone detector card

— provides busy tone detection (far end release)

— allows the trunk type to be configured on a per unit basis

— provides disabling of individual units or the entire card through software

— indicates self-test status during an automatic or manual self-test

— converts transmission signals from analog to digital and from digital to analog

— provides 600 ohm terminating impedance in compliance with regulatory Holland standards

— provides complex balance impedance in compliance with regulatory Holland standards

Quantity—Up to 16 cards per NT8D37 IPE Module

NTAG04AA Central Office/Direct Inward Dial Trunk Card (Holland)

System hardware—All

Purpose—Provides the interface between the Meridian 1 system and up to eight analog trunks. The NTAG04AA CO/DID Trunk Card has eight units, each of which can be individually configured as:

— central office incoming/outgoing trunk

— direct inward dial/direct outward dial trunk

Application—The NTAG04AA is designed for use in Holland. On Meridian 1 systems, it can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NTAG04AA CO/DID Trunk Card:

— supports ALS B1 and B2 signaling and 50 Hz periodic pulse metering (PPM) detection

— detects the polarity of the central office line

— detects incoming digipulses and sends a message to the central processing unit (CPU) for each digit

— allows the trunk type to be configured on a per unit basis

— provides disabling of individual units or the entire card through software

— indicates self-test status during an automatic or manual self-test

— converts transmission signals from analog to digital and from digital to analog

— provides 600 ohm terminating impedance in compliance with regulatory Holland standards

— provides complex balance impedance in compliance with regulatory Holland standards

Quantity—Up to 16 cards per NT8D37 IPE Module

NTAG26 Enhanced Multi-frequency Receiver

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—The NTAG26 Enhanced Multi-frequency Receiver (XMFR) receives MF digit information from the Central Office. This MF feature allows the Meridian 1 system to receive 911 and feature group D applications. The XMFR has four ports, and operates only in systems using *u*-low compounding.

Quantity—One per IPE module

NTAG36 Meridian Integrated RAN (MIRAN)

System hardware—option 11/11E/11C/21/21E/51/51C/61/61C/71/81/81C and all systems equipped with a Meridian 1 IPE shelf and X11 release 19 or later software.

Purpose—The MIRAN card provides up to eight internal, one-to-one ports and two external, multi-cross-connect ports to support Recorded Announcement (RAN) and Music On Hold (MOH) applications. Each multi-cross-connect port can connect to a maximum of 16 external EXUT/XFEM ports to provide the same announcement on a number of channels. For systems with release 23 or later software and the RAN Broadcast feature, each of the internal ports with built-in trunk emulation can support up to 30 callers hearing the same RAN message.

The MIRAN card emulates the NT8D14BA vintage or greater Enhanced Universal Trunk (EXUT) circuit card. The MIRAN emulates any DS-30X signaling protocol, including TCM signaling, to be compatible with existing and future terminals and consoles. In addition, MIRAN provides access to any one of the 32 voice channels on a DS-30X loop for both voice and data applications.

The original MIRAN card (NTAG36AA), upgraded to MIRAN Release 2.0 software, provides the following RAN/Music functionality:

— Easily expandable, industry-standard architecture (small, medium, and large configuration controlled by keycode)

— Simplicity of the basic system (no external devices or cables required)

— A set of both standard and proprietary interfaces

— Embedded real-time operating system

— Support for CE-MUX and Card-LAN interfaces

— Up to eight channels of RAN or Music directly

— Up to 40 channels of RAN or Music using the two cross-connect ports connected to external EXUT or XFEM ports

— 366 day calendar allowing the assigning of different messages to a particular channel based on time of day, day of week, and day of year

— Password protected RAN recording and channel assignment from any DTMF telephone using a simple voice menu interface

— Passwords for individual channels

— Professional recordings of RAN and MOH that are supplied on PCMCIA Flash cards and can be instantly installed

— Swapping of recordings between "in-service" and "in-reserve" using any telephone set

— Full flexibility in length of recordings up to storage limits

— A minimum of eight minutes of recording capacity on the base pack

— Additional recording capacity available through PCMCIA ATA Flash cards

— Two external analog inputs to allow access to and uploading of additional recordings

— Message backup and restore capability

— An emergency signal using software to replace existing message(s)

— Six minutes of pre-recorded copyright free music for turn key MOH

The new MIRAN card (NTAG36AB) contains an Ethernet port and provides the following *additional* functionality:

— Embedded web server for point-and-click access to MIRAN features and multiple MIRAN cards

— FTP download of voice and music .WAV files

— Automatic time and date synchronization with the Meridian 1 system

— Access to on-line Northern Telecom Publications

For more information on the NTAG36 Meridian Integrated RAN card, please refer to *Meridian Integrated RAN Description, installation, and operation* (553-3001-112) for more details.

NTBX80AA ISDN Network Termination Unit (NT1)

System hardware—All

Purpose—The NT1 is the link between the central office equipment and the customer premises equipment in the ISDN. The NT1 is located at the customer premises, and supports ISDN Basic Rate Iinterface (BRI) service by providing two ANSI-standard interfaces:

— the subscriber loop (U loop), which connects the NT1 to the network

— the customer interface bus (S/T bus), which connects the NT1 to the customer's terminal equipment

Application—The NTBX80AA contains one stand-alone NT1 unit and is typically wall- or desk-mounted at the user's workstation. The stand-alone version has an optional companion power supply that converts AC power to the –48 V dc used by the NT1 unit.

NTBX84AA/BA Rack mount NT1 Card—Basic/Enhanced

System hardware—All

Purpose—The NT1 is the link between the central office equipment and the customer premises equipment in the ISDN. The NT1 is located at the customer premises, and supports ISDN Basic Rate Interface (BRI) service by providing two ANSI-standard interfaces:

— the subscriber loop (U loop), which connects the NT1 to the network

— the customer interface bus (S/T bus), which connects the NT1 to the customer's terminal equipment

Application—The NTBX84AA/BA NT1 Basic Card provides card status indication to the NT1 module as follows:

— test status of NT1

— status of frame synchronization on U interface

— status of frame synchronization on S/T interface

— S/T loop power overload

The NTBX84AA/BA NT1 Enhanced card provides optional star bus configuration on the S/T interface. Two independent outputs provide mixed bus configurations and/or maximum loop reach to two user locations via one U loop.

NTCK16 Generic Central Office Trunk Card

System hardware—All

Purpose—The generic central office trunk card comes in two versions: A*x* and B*x*

The NTCK16A*x* and NTCK16B*x* Generic Central Office Trunk Cards support up to eight analog central office trunks. The NTCK16A*x* card supports internal 12/16 kHz PPM but the NTCK16B*x* card does not.

Application—The NTCK16 Generic Central Office Trunk Card has eight units and does the following:

— supports the North American loss plan

— supports loop start signaling

— supports busy tone detection and supervision on a per unit basis.

— supports battery reversal detection

— provides 4 dB dynamic attenuation pads on a per call basis

— allows individual units or the entire board to be disabled by software

— provides software-selectable A-Law or µ-Law companding

— indicates self-test status during an automatic or manual self-test

— provides card identification for auto-configuration and for determining the serial number and firmware level of the card

— converts transmission signals from analog to digital and from digital to analog

— provides termination and transhybrid balance impedance to match 600 ohms

On Meridian 1 systems, the generic central office trunk card can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NTCK16AA, BA, AX, and BX Generic Central Office Trunk Cards operate in the following countries:

— Brazil

— Ireland

— Mexico

— Singapore

— Tortola

The NTCK16AD and BD Generic Central Office Trunk Cards operate in the following countries:

— Argentina

— Bahrain

— Chile

— Egypt

— Indonesia

— Korea

— Kuwait

— Lebanon

— Taiwan

— Thailand

— Turkey

— Venezuela

NTCK18AA Central Office Trunk Card (Italy)

System hardware—All

Purpose—The NTCK18AA Central Office Trunk Card provides the interface between the Meridian 1 system and up to eight analog central office (CO) trunks.

Application—On Meridian 1 systems, the NTCK18AA can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

The NTCK18AA Central Office Trunk Card:

— is equipped with eight trunk units

— supports internal 12 kHz periodic pulse metering (PPM)

- allowsthe trunk type to be configured on a per unit basis
- allows individual units or the entire board to be disabled by software
- provides software-selectable A-Law or µ-Law companding
- indicates self-test status during an automatic or manual self-test
- provides card identification for auto-configuration and for determining the serial number and firmware level of the card
- converts transmission signals from analog to digital and from digital to analog
- supports the old and new Italy loss plans
- provides adjustable transmission pads for long or short line operation
- provides termination and transhybrid balance impedance to match the Italian complex impedance network
- provides direct reporting of periodic pulse metering (PPM) pulses to software in either buffered or unbuffered format.
- supports loop start signaling
- provides a software-selectable loss plan that allows a choice of either the old or new Italian loss plan
- supports busy tone detection and supervision on a per unit basis

NTCK22AA Direct Inward Dial Trunk Card (Italy)

System hardware—All

Purpose—The NTCK22AA Direct Inward Dial (DID)/Tie Trunk Card provides the interface between the Meridian 1 system and up to eight analog DID/Tie trunk lines.

Application—On Meridian 1 systems, the NTCK22AA can be installed in any PE slot that supports intelligent peripheral equipment (IPE).

Each NTCK22AA Trunk Card:

— converts transmission signals from analog to digital and from digital to analog for up to eight audio paths

— supports the old and new Italian loss plans

— supports 2-wire loop dial repeating for tie trunk application

— provides software-selectable A-Law and µ-Law companding

— provides faceplate LED for board status and selftest pass

— provides disabling of individual units or the entire board

— provides switch-selectable transhybrid balance impedance to match 600 ohm/Italian complex impedance

— provides the correct signaling impedance and voltages to operate with the Italian central office

— offers full transmission compliance to current Italian technical requirements

NTCK90 COMPANION Meridian 1 Controller Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Provides a primary interface and control functions between the Meridian 1 and the COMPANION Radio and COMPANION Line cards. It also provides ports to base stations.

The COMPANION Meridian 1 Controller Card (CMCC) must be in the left-most position in the module with respect to the expansion CMRC and CMLC cards. All COMPANION cards must be installed contiguously in the module.

Each CMCC requires an NTCK94 ROM card that is installed onto the CMCC card.

Quantity—One per CE/PE or IPE module

NTCK91 COMPANION Meridian 1 Radio Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Provides interfaces for 16 COMPANION base stations and 16 users. Up to 15 cards can be supported.

Quantity—One to nine COMPANION Meridian 1 Radio Cards (CMRC) per CE/PE module and one to fifteen per IPE module

NTCK93 COMPANION Meridian 1 Line Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Provides interfaces for 16 COMPANION base stations and 16 users. Up to 15 cards can be supported.

Quantity—One to nine COMPANION Meridian 1 Line Cards (CMLC) per CE/PE module and one to fifteen per IPE Module

NTCW80 Meridian Integrated IP Telephony Gateway (ITG) Card

System hardware—option 11C, 11E, 21E, 51, 51C, 61, 61C, 71, 81 and 81C systems running X11 release 21 or later software. It is also compatible with SL-1 systems NT, RT, and XT upgraded to support IPE cards.

Purpose— The Meridian Integrated IP Telephony Gateway (ITG) card compresses Pulse Code Modulation (PCM) voice, demodulates Group 3 fax, and routes the packetized data over a private internet, or intranet, to provide non-ISDN tie trunks between Meridian 1 Electronic Switched Network (ESN) nodes.

The ITG card supports standard H.323 call processing and ITU standard Digital Signal Processor (DSP) voice coding and compression algorithms (codecs), such as G.711, G.723, G.729AB, and G.729B. It supports real-time Group 3 fax support, Call Detail Recording (CDR), and Least Cost Routing.

A key feature of ITG is the ability to monitor the data network and automatically re-route calls to circuit-switched voice facilities if quality of service over the data network declines. This *Fallback to Conventional Circuit-Switched Voice Facilities* feature allows the system and craftsperson to determine what is the acceptable quality of service over the data network. The customer can configure quality of service parameters as required. If the quality falls below the expected level of quality of service, the regular circuit-switched route is selected until the quality of service is back to the acceptable level.

The NTCW80 ITG card supports eight voice channels (trunk ports) per card and emulates an NT8D14 Universal Trunk (EXUT) card. The amount of ports supported on a card is controlled by a keycode.

For more information, refer to *553-3001-116 Meridian Integrated IP Telephony Gateway Description, installation, and operation.*

Quantity—One or more per IPE module. Each card uses two card slots.

QPC60 500/2500 Line Card

System hardware—All

Software generic—All

Purpose—Superseded by the QPC452.

Features—Four identical line circuits that can be assigned to one or different customers.

QPC61 SL-1 Set Line Card

System hardware—All

Software generic—All

Purpose—Superseded by the QPC451.

Note: Vintage C for consoles.

Features—Four identical line circuits that can be assigned to one or different customers.

QPC62 1.5MB Baud Converter Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used for remote peripheral equipment (RPE) applications. Converts a Meridian 1 loop into two carrier loops. Used with 1.5MB RPE. Contains switch-selectable line equalizers.

Note: Minimum vintage F is required.

Quantity—Two for each network loop, one in the local module and one in the remote module

QPC63 Local Carrier Buffer Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used for RPE applications. Performs the following functions:

— generates a 1.544 MHz clock from the 2.048 MHz clock

— decodes and provides enables for outgoing and incoming data

— delays the data incoming from the carrier so that its frame, relative to the outgoing data frame, is equivalent to that returning from a peripheral buffer

— relays line status information to the processor

— decodes line control information from the processor

Note: Minimum vintage F is required.

Quantity—One for each network loop connected to the RPE module at the local equipment location

QPC65 Remote Peripheral Switch Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used for RPE applications. Performs the following functions:

— provided module, card, and line enables plus the bypass bit to the modules it serves at the remote site

— provides cyclic scanning of the terminals it serves for incoming signaling messages

— monitors timeslot 0 for outgoing messages

— assemblies incoming messages

Note: Minimum vintage G is required.

Quantity—One per network loop

QPC66 2MB Baud Converter Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used for RPE applications. Converts two carrier loops into a Meridian 1 loop.

Note: Minimum vintage E is required.

Quantity—Two required for each network loop, one in the local module and one in the remote module

QPC67 Carrier Maintenance Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used for RPE applications. Contains an M-type (3017 Hz) fault-locate filter. Provides DC detection circuitry for the fault-locate pair, and carrier loopback relays to facilitate software maintenance testing. Terminates and gives access to the order wire pair through a jack and binding posts on the faceplate.Vintage E and later complies with CSA standard C22.2 No 0.7-M1985.

Note: Minimum vintage E is required.

Quantity—One per RPE module

QPC70 CO/FX/WATS Trunk

System hardware—All

Software generic—All

Purpose—Superseded by the QPC218, QPC219, and QPC450.

Features—Two identical trunk circuits on each pack that can be assigned to one or two customers.

QPC71 E&M/DX/Paging Trunk Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used in µ-Law applications in one of the following ways to interface with appropriate types of trunk facilities:

— E&M signaling, 2-way dial repeating trunk

— 2-wire DX signaling, 2-way dial repeating trunk

— 4-wire DX signaling, 2-way dial repeating trunk (a 24V4 repeater, externally mounted, converts the trunk from 2- to 4-wire)

— paging trunk or externally mounted loudspeaker

Each card contains two separate, identical trunk circuits. Trunk usage option is selected by switches on the circuit card.

See *Meridian 1 trunk cards description* (553-3001-106) for more details.

Note: Minimum vintage F is required.

Quantity—One per two trunk circuits

QPC72 Loop Signaling Trunk

System hardware—All

Software generic—All

Purpose—Superseded by the QPC449/560. Interfaces the following 600 or 900 ¾ trunks in µ-Law applications (see 553-2001-186):

— direct inward dialing (DID)

— direct inward/outgward dialing (DID/DOD)

— 2-way tie, dial repeating (2DR)

— 2-way tie, outgoing automatic incoming dial (OAID)

— outgoing automatic number identification (OANI)

Vintage M and later complies with CSA standard C22.2 No 0.7-M1985.

Features—Two separate identical trunk circuits on each pack. Trunk usage option is selected by switches on the circuit pack.

QPC73 Recorded Telephone Dictation Appliqué

System hardware—All

Software generic—All

Purpose—Superseded by QPC239. Interfaces an externally mounted recorded telephone dictation unit for voice or dial pulse control of the customer-provided recording hardware in µ-Law applications. (Refer to *Meridian 1 trunk cards description* (553-3001-106).)

Features—Two trunk circuits on each pack.

QPC74 Recorded Announcement Trunk Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used in NT8D13 PE Modules to connect customer-provided recorded announcement machines.

The card contains four identical units for interfacing with four separate RAN channels. Each unit provides the following features:

— operation in the continuous or start-stop modes, programmable by service change entries and option switch settings on the card

— termination of the loop tip and ring leads into 600 ohms, selectable for interface with a low-impedance (2- or 4-ohm) audio source by means of distributing resistors or a 600 ohm audio source without the use of distributing resistors

— bridging with up to nine other units to a single RAN channel

There are four trunks on each pack. Trunk circuits are compatible with Code-A-Phone™ 210DC, Audichron™ HQ1-112, Cook 212, and Cook 213300 Digital Announcer recorded announcement machines.[1]

1. AUDICHRON™ is a trademark of the Audichron Corporation. CODE-A-PHONE™ is a trademark of Ford Industries, Inc.

See *Meridian 1 trunk cards description* (553-3001-106) for more details.

Quantity—One per four RAN trunk circuits

QPC79 Digitone Receiver

System hardware—All (manufacture discontinued; replaced by the QPC574 and QPC710)

Software generic—All

Purpose—Converts multifrequency dialing signals from a Digitone station to DC pulses suitable for processing in the system control in µ-Law applications. Refer to *Meridian 1 system engineering* (553-3001-151) for calculation of the quantity required.

Features—Differentiates between valid Digitone signals and speech or noise without using out-of-band signals. One receiver on each circuit pack.

QPC99 Carrier Interface Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C and system MS/N/N(QCA96)/XN/XN(QCA97)

Purpose—Used for RPE applications. Contains two carrier line receivers with 7.5 dB pads built in. Converts bipolar line signals into TTL-level signals. Provides facilities for carrier looping. Monitors system and invokes emergency transfer if carrier fails.

Note: Minimum vintage F is required.

Quantity—Two per network loop

QPC162 AIOD Trunk Card

System hardware—All

Software generic—All

Purpose—The Automatic Identification of Outward Dialing (AIOD) trunk, used with an NE118A interconnecting cable, provides a connection over a voice grade cable pair between the Meridian SL-1 Automatic Number Identification equipment and the station identification from the central office. These are available as replacement packs only. (Refer to 553-2621-180, -200 and -500.)

Features—One trunk on each pack.

QPC192 OPX Line Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—The off-premises extension (OPX) line circuit interfaces with 500/2500-type telephones in µ-Law applications. The loop range from the PE module to station apparatus is 1400 ohms excluding the telephone. This trunk can also be used when the line-to-line loss required is less than 5 dB.

Vintage C and later complies with CSA standard C22.2 No 0.7-M1985.

Provides improved immunity to AC induction and lightning strikes. In addition to serving 500/2500-type sets, the pack can serve Dataphone and is compatible with VF-300 equipment.

See *Meridian 1 line cards description* (553-3001-105) for more details.

Quantity—One per two OPX lines

QPC217 CO/FX/WATS Trunk Card

System hardware—All

Software generic—All

Purpose—Superseded by the QPC219 or QPC450/528. Interfaces two 600 or 900 ¾ CO, FX, or WATS trunks with the system in µ-Law applications. The pack can also detect ringing on either the tip or ring leads and has a provision to extend the normal loop range from 1200 to 2600 ¾ using balanced battery boost from the central office (CO).

See 553-2001-185 for more details.

Features—Two separate, identical trunk circuits on each pack. Trunk usage option is selected by switches on the circuit pack.

QPC218 CO/FX/WATS Trunk Card

System hardware—All

Software generic—All

Purpose—Superseded by the QPC219 or QPC450/528. Provides the same features as the QPC217 pack and meets operating regulations in force in the United States and Canada. However, QPC218E is not suitable for U.S. EIA interfacing requirements.

See 553-2001-185 for more details.

Vintage F and later complies with CSA standard C22.2 No 0.7-M1985.

QPC219 CO/FX/WATS Trunk Card (Message Register)

System hardware—All

Software generic—All

Purpose—Superseded by the QPC450/528. Provides the same features as the QPC217 pack and has a message register detector feature for metered calls.

See 553-2001-185 for more details.

QPC237 4-Wire E&M Trunk Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used in µ-Law applications in one of the following modes to interface with appropriate types of trunk facilities:

— E&M signaling, 2-way dial repeating trunk

— 4-wire DX signaling, 2-way dial repeating trunk (QPC237A/B only)

Each trunk card has two separate, identical trunk circuits with a balanced terminating impedance of 600 ohms. Trunk usage options are selected by option switches on the card.

Vintage E and later complies with CSA standard C22.2 No 0.7-M1985.

See *Meridian 1 trunk cards description* (553-3001-106) for more details.

Note: Minimum vintage D is required.

Quantity—Maximum of ten cards per NT8D13 PE Module

QPC239 Recorded Telephone Dictation Trunk Card with DCK Feature

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Used in NT8D13 PE Modules to interface to a compatible customer-provided recording machine.

The card contains two identical units for interfacing with two separate recording machine channels. Each unit provides the following features:

— direct interfacing to recording machine (DCK feature)

— balanced 600-ohm termination impedance on loop tip and ring leads

— transmission or no transmission during dialing, selected with option switch settings on the card

— termination of an out-of-service control lead:

  • to make the trunk appear busy to the CPU when the recording machine indicates out-of-service

  • on disconnect to keep the trunk busy until an idle signal is received from the recording machine

— switchable 4-dB pad allows control of gain between line-to-trunk and trunk-to-trunk connections (switching controlled by software)

See *Meridian 1 trunk cards description* (553-3001-106) for more details.

Quantity—One per two recording trunk circuits

QPC250 Release Link Trunk Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Software generic—X11, X37

Purpose—Used to interface a remote system, arranged for the Centralized Attendant Service (CAS) option, with the main system where the CAS attendant is located. See *Centralized Attendant Service description and engineering* (553-2681-100) for more information.

The card contains two separate, identical trunk circuits, with balanced terminating impedance of 900 ohms.

Vintage C and later complies with CSA standard C22.2 No 0.7-M1985.

See *Meridian 1 trunk cards description* (553-3001-106) for more details.

Note: Minimum vintage B is required.

Quantity—One per two release line trunks

QPC267 500/2500 Line Card (Message Waiting)

System hardware—All

Software generic—X11, X37

Purpose—Superseded by the QPC494. This pack is used in place of a QPC60 500/2500 line (µ-Law) circuit pack when the Message Waiting lamp feature is required.

QPC272 CO/FX/WATS Trunk Card

Purpose—Superseded by the QPC450/528. Same as QPC218 with the added feature of no loop resistance when outpulsing.

See 553-2001-185 for more details.

QPC284 500/2500 Line Card

Purpose—Same as QPC60 for Meridian SL-1 using A-Law. Superseded by the QPC520.

QPC285 SL-1 Set Line Card

Purpose—Same as QPC61 for Meridian SL-1 using A-Law. Superseded by the QPC521.

QPC286 500/2500 Line Card (Message Waiting)

Purpose—Superseded by the QPC558. Same as QPC267 for Meridian SL-1 using A-Law.

QPC287 E&M/DX Signaling and Paging Trunk Card

Purpose—Same as QPC71 for Meridian SL-1 using A-Law.

QPC288 Loop Signaling Trunk Card

Purpose—Superseded by the QPC559. Same as QPC72 for Meridian SL-1 using A-Law.

QPC289 Recorded Telephone Dictation Appliqué Card

Purpose—Same as QPC73 for Meridian SL-1 using A-Law.

QPC290 Recorded Announcement Trunk Card

Purpose—Same as QPC74 for Meridian SL-1 using A-Law.

QPC291 Digitone Receiver

Purpose—Same as QPC79 for Meridian SL-1 using A-Law.

QPC292 OPX Line Circuit Card

Purpose—Same as QPC192 for Meridian SL-1 using A-Law.

QPC293 CO/FX/WATS Trunk Card

Purpose—Superseded by QPC527. Same as QPC217 for Meridian SL-1 using A-Law.

QPC294 Recorded Telephone Dictation Trunk Card

Purpose—Same as QPC239 for Meridian SL-1 using A-Law.

QPC295 CO/FX/WATS Trunk Card (Message Register)

Purpose—Superseded by the QPC527. Same as QPC219 for Meridian SL-1 using A-Law.

QPC296 4W E&M/DX Signaling Trunk Card

Purpose—Same as QPC237 for Meridian SL-1 using A-Law

QPC297 Attendant Console Monitor Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Interfaces attendant consoles (including add-on modules) when the supervisory console feature is used. Allows the supervisory attendant to monitor calls being handled by attendants within the customer group.

Quantity—One per M1250/QCW4 console in systems using the Supervisory Console feature.

QPC302 Ground Button Recall Line Card

System hardware—All

Software generic—All

Purpose—Superseded by QPC532. Allows 500/2500-type sets equipped with a ground button to use this button to access special features in µ-Law applications.

See 553-2711-105 for more details.

QPC311 Data Line Card

System hardware—All

Software generic—All

Purpose—This line card is required to interface the Meridian SL-1 to add-on data modules and other data equipment used in µ-Law applications.

See *Meridian Data Services description* (553-2731-100) for application details.

QPC319 RPE Controller Card

System hardware—MS/N/N(QCA96)/XN/XN QCA97)

Software generic—All

Purpose—Used with the 2 Mb/s RPE. Refer to 553-2741-100 for more details.

QPC320 Carrier Interface Card

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)

Software generic—All

Purpose—Used with the 2 Mbps RPE. Refer to 553-2741-100 for more details.

QPC321 Phase Lock Loop Card

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)

Software generic—All

Purpose—Used with the 2 Mbps RPE. Refer to 553-2741-100 for more details.

QPC322 Path Switch Card

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)

Software generic—X08, X37, X11 INT

Purpose—Used with the 2 Mbps RPE. Refer to 553-2741-100 for more details.

QPC327 MFC Sender/Receiver Card

System hardware—All

Software generic—X08, X37 release 5 and later, X11 with supplementary features

Purpose—This pack is used to provide the exchange of information between the Meridian SL-1 and other exchanges using multifrequency compelled (MFC) signaling protocol. The QPC327 may be used with either A-Law or µ-Law applications.

QPC330 Buffered Message Register Trunk Card

System hardware—All

Software generic—All

Purpose—Superseded by QPC525. Same as QPC219 with the addition of an 8-bit counter for storing message register or periodic pulse metering (PPM) pulses. Refer to 553-2001-185 for more details.

QPC331 Buffered Message Register Trunk Card

Purpose—Superseded by QPC526. Same as QPC330 for Meridian SL-1 using A-Law. Refer to 533-2711-106 for more details.

QPC341 Data Line Card

Purpose—Same as QPC311 but for A-Law applications.

QPC342 Attendant Console Monitor Card

Purpose—Same as QPC297 for Meridian SL-1 using A-Law.

QPC343 Ground Button Recall Line Card

Purpose—Superseded by QPC532.
Same as QPC302 for Meridian SL-1 using A-Law.

QPC353 Modem Pool Line Card

System hardware—All

Software generic—All

Purpose—Interfaces to outbound asynchronous modems used in asynchronous modem pool configurations.

QPC354 Modem Pool Line Card

Purpose—Same as QPC353 for Meridian SL-1 using A-Law.

QPC387 Peripheral Buffer Card

System hardware—A/L/LE/VLE/XL

Software generic—X11, X37

Purpose—Supersedes the QPC64. Line driving and receiving, buffering and level shifting between a multiplex loop and the PE bus. Regulates power for ten peripheral circuit pack positions (one PE shelf).

Features—Power regulator output LED indicators and reset button on faceplate.

QPC390 Pulsed E&M Trunk Card

System hardware—All

Software generic—X08, X11 INT

Purpose—This trunk provides the appropriate interface between the Meridian SL-1 and public exchanges that use timed pulses for trunk signaling in A-Law applications. Refer to 553-2711-190 for more details.

QPC391 Pulsed E&M Trunk Card

Purpose—Same as QPC390 for µ.-law applications.

QPC397 MCDS Asynchronous Card

System hardware—All

Software generic—All

Purpose—Equivalent to four QMT8 ADM. Refer to *Meridian Data Services description* (553-2731-100).

QPC422 Tone Detector Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Identifies tones and reports to CPU appropriately. Each card contains two tone detector circuits controlled by two microprocessors. See *QPC422 Tone Detector Card description* (553-2001-191) for more information.

Quantity—One per system

QPC430 Asynchronous Interface Line Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Provides four asynchronous line ports. Used in the SL-1 Data Feature to interface to data equipment conforming to the EIA RS-422 standard. See *Meridian Data Services description* (553-2731-100) for more information.

Vintage C or greater is required for the Computer PBX Interface (CPI) application.

Vintage E is required for Host Mode operation.

For system options, QPC430F or later vintage is required.

Quantity—One per four data lines

QPC432 4-Port Data Line Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Provides four data-only ports for the SL-1 Data Feature. See *Meridian Data Services description* (553-2731-100) for more information.

Note: Minimum vintage C is required.

Quantity—One per four data ports

QPC449 Loop Signaling Trunk Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Interfaces the following 600- or 900-ohm trunks in µ-Law applications:

— direct inward dialing (DID)

— 2-way tie, dial repeating (2DR)

— 2-way tie, outgoing automatic incoming dial (OAID)

— outgoing automatic number identification (OANI)

The card contains four separate identical trunk circuits. The trunk usage option is selected by switches on the circuit card.

Vintage B and later complies with CSA standard C22.2 No 0.7-M1985.

See *Meridian 1 trunk cards description* (553-3001-106) for more details.

Quantity—One per four loop signaling trunks

QPC450 CO/FX/WATS Trunk Card

System hardware—All

Purpose—Supersedes the QPC217/218/219/272. Interfaces four 600- or 900-ohm CO, FX, or WATS trunks with the system in µ-Law applications. The card can also detect ringing on either the tip or ring leads and has a provision to extend the normal loop range from 1200 to 2600 ohms using balanced battery boost from the central office.

The card contains four separate identical trunk circuits. The trunk usage option is selected by switches on the circuit card.

Vintage D and F and later complies with CSA standard C22.2 No 0.7-M1985.

Note: For system options, QPC450E or later vintage is required.

See *Meridian 1 trunk cards description* (553-3001-106) for more details.

Quantity—One per four CO/FX/WATS trunks

QPC451 SL-1 Set Line Card

System hardware—All

Software generic—All

Purpose—Interfaces SL-1 telephone sets and attendant consoles, including expansion modules, with the Meridian SL-1 for µ-Law applications. Refer to *SL-1 line cards description* (553-2201-184).

Features—Eight separate, identical line circuits on each pack that can be assigned to different customers. Two line circuits are used for each attendant console. Two additional line circuits can be used for console power. Vintage B is required for consoles.

If the Supervisory Attendant feature (Generic X37) is equipped, a QPC297 pack is used in place of the QPC451 to interface with attendant consoles.

QPC452 Basic 500/2500 Line Card

System hardware—All

Purpose—Used in NT8D13 PE Modules to interface analog telephone lines with the system in µ-Law applications. The pack is also used to interface with other standard 500-type telephone apparatus such as NE-1A2 key telephone equipment, telephone answering sets, and modems.

The card contains eight identical units for interfacing with eight line facilities. Each unit provides the following features:

— interface to 500-type (rotary dial) or 2500-type (Digitone dial) telephones or to key telephone equipment

— 600-ohm balanced terminating impedance on the loop tip and ring leads

— –48 V through a battery feed resistance and ground

— on hook and off hook status detection

— ringing current to the loop

See *Meridian 1 line cards description* (553-3001-105) for more details.

Quantity—Maximum of ten cards per NT8D13 PE Module

QPC464 Peripheral Buffer Card

System hardware—All

Software generic—All

Purpose—Line driving and receiving, buffering and level shifting between a multiplex loop and the PE bus. Regulates power for ten peripheral circuit pack positions (one PE shelf).

Features—Power regulator output LED indicators and reset button on the faceplate.

QPC494 500/2500 Line Card (Message Waiting)

System hardware—All

Software generic—X11, X37

Purpose—Supersedes the QPC267. Same as QPC452 but includes circuitry for the Message Waiting feature.

QPC500 PE Backplane

System hardware—S

Purpose—Peripheral equipment backplane provides intrashelf connections for a main PE shelf. Accommodates a peripheral buffer pack, ten PE packs, and cable connectors to the cross-connect field (main distribution frame).

Quantity—One per PE shelf

QPC501 PE Backplane

System hardware—S

Purpose—Peripheral equipment backplane provides intrashelf connections for the optional PE shelf. Accommodates a peripheral buffer pack, eight PE packs, and cable connectors to the cross-connect field (main distribution frame).

Quantity—One per PE shelf

QPC512 Personal Computer Interface Card

System hardware—All

Software generic—All

Purpose—Used in the Data Feature to interface the Meridian SL-1 to an IBM Personal Computer or IBM Personal Computer XT. Refer to *Meridian Data Services description* (553-2731-100).

QPC518 Console Line Card

System hardware—All

Software generic—All

Purpose—Superseded by the QPC451.

QPC519 Console Line Card

System hardware—All

Software generic—All

Purpose—Interfaces attendant consoles to Meridian SL-1, including expansion modules, for A-Law applications. Refer to *SL-1 line cards description* (553-2201-184).

Features—Eight separate, identical line circuits on each pack that can be assigned to different customers.

QPC520 SL-1 Line Card

System hardware—All

Software generic—All

Purpose—Replaces the QPC519. Interfaces SL-1 telephone sets and attendant consoles to Meridian SL-1, including expansion modules, for A-Law applications. Refer to *SL-1 line cards description* (553-2201-184).

Features—Eight separate, identical line circuits on each pack that can be assigned to different customers.

If the Supervisory Attendant feature (Generic X37) is equipped, a QPC342 pack is used in place of the QPC520 to interface with attendant consoles.

QPC521 500/2500 Line Card

System hardware—All

Software generic—All

Purpose—Interfaces on- or off-premises manual, rotary, or Digitone dial 2-wire telephone sets (NE-500 or -2500 sets) with the Meridian SL-1 in A-Law applications. The pack is also used to interface with other standard 500-type telephone apparatus such as NE-1A2 key telephone equipment, telephone answering sets, and modems. Refer to *Meridian 1 line cards description* (553-3001-105).

Features—Accommodates eight identical line circuits that can be assigned to one or different customers. The loop range from the PE shelf to the set is 1000 ¾ maximum (excluding the set).

QPC525 CO/FX/WATS Trunk Card with PPM

System hardware—All

Software generic—All

Purpose—Same as QPC450 but includes a daughterboard for periodic pulse metering (PPM) applications.

QPC526 CO/FX/WATS Trunk Card with PPM

System hardware—All

Software generic—All

Purpose—Same as QPC525 but for A-Law applications.

QPC527 CO/FX/WATS Trunk Card

System hardware—All

Software generic—All

Purpose—Same as QPC450 but for A-Law applications.

QPC528 CO/FX/WATS Trunk Card

System hardware—All

Software generic—All

Purpose—Same as QPC450 but all circuits meet EIA standards.

QPC532 Ground Button Recall Line Card

System hardware—All

Software generic—All

Purpose—Supersedes the QPC302 and QPC343. Allows 500/2500-type sets equipped with a ground button to use this button to access special features in A-Law or µ-Law applications. Refer to *Meridian 1 line cards description* (553-3001-105) for more details.

QPC540 Dial Tone Detector

System hardware—All

Software generic—X08

Purpose—For operation in the Swiss environment. It provides identification of dial tones and the rejection of busy tone.

Features—Each pack contains two separate tone detector circuits.

QPC550 DID Trunk Card

System hardware—All

Software generic—X08

Purpose—For operation in the Swiss environment. It interfaces with 600 or 900 ¾ trunks.

Features—Each pack contains four separate trunk circuits.

QPC551 Radio Paging Trunk Card

System hardware—All

Software generic—X08

Purpose—This trunk circuit provides an interface between the Meridian SL-1 and the Hasler DS-2000 Radio Paging system.

Features—Each pack contains two separate trunk circuits.

QPC558 Message Waiting Line Card

Purpose—Same as QPC494 for Meridian SL-1 using A-Law.

QPC559 Loop Signaling Trunk Card

Purpose—Same as QPC449 for Meridian SL-1 using A-Law.

QPC560 Loop Signaling Trunk Card

Purpose—Same as QPC449, with all circuitry conforming to EIA standards.

QPC574 Digitone Receiver

System hardware—All

Software generic—All

Purpose—Supersedes the QPC79. Converts multifrequency dialing signals from a Digitone station to DCpulses suitable for processing in the system control in µ-Law applications. Refer to *Meridian 1 system engineering* (553-3001-151) for calculation of quantity required.

Features—Differentiates between valid DIGITONE signals and speech or noise without using out-of-band signals. Two receivers are available on each pack. Only one port can be accessed when this card is installed in a single density shelf.

QPC577 Digitone Receiver Daughteboard (µ-Law)

System hardware—All

Software generic—All

Purpose—The QPC577 Digitone Receiver Daughterboard is a double-sided printed circuit board that must be mounted on a QPC659 Dual Loop Peripheral Buffer. It performs the same functions as the stand alone QPC595 DTR.

Features—The QPC577 reroutes dial tone to and receives Digitones from up to two Digitone telephones simultaneously. It converts the received Digitones into digital outputs suitable to the Meridian SL-1.

Quantity—One per QPC659 Dual Loop Peripheral Buffer

QPC578 Integrated Services Digital Line Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C and system MS/N/XN/NT/XT/SN/ST/S (minimum vintage B is required for RPE)

Purpose—Interfaces the digital telephones and the associated ASCII terminals on time compression multiplexing (TCM) loops to the system. Each card contains 16 separate line circuits, eight data circuits, and eight voice circuits.

See *Meridian 1 line cards description* (553-3001-105) for more details.

Quantity—One per eight digital telephones

QPC594 500/2500 Line Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Allows for 16 circuits per card (quad density) using µ-Law.

Quantity—One per 16 500/2500 lines

QPC595 Digitone Receiver

System hardware—All

Software generic—All

Purpose—Supersedes the QPC79. Converts multifrequency dialing signals from a Digitone station to DC pulses suitable for processing in the system control in A-Law applications. Refer to *Meridian 1 system engineering* (553-3001-151) for calculation of the quantity required.

Features—Differentiates between valid Digitone signals and speech or noise without using out-of-band signals. Two receivers are available on each pack.

QPC596 Digitone Receiver Daughteboard (A-Law)

System hardware—All

Software generic—All

Purpose—The QPC596 Digitone Receiver Daughterboard is a double-sided printed circuit board that must be mounted on a QPC659 Dual Loop Peripheral Buffer. It performs the same functions as the stand-alone QPC595 DTR.

Features—The QPC596 reroutes dial tone to and receives Digitones from up to two Digitone telephones simultaneously. It converts the received Digitones into digital outputs suitable to the SL-1.

Quantity—One per QPC659 Dual Loop Peripheral Buffer

QPC650 Music Trunk Card (µ-Law)

System hardware—All

Software generic—X08, release 9 and later

Purpose—Consists of analog to digital converters to provide music and recorded announcements in addition to the tones and cadences available from the ATDS. Provides up to eight channels of digital data to ATDS when installed in a dual-density PE shelf and up to four channels when installed in a single-density PE shelf. Works with QPC606 ATDS.

Quantity—One per ATDS

QPC651 Music Trunk card (A-Law)

System hardware—All

Software generic—X08

Purpose—Consists of analog to digital converters to provide music and recorded announcements in addition to the tones and cadences available from the ATDS. Provides up to eight channels of digital data to ATDS when installed in a dual-density PE shelf and up to four channels when installed in a single-density PE shelf. Works with QPC605, QPC607, or QPC608 ATDS.

Quantity—One per ATDS

QPC659 Dual Loop Peripheral Buffer Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C and system MS/N/XN/SN/ST/NT/XT (can also be used in QCA137, QCA144 and QCA146 cabinets)

Purpose—Interfaces one or two network loops. Also, a Digitone daughterboard can be installed on the peripheral buffer and is used to convert multifrequency dialing signals from a Digitone station to DC pulses suitable for processing in the system control.

Quantity—Up to ten per NT8D13 PE Module or one per dual loop shelf

QPC681 Parallel Message Waiting Line Card

System hardware—All

Software generic—X11, X37

Purpose—Same as QPC494. Also includes circuitry for connecting to a lamp bank (such as in a hotel lobby).

QPC682 Parallel Message Waiting Line Card

System hardware—All

Software generic—X11, X37

Purpose—A-Law version of QPC681.

QPC688 Digitone Receiver (A-Law)

System hardware—All except S

Software generic—All

Purpose—As a daughterboard option on the dual loop peripheral buffer, the QPC688 converts multifrequency dialing signals from a Digtione station to DC pulses suitable for processing in the system control in A-Law applications.

Quantity—Refer to *Meridian 1 system engineering* (553-3001-151) for calculating quantity.

QPC701 PE Backplane

System hardware—SN/ST

Software generic—All

Purpose—Provides intrashelf connections for a main PE shelf. Accommodates a dual loop peripheral buffer, ten PE packs, and cable connectors to cross-connect terminal (main distribution frame).

Quantity—One per cabinet

QPC702 PE Backplane

System hardware—SN, ST

Software generic—All

Purpose—Provides intra-shelf connections for a second-layer PE shelf. Accommodates a dual loop peripheral buffer, a power converter, eight PE packs, and cable connectors to cross-connect terminal (main distribution frame).

Quantity—Two per QSD66 shelf and one per QDS73 shelf

QPC710 Digitone Receiver (µ-Law)

System hardware—All except S

Software generic—All

Purpose—As a daughterboard option on the dual loop peripheral buffer, the QPC710 converts multifrequency dialing signals from a Digitone station to DC pulses suitable for processing in the system control in µ-Law applications.

Quantity—Refer to *Meridian 1 system engineering* (553-3001-151) for calculating quantity.

QPC723 RS-232 4-Port Interface Line Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—This card provides four direct interfaces to RS-232 asynchronous ASCII computer equipment, such as asynchronous hosts, modems, standard X.25 packet assembler/disassemblers (PADs), data PBXs, and multiplexers.

Quantity—One per NT8D13 PE Module

QPC729 16-Port 500/2500 Line Card

System hardware—All

Software generic—All

Purpose—Allows for 16 circuits per card (quad density) using A-Law.

Quantity—Maximum ten circuit packs for each loop

QPC755 Network Extender

System hardware—SN/ST

Purpose—The network extender extends network loops to the RPE equipment.

Quantity—Each QSD69 shelf requires one network extender to connect a maximum of three network loops to the RPE equipment.

QPC756 RPE Backplane

System hardware—SN/ST

Purpose—Provides intrashelf connections for a main RPE shelf. Accommodates a peripheral buffer pack, ten PE line packs, and the required power equipment.

Quantity—One included with the QSD69 shelf

QPC769 RPE Network Extender

System hardware—SN/ST

Purpose—The network extender extends network loops to the RPE equipment.

Quantity—Each QSD74 shelf requires one network extender to connect a maximum of three network loops to the RPE equipment.

QPC789 16-Port 500/2500 Line Card (Message Waiting)

System hardware—All

Software generic—X11 Release 9 and later; X37 release 5 and later

Purpose—Compatible with existing double-density peripheral equipment shelves/buffers and is a replacement for QPC494. Interfaces on- or off-premises manual, rotary, or Digitone dial 2-wire telephone sets (NE-500 or -2500 sets) with the Meridian SL-1 for µ-Law applications. The pack is also used to interface with other standard 500-type telephone apparatus such as NE-1A2 key telephone equipment, telephone answering sets, and modems. Refer to *Meridian 1 line cards description* (553-3001-105).

Features—Accommodates 16 identical line circuits that can be assigned to one or different customers. The loop range from the PE shelf to the set is 1000 ¾ maximum (excluding the set). Also provides the Message Waiting line feature.

Quantity—Maximum twn circuit packs for each loop. For system option, one per sixteen 500/2500 Message Waiting lines is required.

QPC911 Special Services Line Card

System hardware—All

Software generic—All

Purpose—Combines a QPC451 Line card and a relay daughterboard of eight relays. These relays (one per port) are used to control on/off operations of a variety of situations (i.e., recording devices, radio transmitters, control sensitive and security locations, etc.) where SL-1 telephones are used.

Features—Each relay has two make/break contacts that are terminated on a 50-pin Amphenol-type connector that can be wired to the MDF.

Quantity—One card per ten lines

QPC918 High Speed Data Card

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—The HSDC supports two data ports that operate independently of each other in asynchronous/synchronous mode. Interfaces with any port on the QPC432 4-Port Data Line Card.

Provides an interface to high-speed synchronous devices, such as front end processors or video conferencing ports, through the multichannel data system (MCDS) and the PBX. In synchronous mode, it supports data speeds of up to 64 kbps. See *QPC918 High Speed Data Card description, installation, and operation* (553-2731-108) for more information.

Quantity—As required

QPC936A 16-Port 500/2500 Line Card (Message Waiting)

System hardware—All

Software generic—X08 and X11 INT

Purpose—Compatible with existing double-density peripheral equipment shelves/buffers and is a replacement for QPC789. Interfaces on- or off-premises manual, rotary, or Digitone dial 2-wire telephone sets (NE-500 or NE-2500 sets) with the Meridian SL-1 for A-Law applications. The pack is also used to interface with other standard 500-type telephone apparatus such as NE-1A2 key telephone equipment, telephone answering sets, and modems. Refer to *Meridian 1 line cards description* (553-3001-105).

Features—Accommodates 16 identical line circuits that can be assigned to one or different customers. The loop range from the PE shelf to the set is 1000 ¾ maximum (excluding the set). Also provides the Message Waiting line feature.

Quantity—Maximum 10 circuit packs for each loop.

A-Law and µ-Law cross reference

Meridian SL-1 can be equipped to meet the two companding laws:

— Systems equipped with µ-Law-type circuit packs meet North American transmission requirements.

— Systems equipped with A-Law-type circuit packs meet European and Pacific transmission requirements.

Systems must be equipped with one type only (refer to Table 5).

Table 5
A-Law µ-Law cross reference (Part 1 of 2)

Circuit Pack	A-Law	µ-Law
Tone and Digit Switch	QPC254	QPC253
Conference	QPC280	QPC53
500/2500 Line (Message Waiting)	QPC286	QPC267
E&M, DX Signaling and Paging Trunk	QPC287	QPC71
Loop Signaling Trunk	QPC288	QPC72
Recorded Telephone Dictation Trunk Appliqué	QPC289	QPC73
Recorded Announcement Trunk	QPC290	QPC74
Digitone Receiver	QPC291	QPC79
OPX 500/2500 Line	QPC292	QPC192
CO/FX/WATS Trunk	QPC293	QPC217
Recorded Telephone Dictation Trunk (DCK)	QPC294	—
CO/FX/WATS Trunk (Message Register)	QPC295	QPC219
4-Wire E&M Trunk	QPC296	QPC237
MFC Sender/Receiver (strap option for A-Law and µ-Law)	QPC327	QPC327
Buffered Message Register Trunk	QPC331	QPC330
Data Line	QPC341	QPC311
Attendant Console Monitor	QPC342	QPC297
Ground Button Recall Line	QPC343	QPC302

Table 5
A-Law µ-Law cross reference (Part 2 of 2)

Circuit Pack	A-Law	µ-Law
Ground Button Recall Line (for A-Law and µ-Law)	QPC532	QPC532
Modem Pool Line	QPC354	QPC353
Conference/Network	QPC363	QPC362
Conference/Network (Warning Tone)	QPC377	QPC379
Pulsed E&M Trunk	QPC390	QPC391
Conference	QPC445	QPC444
Conference with Warning Tone	QPC447	QPC446
SL-1 Line/Console Line	QPC520	QPC451
500/2500 Line	QPC521	QPC452
CO/FX/WATS Trunk with PPM	QPC526	QPC525
CO/FX/WATS Trunk	QPC527	QPC450
500/2500 Line (Message Waiting)	QPC558	QPC494
Loop Signaling Trunk	QPC559	QPC449
Digitone Receiver	QPC595	QPC574
Digitone Receiver Daughterboard	QPC596	QPC577
Music Trunk	QPC651	QPC650
Parallel Message Waiting Line Card	QPC682	QPC681
Digitone Receiver	QPC688	—
16-Port 500/2500 Line	QPC729	QPC594
16-Port 500/2500 Line (Message Waiting)	QPC936A	QPC789

Station equipment

500/2500 telephones

Single-line 500-type rotary dial telephones and 2500-type Digitone push-button dial telephones can be used with Meridian 1.

Standard 48V talk battery and 20Hz ringing voltage are available so that conventional equipment such as answering machines, dictation machines, data sets, modems, and key telephones can be used.

If the Message Waiting lamp feature is required, use NE-500YR or NE-2500YQA telephones.

C3020 Shaye Handset

The C3020 is a portable wireless telephone that is used to communicate over the COMPANION base station with the COMPANION Meridian 1 Controller Card (CMCC). It is designed to comply with the frequency spectrum allocated for CT2-CAI or CT2Plus by regional regulatory agencies.

The handset provides:

— two-line alphanumeric LCD with status icons

— adjustable ringer type

— adjustable volume

For more information refer to *1994 COMPANION Catalogue-February 1994*.

COMPANION C1110 base station

The C1110 base station is a dual-radio transceiver. It provides the link between the portable handset and the COMPANION controller card (CMCC). Each base station supports up to two simultaneous calls. The C1110 provides the option of loop powering over a remote power interconnect (RPI) unit.

To operate the base station, the appropriate selection of the following components must be used. The selection depends on the base station site application:

— Aplug-top power supply for local external AC power source or a remote power interconnect (RPI) for line powering of the base station.

— Indoor omnidirectional antenna R1636 is recommended when reception is required all around the antenna.

— Indoor directional antenna J7527 is recommended when the transmission is in a single direction.

— Antenna protection device used to suppress current surges of 50,000 amps.

— Outdoor omnidirectional antenna R1630 is recommended when the transmission coverage is required outside the building. A 50,000-amp surge protector for this antenna can be ordered separately. The coaxial cable connecting the antenna should not exceed 10 m (33.3 ft).

— Standard twisted RJ-11 cable to connect the base station to the COMPANION radio and line card ports.

For more information refer to *1994 COMPANION Catalogue-February 1994.*

M1000 series digital telephones

The M1000 series telephones provide many combinations of key and display functions, but have no provision for add-on modules. See *Meridian 1 telephones description and specifications* (553-3001-108) for a more detailed description.

— M1009 is a replacement for the QSU1 SL-1 set.

The M1009 has the following features:

- ringer volume control
- 12-button soft-touch dial pad
- eight special feature keys, each with an associated LED (keys 0–7)
- one special feature key with an associated LED (key 8)
- a fixed release key (key 9)
- all cords equipped with Teladapt connectors at both ends
- line powered

— M1109 has the same features as the M1009 plus an additional handset feature.

— M1309 has the same features as the M1009 plus an additional LED display screen.

M1250 and M2250 Attendant Consoles

The Meridian M1250 (718SL1-1) Attendant Console allows the customer to make full use of all the attendant features and services offered by the Meridian SL-1 system.

The Meridian attendant console has a four-line (40 characters per line) liquid crystal display (LCD) with backlighting and adjustable viewing angle. The M1250 and M2250 consoles incorporate design improvements based on the QCW4E Attendant Console and are functionally compatible with the QCW4. The M1250 is driven and powered by analog line cards and is compatible with QCW4 console cabling schemes. The M2250 is driven and powered by a digital line card and has a modified cabling scheme. The applications for the consoles differ:

— The M1250 is designed to work in analog mode and functions through an analog line card when connected to a digital switch.

— The M2250 is a digital version of the M1250, offering additional features. A digital link connects the M2250 to the switch.

See *M1250 and M2250 Attendant Consoles description* (553-2201-117) for additional information.

M2000 series digital telephones

The following types of M2000 digital telephones are available for integrated voice and data communications:

— The M2009 (NT1F05) has nine keys for additional features but does not include the handsfree operation.

— The M2018 (NT1F07) has 18 keys for additional features but does not include the handsfree operation.

— The M2112 (NT1F07) has a built-in handsfree feature and 12 keys:

- 11 keys for features and lines
- one key to control the built-in handsfree feature

— The M2317 has 17 keys; 11 programmable keys, one key to control the built-in handsfree feature, and five softkeys that are programmable for software features.

Note: An asynchronous data option circuit board (NT1F09) and data option power (110 V ac application only) supply (NPS50220-04L1) are available for the M2000 series digital telephones to provide for connecting data terminals to the sets.

Table 6 lists the ordering codes for the M2000 series telephones alone and with hardware options installed.

Table 6
Order codes for M2000 series telephones and options (Part 1 of 2)

Description	Ordering code
M2009	
Black	NT1F05AE-03
Chameleon ash	NT1F05AE-35
Gray	NT1F05AE-93
with ADO	
Black	NT1F05ME-03
Chameleon ash	NT1F05ME-35
Gray	NT1F05ME-93
M2018	
Black	NT1F07AC-03
Chameleon ash	NT1F07AC-35
Gray	NT1F07AC-93
with ADO	
Black	NT1F07MC-03
Chameleon ash	NT1F07MC-35
Gray	NT1F07MC-93
M2018S	
Chameleon ash	NT8K90AA-35
with ADO	
Chameleon ash	NT1F07BB-35
M2112	
Black	NT1F06AF-03
Chameleon ash	NT1F06AF-35
Gray	NT1F06AF-93
with ADO	
Black	NT1F06MF-03
Chameleon ash	NT1F06MF-35
Gray	NT1F06MF-93

Note 1: This wall plug-in-type power transformer powers the handsfree part of the M2112 Digital Telephone. Equivalent power supplies may be used, provided they comply with the following minimum limits:

— No load output voltage: 21 V ac maximum
— Voltage at rated current: 16 V ac ±10%
— Rated load current: 375 mA

The transformer is not required if a QUT1 Closet Power Supply is provided.

Note 2: Each telephone connected to the closet power supply occupies either one 25V winding or two 12.5V windings connected in series.

Table 6
Order codes for M2000 series telephones and options (Part 2 of 2)

Description	Ordering code
Power Supply for M2112 (Note 1)	A0273077
Optional Closet Power Supply (Note 2)	A0250484
M2000 ADO Circuit Board, Asynchronous	NT1F09AC
Multioutput desktop data power supply, North American Version	A0336823
Multioutput desktop data power supply, Japan Version	A0336891
Multioutput desktop data power supply, European Version	A0336166

Note 1: This wall plug-in-type power transformer powers the handsfree part of the M2112 Digital Telephone. Equivalent power supplies may be used, provided they comply with the following minimum limits:

— No load output voltage: 21 V ac maximum
— Voltage at rated current: 16 V ac ±10%
— Rated load current: 375 mA

The transformer is not required if a QUT1 Closet Power Supply is provided.

Note 2: Each telephone connected to the closet power supply occupies either one 25V winding or two 12.5V windings connected in series.

M2317 telephone

The Meridian M2317 has 17 keys:

— 11 programmable keys

— one key to control the built-in handsfree feature

— five softkeys that are programmable for software features

An asynchronous data option circuit board and data option power supply are available for connecting data terminals to the M2317 telephone. Table 7 lists the ordering codes for the M2317 telephone alone and with hardware options installed.

Table 7
Order codes for M2317 telephones and options

Description	Ordering code
M2317 digital display telephone, black	NT1F21AE-03
M2317 digital display telephone, chameleon ash	NT1F21AE-35
M2317 digital display telephone, dolphin gray	NT1F21AE-93
M2317 digital display telephone (with ADO), black	NT1F21ME-03
M2317 digital display telephone (with ADO), chameleon ash	NT1F21ME-35
M2317 digital display telephone (with ADO), dolphin gray	NT1F21ME-93
M2317 telephone power supply	A0336406
Multioutput data power supply	A0336823
Data option circuit board, asynchronous	NT1F09AC

M3000 Touchphone

The M3000 Touchphone is a digital, integrated voice and data telephone with a touch-sensitive liquid crystal display (LCD) screen for feature implementation.

> ***Note:*** An M3000 Touchphone connected to a Meridian 1 system must have a minimum firmware vintage of 4.15.

An asynchronous data option circuit board and data option power supply are available for connecting data terminals to the telephones.

Table 8 lists the ordering codes for the M3000 Touchphone alone and with hardware options installed. For additional information on the Touchphone, see *Meridian 1 telephones description and specifications* (553-3001-108).

Table 8
Order codes for M3000 Touchphone and options

Description	Ordering code
M3000 Touchphone, black	NT1F11AK03
M3000 Touchphone with ADO, black	NT1F11MK03
Power Supply	A0326800
Asynchronous Data Option (optional)	NT1F10AB
M3000 tilt base	P0751003
Handset	NT1F04JA-03

M5000 ISDN terminal adapter

The M5000 ISDN terminal adapter unit provides connections to data terminals, group III and group IV fax machines, personal computers, minicomputers, main frames, and other devices with RS-232-C or V.35 interfaces over the ISDN facilities and supports voice and circuit-switched or packet data transmission. For additional features and ordering information, contact your distributor or Northern Telecom sales representative.

The following features are supported on the M5000 terminal adapter:

— supports voice and multiple data transmission simultaneously

— compatible with Meridian Centrex and Meridian 1 systems

— compatible with 2500-type telephones

— provides data calling line ID

— supports Hayes and AutoStream protocol

— supports asynchronous speeds from 300 to 38,400 bps and synchronous speeds from 1,200 to 64,000 bps

— eight-LED display shows call and answering status and protocol settings

M5209 digital telephones

The M5209 ISDN display set is equipped with voice transmission and circuit-switched or packet data transmission over the ISDN network. It features a two-line by 24-character alphanumeric LCD display to provide call processing information such as call duration and status, and calling and called party numbers. For additional features and ordering information, contact your distributor or Northern Telecom sales representative.

The following features are supported on M5209 terminals:

— last number redial

— set-based speed call

— nine programmable feature keys

— stored number redial

— DTMF tone generation for remote operation

— conference

— DiscData softkey to disconnect data calls

— English/French language support

— set-based ringing patterns

M5317 digital telephones

The M5317 ISDN BRI telephone is equipped with voice transmission and circuit-switched or packet data transmission over the ISDN network. It features a two-line by 40-character alphanumeric LCD display to provide call processing information such as call duration and status, caller list, and calling and called party numbers. For additional features and ordering information, contact your distributor or Northern Telecom sales representative.

The following features are supported on M5317 terminals:

— AutoDial keys

— Inspect key

— data port configuration from the menu

— ten user-programmable memory keys for lines or one-touch dialing numbers

— displays ten unanswered calls for user review

— selectable T-Link or V.120 rate adoption for circuit-switched data calls

— support for DTE Break key activation used for PC-based applications

— installation menu for configuring the set

— handsfree capability

— Conference softkey

— DiscData softkey to disconnect data calls

— English/French language support

— set-based ringing patterns

— set-based clock

M7310 administration terminal

The M7310 is a standard Norstar Meridian terminal. It allows the system administrator or installer to perform COMPANION maintenance and administration tasks.

The M7310 provides the following features:

— two line displays

— three display keys

— ten memory keys with indicators and twelve dual-memory keys without indicators

— one shift key

— handsfree capability

The keypad feature and softkeys are used for system administration, maintenance, and configuration functions. For more information, refer to *1994 COMPANION Product Catalogue-February 1994*.

NT1 network terminator 1

The NT1 network terminator 1 allows you to connect terminals that support the ISDN S/T interface with one 2B1Q U interface digital subscriber loop at distances of over 16,000 ft (5 km). For private networks the NT1 provides the necessary protocol conversion from the S/T interface to the U interface standard. For additional features and ordering information, contact your distributor or Northern Telecom sales representative.

The following features are supported on NT1:

— links U interface with S/T interface

— stand-alone NT1 supports a single ISDN loop with up to eight terminals for each S/T bus

— LED indicators give status of the subscriber loop, S/T interface, and power

— performs transmission performance monitoring and subscriber loop maintenance by the network

NT4L07AA Wall Mounting Kit

The Wall Mounting Kit (A0321916) for the M1109 telephones provides an ash colored plastic wedge, a plastic handset clip, a line cord wrap, and an installation sheet. The wedge permits excess line cord length to be stored and secured with the tie wrap.

QCW-Type SL-1 Attendant Console

The console allows the customer to make full use of all the attendant features and services offered by the Meridian SL-1.

QCW1: basic SL-1 attendant console

QCW2: basic console with 8-digit display

QCW3: basic console with 16-digit display

QCW4: basic console with 16-character alphanumeric display

Note: QCW4E and later vintages have a security feature that requires the headset/handset to be plugged in before any key will function.

QCW5: console with tactile devices for the sight-impaired

Note: The QCW5 is not available in North America.

Quantity—Maximum 15 per customer for Generic X11 and 31 per customer for Generics X08 and X37.

QKK1 Handsfree Remote Powering Kit

This kit is used to modify SL-1 telephones for use with the QSU1 Logic Handsfree Unit and to extend the SL-1 telephone operating range from 1830 m (6000 ft) to 2438 m (8000 ft) using #22 AWG wire. It requires a 24 V ac local transformer (ordered separately).

This kit can be installed in the field. See *Meridian 1 telephones description and specifications* (553-3001-108) for more information.

QKK3 Automatic Handsfree Interface Kit

This kit provides the same functions as the QKK1 kit for systems with the Automatic Answer feature. It automatically answers calls after a single ring. See *Meridian 1 telephones description and specifications* (553-3001-108).

QKK8 Automatic Handsfree Interface Kit

This kit provides the same functions as the QKK1 kit but for QSU71 telephones.

QKM13 Light Probe Kit

This kit enables a sight-impaired person to use existing consoles and SL-1 telephones. The probe consists of a small hand-held box with a light sensor. When the sensor is placed over an LED that is on, a tone is heard in the handset or headset. Two connector kits are required to install the light probe into an SL-1 telephone.

QKN1 Headset Kit

This kit is used to modify SL-1 telephones for NE-52-type Venture 1 or equivalent headset operation. See *Meridian 1 telephones description and specifications* (553-3001-108) for more information.

This kit provides the following features:

— can be installed in the field

— jack and ON-OFF switch are located in the filler plate position on the left-hand side of the set

— no supplementary power is required

QMT1 and QMT2 Key/Lamp Expansion Modules

These modules allow the expansion of the key/lamp field for additional directory number and feature activation facilities on QSU-type telephones or QCW-type attendant consoles. These modules require a local 24V plug-in transformer or a QUT1 Centralized Power Unit.

— QMT1 consists of one 10-button nonlocking key strip

— QMT2 consists of two 10-button nonlocking key strips

QMT3 Lamp Field Array Module

This add-on module displays the busy/idle status of 150 consecutive stations on SL-1 telephones or attendant consoles. It requires a local 15V plug-in transformer or a QUT1 Centralized Power Unit. See *Meridian 1 telephones description and specifications* (553-3001-108) for more information.

QMT4 Handset Module

This module is used as a handset cradle to hold the attendant console handset. No active components are contained inside the module.

This module includes the NE-G3 handset. It can be attached to the console or left freestanding. It contains two jacks to accommodate a standard headset or handset plug when the module is attached to the console. It also allows hearing aids to be coupled with telephone adapters for the handsets.

If QCW4E or a later vintage is used, either a QMT4C must be used or the QMT4A or QMT4B must be used as stand-alone cradles.

QMT8 Add-on Data Module

The synchronous/asynchronous ADM provides an RS-232-C interface between the Meridian SL-1 and customer-supplied data equipment. Refer to *Meridian Data Services description* (553-2731-100).

> ***Note:*** Each ADM requires a local supplementary power supply; use a P0593922 or P0610756 transformer.

QMT9 Asynchronous Interface Module

The Asynchronous Interface Module (AIM) provides an RS-232-C interface to customer-supplied data equipment. Refer to *Meridian Data Services description* (553-2731-100). Each AIM requires a local supplementary power supply; use a QTK316A6 or A0289816 transformer.

QMT11 Asynchronous/Synchronous Interface Module

The ASIM is similar to the QMT9 but provides added dialing capabilities and six data feature keys with associated lamps and data control switches. See *Meridian Data Services description* (553-2731-100) for more information.

QMT12 Add-on Data Module

The synchronous ADM provides a CCITT V.35 interface between the Meridian 1 and customer-supplied data equipment. Each ADM requires a local supplementary power supply. See *Meridian Data Services description* (553-2731-100) for more information.

QMT15 Amplified Handset Module

This module is similar to the QMT4 module, with an additional amplifier for the hearing impaired. It includes a volume control, two headset plugs on the right side of the module, and two headset/handset plugs on the left side. The attendant jack is controlled by the amplifier; the volume on the supervisor jack cannot be adjusted.

QMT21 High Speed Data Module

This module is similar to the QMT11 module. It provides an RS-232/V.35 interface and allows synchronous data transmission of up to 64 kbps. It provides connectivity to DTE for intraswitch communications, as well as wide area communications over PRI and/or DTI links to other Northern Telecom switches. See *QMT21 High Speed Data Module description, installation, and operation* (553-2731-107) for more information.

QSAM2A/QSAM3A Group Listening Switch Kit

Allows the speech of both parties to be heard through the speaker of the SL-1 set. Refer to *Meridian 1 telephones description and specifications* (553-3001-108).

The ON/OFF switch is mounted in the left-hand filler plate of a QSU-type set. When ON, the speech of the SL-1 set user and the connected party are heard through the speaker of the SL-1 set. When OFF, the SL-1 set functions normally.

— QSAM2A is used on phase I SL-1 sets.

— QSAM3A is used on phase II SL-1 sets (QSU1F and later vintage).

QSAM3A Group Listening Switch Kit

This kit allows the speech of both parties to be heard through the speaker on phase II SL-1 telephones (QSU1 with minimum vintage F). An ON/OFF switch is mounted in the left-hand filler plate of the telephone. When ON, the speaker on the telephone is activated. When OFF, the telephone functions normally. See *Meridian 1 telephones description and specifications* (553-3001-108) for more information.

QSR2 Venture 1 Headset

Used in conjunction with the QKN1 headset kit to provide telephone head set operation. Refer to *Meridian 1 telephones description and specifications* (553-3001-108).

— lightweight (17 g)

— ear-mounted left or right

— six different sizes of eartips

— acoustic, noise-canceling transmitter held close to user's mouth by a thin, plastic covered, stainless steel arm attached to the headset capsule

QSU-Type SL-1 Telephone Set

Allows the customer to make full use of all the station features and services offered by the Meridian SL-1.

Set codes with a suffix of QM (Quarter Modular) are equipped with Teladapt line cords with a 6-pin connector. Those with a suffix of FM (Fully Modular) have both line and handset cords equipped with 6-pin connector plugs at both ends of each cord.

— QSU1: Basic SL-1 telephone sets

— QSU3: Basic set with 16-digit display

— QSU6: Intended for use with Automatic Call Distribution (ACD) and has provision for plugging two headsets into the left side of the set

— QSU7: Same as QSU6 with the addition of 16-digit display

— QSU60: Basic set with Teladapt receiver cord

— QSU61: Same as QSU60 with 16-digit display

— QSU71 (or M1109): Same as QSU1 except the telephone is more compact, handsfree is integrated, and there is a new wall-mounting kit

Telephones having a digit display require a local 24V plug-in transformer or a QUT1 or QUAA1 centralized power unit.

QUS1 Logic Handsfree Unit

Provides handsfree voice switching facilities on the SL-1 telephone.

Refer to *QUS1B and QUS1C Companion and Logic Handsfree Units Identification and installation* (512-6251-200) for a complete description.

Asynchronous data options

These microprocessor-controlled devices provide the interface (RS-232 compatible) through which ASCII data terminal equipment can be connected to the Meridian 1 network. Two types of asynchronous data options are available for use with the following digital telephones:

— NT1F09 printed circuit board for use with M2009, M2018, M2112, and M2317 digital telephones. See *Meridian 1 telephones description and specifications* (553-3001-108) for more information.

— NT1F10 printed circuit board assembly and housing for M3000 Touchphone. See *Meridian 1 telephones description and specifications* (553-3001-108) for additional information.

The following features are available:

— automatic data rate detection at all rates using the ASCII carriage return character

— keyboard dialing for originating data calls to local and remote hosts or DTE from the terminal keyboard

— break detection and generation

Attendant administration overlay template

This plastic template is placed over the attendant console to indicate the key functions when using the Attendant Administration feature. The order code for the QCW4 Console Overlay is P0613887. See *X11 features and services* for more details.

For M1250 and M2250 consoles, the console overlay is shipped with the attendant administration user guide. A separate attendant administration user guide is also available for the QCW4 console.

Attendant console replaceable items

Table 9 lists the individual parts for attendant consoles that are field-replaceable. These parts can be ordered by using the given apparatus number.

Table 9
Attendant console replaceable items

Equipment	Replaceable items	Apparatus number
QCW-Type Attendant Consoles	Cover Assembly	P0538435
	Attendant Administration:	
	Overlay	P0613887
	Console Caps Package	P0586312
	Bezel (lamp strip)	P0567037
QCW1, QCW2 only	Dial Pad	P0536503
	LED Assembly (1 strip)	P0548801
	LED Assembly (2 strips)	P0548799
	LED Assembly (3 strips)	P0548800
	Line Cord	NE-D50QE-35
	8-Digit Display (QCW2)	P0578270
QCW3, QCW4 only (see Note)	Key button strip PCB	QPC247
	Key button strip PCB	QPC248
All attendant consoles	Card Holder	P0535652
	Filler Plate	P0523535

Note: The QCW3 houses one QPC247 and one QPC248. The QCW4 houses one QPC247 and two QPC248 PCBs (right and left).

Attendant Handset Assembly

The NE-G3QDRNC Attendant Handset Assembly is available in chameleon ash and black versions. Both versions are hearing aid compatible and are equipped with a 9 ft handset cord.

— A0322731 (NE-G3QDRNC-35 Chameleon Ash)

— A0283472 (NE-G3QDRNC-03 Black)

Console Adjustable Stand

The Console Adjustable Stand is attached to the bottom of the Meridian M1250 attendant console by four screws. It is adjustable into any one of nine positions. The stand is available in dark gray and chameleon gray ash versions.

— A0348778 (Dark Gray)

— A0348780 (Chameleon Gray Ash)

Console Graphics Module/Busy Lamp Field

The Console Graphics Module (CGM/BLF) is an attachment that can be mounted on the back of the M1250 attendant console. The screen of the module relays information relating to the operation of the console and the status of other consoles and extensions.

The Console Graphics Module (CGM/BLF) has a 16-line (20 characters per line) liquid crystal display with backlighting. The Busy Lamp Field (BLF) is an option that displays that status of consoles and extensions. Refer to *M1250 and M2250 Attendant Consoles description* (553-2201-117) for additional information.

The graphics module is available in dark gray and chameleon gray a sh versions:

— A0349423 (Dark Gray)

— A0349421 (Chameleon Gray Ash)

Digital telephones—miscellaneous

Table 10 lists the miscellaneous items available for any of the digital telephones described in this section.

Table 10
Order codes for miscellaneous items (Part 1 of 2)

Description	Ordering code
Card, Directory Number	
Black	P0665352
Chameleon Ash	P0665352
Dolphin Gray	P0652740
Card, key labels	P0657709
Lens, Directory Number	P0652765
Card, Directory Number	P0652766
Legacy Handset	
Black	NT0C09EA-03
Chameleon Ash	NT0C09EA-35
Dolphin Gray	NT0C09EA-93
Handset cord, 2.7 m (9 ft)	
Black	A0334590
Chameleon Ash	A0318327
Dolphin Gray	A0318330

Table 10
Order codes for miscellaneous items (Part 2 of 2)

Description	Ordering code
Handset cord, 3.6 m (12 ft)	
Black	A0327130
Chameleon Ash	A0274243
Dolphin Gray	A0327123
Line card:	
7 ft (2.1 m)	A0346862
14 ft (4.3 m)	A0346863
25 ft (7.6 m)	A0346864
Key caps, clear	P0565036
Feature key label sheets (standard)	P0704654
Hold key caps	P0705510
Program key caps	P0705511
Handsfree/Mute key caps	P0705512
Release key caps	P0705513
Feature key label sheets (ACD)	P0694621
Rubber feet	P096D326

Meridian Communications Adapter

The MCA replaces the Meridian Programmable Data Adapter (MPDA).

The MCA provides the interface (RS-232-compatible) through which ASCII data terminal equipment can be connected to the network. It is available with the M2006, M2008, M2016S, and M2616 Meridian Modular Telephones. Features available include:

— keyboard dialing for originating data calls to local or remote hosts or DTE

— telephone keypad dialing for originating and releasing data calls

— parameter setting through service change (minimum X11 release 18 required)

— parameter setting from telephone keypad (required with release 15–17, optional with release 18)

— voice call origination from terminal keyboard

— script file capabilities to preprogram resource locations using mnemonic address names

Meridian Programmable Data Adapter

The MPDA is replaced by the Meridian Communications Adapter (MCA) with X11 release 18.

The MPDA provides the interface (RS-232-compatible) through which ASCII data terminal equipment can be connected to the network. Features available include:

— keyboard dialing for originating data calls to local or remote hosts or DTE

— telephone keypad dialing for originating and releasing data calls

— parameter setting from telephone keypad

— voice call origination from terminal keyboard

— script file capabilities to preprogram resource locations using mnemonic address names

Meridian Modular Telephones

Meridian Modular Telephones provide integrated voice and data communication capability. The following Meridian Modular Telephones are available:

— **M2006**—A single-line telephone with six programmable keys.

— **M2008**—A multi-line telephone with eight programmable keys.

— **M2616**—A high-performance multi-line telephone with 16 programmable keys and an integrated handsfree unit.

— **M2016S**—A Telephone Security Group Class II approved telephone designed to provide on hook security. It is similar to the M2616, with 16 programmable keys, but has no handsfree capability.

— **M2216ACD-1**—A multi-line telephone for ACD operations. It has 15 programmable function keys, an ACD Display Module, and two RJ-32 jacks for modular electret headsets.

— **M2216ACD-2**—A multi-line telephone for ACD operations. It has 15 programmable function keys and an ACD Display. It is similar to model 1, but with one PJ-327 jack for a carbon agent headset and one RJ-32 jack for an electret supervisor headset.

The following hardware options can be added to Meridian Modular Telephones:

— External Alerter Interface Board

— Display Module

— Meridian Communications Adapter (MCA)

— Key Expansion Module

Table 11 lists the ordering codes for the Meridian Modular Telephones alone and with hardware options installed. Table 12 lists the hardware options that can be purchased separately.

See *Meridian 1 telephones description and specifications* (553-3001-108) for additional information.

Table 11
Order codes for Meridian Modular Telephones and factory-installed options (Part 1 of 3)

Description	Ordering code
M2006 (Basic)	
Black	NTZK06AA-03
Chameleon Ash	NTZK06AA-35
Dolphin Gray	NTZK06AA-93
M2006 (with MCA)	
Black	NTZK06AB-03 (with power board)
Chameleon Ash	NTZK06AB-35 (with power board)
Dolphin Gray	NTZK06AB-93 (with power board)
M2008 (Basic)	
Black	NTZK08AA-03
Chameleon Ash	NTZK08AA-35
Dolphin Gray	NTZK08AA-93
M2008 (with MCA)	
Black	NTZK08AB-03 (with power board)
Chameleon Ash	NTZK08AB-35 (with power board)
Dolphin Gray	NTZK08AB-93 (with power board)
M2008 (with Display)	
Black	NTZK08BA-03 (with power board)
Chameleon Ash	NTZK08BA-35 (with power board)
Dolphin Gray	NTZK08BA-93 (with power board)
M2008 (with MCA and Display)	
Black	NTZK08BB-03 (with power board)
Chameleon Ash	NTZK08BB-35 (with power board)
Dolphin Gray	NTZK08BB-93 (with power board)
M2616 (basic)	
Black	NTZK16AA-03
Chameleon Ash	NTZK16AA-35
Dolphin Gray	NTZK16AA-93
M2616 (with MCA)	
Black	NTZK16AB-03 (with power board)
Chameleon Ash	NTZK16AB-35 (with power board)
Dolphin Gray	NTZK16AB-93 (with power board)

Table 11
Order codes for Meridian Modular Telephones and factory-installed options (Part 2 of 3)

Description	Ordering code
M2616 (with Display)	
Black	NTZK16BA-03
Chameleon Ash	NTZK16BA-35
Dolphin Gray	NTZK16BA-93
M2616 (with MCA and Display)	
Black	NTZK16BB-03 (with power board)
Chameleon Ash	NTZK16BB-35 (with power board)
Dolphin Gray	NTZK16BB-93 (with power board)
M2016S (basic)	
Black	NTZK20AA-03 (with power board)
Chameleon Ash	NTZK20AA-35 (with power board)
Dolphin Gray	NTZK20AA-93 (with power board)
M2016S (with MCA)	
Black	NTZK20AB-03 (with power board)
Chameleon Ash	NTZK20AB-35 (with power board)
Dolphin Gray	NTZK20AB-93 (with power board)
M2016S (with Display)	
Black	NTZK20BA-03 (with power board)
Chameleon Ash	NTZK20BA-35 (with power board)
Dolphin Gray	NTZK20BA-93 (with power board)
M2016S (with MCA and Display)	
Black	NTZK20BB-03 (with power board)
Chameleon Ash	NTZK20BB-35 (with power board)
Dolphin Gray	NTZK20BB-93 (with power board)
M2216ACD-1 (standard, with Special Applications Display)	
Black	NTZK22AA-03
Chameleon Ash	NTZK22AA-35
Dolphin Gray	NTZK22AA-93
M2216ACD-1 (with MCA and Special Applications Display)	
Black	NTZK22AB-03 (with power board)
Chameleon Ash	NTZK22AB-35 (with power board)
Dolphin Gray	NTZK22AB-93 (with power board)

Table 11
Order codes for Meridian Modular Telephones and factory-installed options (Part 3 of 3)

Description	Ordering code
M2216ACD-2 (standard, with Special Applications Display)	
Black	NTZK23AA-03 (with power board)
Chameleon Ash	NTZK23AA-35 (with power board)
Dolphin Gray	NTZK23AA-93 (with power board)
M2216ACD-2 (with MCA and Special Applications Display)	
Black	NTZK23AB-03 (with power board)
Chameleon Ash	NTZK23AB-35 (with power board)
Dolphin Gray	NTZK23AB-93 (with power board)

Table 12
Order codes for Meridian Modular Telephones options (Part 1 of 2)

Description	Ordering code	Additional requirements
Meridian Communications Adapter	NT2K64WB	Power Supply Board
Display Module		Power Supply Board (M2008)
Black	NT2K24WA-03	
Chameleon Ash	NT2K24WA-35	
Dolphin Gray	NT2K24WA-93	
Special Applications Display		Power Supply Board (M2008)
Black	NT2K25YL-03	
Chameleon Ash	NT2K25YL-35	
Dolphin Gray	NT2K25YL-93	
Top cover filler plate		
Black	P0784503	
Chameleon Ash	P0784535	
Dolphin Gray	P0784593	
22 Key Expansion Module		Power Supply Board
Black	NT2K22WA-03	
Chameleon Ash	NT2K22WA-35	
Dolphin Gray	NT2K22WA-93	
Single Key Module Footstand		
Black	P0780103	
Chameleon Ash	P0780135	
Dolphin Gray	P0780193	
Double Key Module Footstand		
Black	P0780203	
Chameleon Ash	P0780235	
Dolphin Gray	P0780293	
Wall mount clip	P0680793	
Filler plate	P0523535	

Table 12
Order codes for Meridian Modular Telephones options (Part 2 of 2)

Description	Ordering code	Additional requirements
Brandline insert, blank		
Black	P0784403	
Ash	P0784435	
Gray	P0784493	
External Alerter Interface	NT2K40WA	Power Supply Board
Jumpers	A0288529	
Power Supply Board	NT2K10WC	Transformer or closet power
120V Transformer	A0367335	Power Supply Board
240V Transformer	A0367914	Power Supply Board

Protocol Converters

Emulates an IBM cluster controller and can access a variety of IBM applications as part of the Data Feature. See *Meridian Data Services description* (553-2731-100) for more details.

Shoulder Rest Accessory

The NT1F0404 Shoulder Rest is available for Unity and Meridian business telephones. The shoulder rest's textured plastic frame is equipped with a molded foam top piece and adhesive backing for a one-time, simple installation.

Shoulder rests are available as follows:

Code	Description
A0326148	Shoulder Rest, Ash (NT1F0404-35)
A0326149	Shoulder Rest, Gray (NT1F0404-93)

Station equipment replaceable items

Table 13 lists the individual parts of the station equipment that are field replaceable. These parts can be ordered by using the given apparatus number.

TELADAPT

TELADAPT standardized telephone connectorization for QSU-type sets provides an alternative to the conventional spade tip form of set termination.

QSU-type sets possessing the TELADAPT capability are designated by a QM suffix on the set code (e.g., the QSU1EQM). While QM sets use a 7 ft (2 m) cord, the NE-D6QF Teladapt cord assembly can be ordered separately in 7 ft (2 m), 14 ft (4 m), or 25 ft (7.5 m) lengths for conversion of existing SL-1 sets. These assemblies are compatible only with the Teladapt jacks designed for the system.

Table 13
Station equipment replaceable items (Part 1 of 3)

Equipment	Replaceable items	Apparatus number
QSU-Type Telephone Sets	Handset	A0264888
	Line Cord	A0262628
	Line Cord (connectorized for QSU-QM only)	A0264368
	Faceplate (QSU1/6/60)	P0552003
	Faceplate (QSU3/7/61)	P0586306
	LED Bezel	P0567037
	3-Button Bezel	P0567093
	Caps Package	P0586340
QSU1A to QSU1E only	Dial Pad	P0535603
	LED Assembly (1 strip)	P0525619
	Line Cord	A0254951
QSU71(3 replaceable items only)	Handset	A0313966
	Handset cord	A0274225
QSU-Fully Modular (FM) only	Handset	A0279140
	Line Cord	A0274382
	Line Cord 7 ft	A0274382
	Line Cord 14 ft	A0274383
	Handset Cord 9 ft	A0318227
	Handset Cord 6 ft	A0274225
	Handset cord 12 ft	A0274243
QCW-Type Attendant Consoles	Cover Assembly	P0538435
	Attendant Administration Overlay (English)	P0613887
	Attendant Administration Overlay (French)	P0618413
	Console Caps Package	P0586312

Table 13
Station equipment replaceable items (Part 2 of 3)

Equipment	Replaceable items	Apparatus number
	Bezel	P0567037
	Bezel (English)	P0578254
	Bezel (French)	P0578255
QCW1, QCW2 only	Dial pad	P0536503
	LED Assembly (1 strip)	P0548801
	LED Assembly (2 strips)	P0548799
	LED Assembly (3 strips)	P0548800
	Line Cord 5-1/2 ft.	A0239439
	8-Digit Display (QCW2)	P0578270
QCW3, QCW4 only (see Note)	Key button strip PCB (QCW3 only)	A0265355
	Key button strip PCB	A0265356
	Key button strip PCB	A0265357
Note: The QCW3 houses one QPC426, one QPC427 and one QPC248. The QCW4 houses one QPC247 and two QPC248 PCBs (right and left).		
M1250 Attendant Console	Attendant Administration Template (English)	P0768143
	Attendant Administration Template (French)	P0772243
	Height Adjustment Stand Kit-Dark Gray	A0348778
	Height Adjustment Stand Kit-Chameleon Gray Ash	A0348780
	Graphics Module-Dark Gray	A039423
	Graphics Module-Chameleon Gray Ash	A0349421

Table 13
Station equipment replaceable items (Part 3 of 3)

Equipment	Replaceable items	Apparatus number
M2006, M2008, M2016S, M2216, and M2616 sets	Directory Number Card	P0665352 P0652740
	Key Label Card	P0657709
	Directory Number Lens	P0652720
	Handset	
	Black	A0338908
	Chameleon Ash	A0329173
	Dolphin Gray	A0329174
	Handset Cord (9 ft/2.7 m)	
	Black	A0334590
	Chameleon Ash	A0318327
	Dolphin Gray	A0318330
	Handset Cord (12 ft/3.6 m)	
	Black	A0274233
	Chameleon Ash	A0274243
	Dolphin Gray	A0314423
	Line Cord	A0346862
All Sets and Consoles	Card Holder	P0535652
	Filler Plate	P0523535
G3QDRNC-03	Attendant Handset Assembly—Black	A0283472
G3QDRNC-35	Attendant Handset Assembly—Chameleon Ash	A0283471

Cables

Within Meridian 1, two types of cables are available:

— Intramodule cables connect circuit cards within a module, or they connect to the I/O panels at the rear of the module. Intramodule cables are not shielded. Bail locks or screws are generally used on the connectors to prevent accidental removal.

— Intermodule cables are routed between modules. These cables are used primarily for interconnecting the following subsystems:

- CPU to CPU
- CPU to network
- network to network
- network to peripheral equipment

A0601464 Nullmodem Maintenance Cable

Purpose—This cable has a DB-9 female and a DB-25 male connector and is used to connect the terminal to the NT5D51 Meridian Integrated Conference Bridge (MICB) card using the Ethernet Adapter card DB-9 male connector. No additional nullmodem is required.

A0634495 Local Fiber Remote Multi-IPE Cable Superloop

Hardware systems—All

Purpose—30-ft cable that joins the NT8D92AB backplane cable at the I/O panel to a Fiber Remote Superloop Network card using its 24-pin Centronics connector. The cable connects to a Fiber Remote unit within 30 feet of a Meridian 1 local site via its 37-pin D Shell connector.

Quantity—One per Fiber Remote Superloop card.

A0634496 Remote Fiber Remote Multi-IPE Cable Superloop

Hardware systems—All

Purpose—30-ft cable that joins the NT8D92AB backplane cable at the I/O panel to a Fiber Remote Superloop Network card using its 24-pin Centronics connector. The cable connects to a Fiber Remote unit within 30 feet of a remote IPE cabinet via its 37-pin D Shell connector.

Quantity—One per Fiber Remote Superloop card.

A0634497 Fiber Remote Multi-IPE Maintenance Interface Cable

Hardware systems—All

Purpose—A 24-in. cable that daisy-chains the SDI connection on the I/O panel of one Fiber Remote unit (using the end with the DB-9 male connector) to the MAINT connection on the I/O panel on the next Fiber Remote unit (using the end with the DB-9 female connector). Also, the first cable is connected to the SDI port on the Meridian 1 system, and the last cable is connected to a maintenance TTY.

Quantity—One per Fiber Remote module.

A0660711 25DB Adapter Cable

Hardware systems—All

Purpose—A 2-in. housing that enables a male-female gender change to facilitate connecting cables to equipment.

NE-A18Q Connector Cable

Purpose—

— to connect each network circuit pack to a group of PE shelves

— to interconnect network extender circuit packs

— to interconnect PE shelves in the same network loop

— to interconnect tone and digit switch circuit packs

— to interconnect CE shelves

— to connect multigroup switch packs to multigroup extender packs

— to interconnect multigroup extender packs

— to interconnect each DTI pack to a network circuit pack

Features—18-pair, 26 AWG tight twisted cable, connectorized at both ends (180 degree connectors). Use QCAD124 cables for 90 degree connectors.

Lengths—

FT	MM	FT	MM
1	305	25	7600
2	610	30	9300
4	1220	35	10700
10	3050	40	12200
15	4560	45	13800
20	6100		

Quantity—The number and length of cables required depends on system hardware type and size.

Refer to 553-2YY1-210.

NE-A25 Connector Cable

Purpose—This cable is used to extend PE termination from PE shelves and transfer unit terminations to the cross-connecting terminal or MDF.

Features—25-pair, 26 AWG standard distribution cable connectorized at one end. Available in lengths of 25 to 200 ft (7.7 to 61 m) in increments of 25 ft (7.7 m).

Quantity—Refer to 553-2YY1-210.

NE-A25Q Connector Cable

Purpose—This cable is used to extend the CE bus from the CPU to all other CE shelves.

Features—25-pair, 26 AWG tight-twisted cable connectorized at both ends.

Lengths—

FT	MM
1.5	450
4	1220
6	1830
20	6100
25	7620

Quantity—Refer to 553-2YY1-210.

NPS50843-7L01 Interboard Faceplate Cable Harness

Purpose—Used with COMPANION radio and line cards in Meridian 1 systems with IPE and CE/PE modules. Connects two adjacent cards over the faceplate connectors. A cable is always shipped with an NTCK91 COMPANION Meridian Radio Card (CMRC) and an NTCK93 COMPANION Meridian Line Card (CMLC).

Length—5 cm (2 in.)

NPS50843-7L02 Bypass Faceplate Cable Harness

Purpose—Used with COMPANION radio and line cards in Meridian 1 systems with IPE and CE/PE modules except in option 11. Used to bypass a faulty CMRC or CMLC card and to facilitate removal of the faulty card without disrupting traffic on other COMPANION cards in the module.

Length—30 cm (1 ft)

NPS90781-20L01 CMRC Maintenance Cable

Purpose—Used to connect two COMPANION Meridian Radio Card faceplate connectors for maintenance purposes. The cable has designated left and right connectors and care must be taken to plug the right connector into the right-hand CMRC card and the left connector into the left-hand CMRC card.

Length—60 cm (2 ft)

NPS90781-20L02 CMLC Maintenance Cable

Purpose—Used to connect two COMPANION Meridian Line Card faceplate connectors for maintenance purposes. The cable has designated left and right connector and care must be taken to plug the right connector into the right-hand CMLC card and the left connector into the left-hand CMLC card.

Length—60 cm (2 ft)

NT1P64AA Fibre Optic Patchcord

Purpose—Used to connect the NT1P61 Fibre Superloop Network Card Fibre Optic Packlet to the I/O panel fibre optic connector. The cable provides connections to the fibre optic span.

Length—120 cm (4 ft)

NT1P75AA Fibre Optic Patchcord

Purpose—Used to connect the NT1P62 Fibre Peripheral Controller Card Fibre Optic Packlet to the I/O panel fibre optic connector. The cable provides connections to the fibre optic span.

Length—120 cm (4 ft)

NT1P76AA Fibre Superloop Network Card to I/O Panel Cable

Purpose—Used to connect the NT1P61 Fibre Superloop Network Card faceplate connector to the I/O panel. The cable provides a connector to an SDI port and to system monitoring functions.

Length—120 cm (4 ft)

NT1P78AA Fibre Peripheral Controller Card to I/O Panel Cable

Purpose—Used to connect the backplane connector behind the NT1P62 Fibre Peripheral Controller Card faceplate connector to the I/O panel. The cable provides a connector to a TTY port and to the system monitor.

Length—120 cm (4 ft)

NT1P85AA External Alarm Cable

Purpose—Connects external alarms to the CB-15HD female Alarm connector on the NT7R60AA Carrier/Alarm Panel.

Length—

NT1R04 Clock Controller to I/O Panel Cable

Purpose—Used with Core module upgrades to option 81 and the Core/Network module in option 81C. Connects the clock controller card to the inside of the I/O panel in the Core module or to the Network module I/O panel for option 81C. Also used from the clock controller junctor connector to the connector housing.

Length—1.2 m (48 in.)

NT1R05 Intercabinet Clock Reference Cable

Purpose—Used with Core module upgrades to option 81 or the Core/Network module in option 81C for primary and secondary clock reference. Connects the I/O panel on the module to the connector housing.

Length—4.8 m (16 ft)

NT2K2AA Null Modem Cable

Purpose—Used with a COMPANION diagnostic PC terminal that connects to Meridian 1. The null modem cable is used when the PC is connected to Meridian 1 using an external modem over the Remote Access Device (RAD).

Length—

— A0398761 3.0 m (10 ft)

— A0398762 7.5 m (25 ft)

NT2K91AA RS-232 Cable

Purpose—Used with COMPANION diagnostic PC terminal that connects to Meridian 1. This cable is used when the PC is connected to Meridian 1 using an internal modem located in the Remote Access Device (RAD).

Length—

— A0399143 3.0 m (10 ft)

— A0399144 7.5 m (25 ft)

NT5D16AA Meridian 1 Trunk Tip/Ring Cable

Purpose—Used to connect the 9-pin D-type TRK port on the NT5D12AA Dual DTI/PRI (DDP) card faceplate to the I/O filter.

Features—A 100¾ cable for Meridian 1 and Meridian SL-1 systems equipped with an I/O filter panel.

Length—2.5 m (8 ft)

NT5D17AA Meridian 1 Trunk Tip/Ring Cable

Purpose—Used to connect the 9-pin D-type TRK port on the DDP faceplate directly to the Network Channel Terminating Equipment (NCTE).

Features—A 100¾ cable for Meridian SL-1 systems not equipped with an I/O filter panel. For Meridian SL-1 systems with an I/O filter panel, use QCAD133 PRI/DTI I/O to MDF Cable.

Length—15 m (50 ft)

NT5D19AA Maintenance cable

Purpose—Used to connect the terminal to the 50-pin tip/ring connector on the IPE module I/O panel. This cable requires a nullmodem for proper connection to the MMI terminal.

NT5D50AA DBX Ribbon Cable

Purpose—Used to transfer the database when upgrading Omega systems to the NT5D61 IODU/C card. This cable is used to connect the NT5D54AA SCSI ribbon cable on the IODU/C card CD-ROM drive to the floppy drive A connector on the MDU/SMDU.

Features—A ribbon cable with a female connector and a male SCSI connector. When connected, the red edge of the NT5D50AA DBX Ribbon Cable should face towards the bottom of the IODU/C card (toward the edge of the card).

Length— .9 m (3 ft)

NT5K53AA Cable Assembly (UK only)

Purpose—This cable is used to connect the system to the cross-connect terminal.

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector on one end and three Krone Strips (237A) on the other. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK.

Length—15.2 m (52 ft)

NT5K54AA Cable Assembly (UK only)

Purpose—This cable is used to connect the system to the cross-connect terminal.

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector on one end and three Krone Strips (237A) on the other. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK.

Length—7.6 m

NT5K63AA Cable Assembly (UK only)

Purpose—This cable is used to connect the system to the cross-connect terminal

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector on one end and three Krone Strips (237A) on the other. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK.

Length—29.5 m

NT5K64AA Cable Assembly (UK only)

Purpose—This cable is used to connect the system to the cross-connect terminal.

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector on one end and three Krone Strips (237A) on the other. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK. They are low smoke and fume, non-halogenated (LSF, non-hal) cables.

Length—7.6 m

NT5K65AA Cable Assembly (UK only)

Purpose—This cable is used to connect the system to the cross-connect terminal.

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector on one end and three Krone Strips (237A) on the other. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK. They are low smoke and fume, non-halogenated (LSF, non-hal) cables.

Length—15.2 m

NT5K66AA Cable Assembly (UK only)

Purpose—This cable is used to connect the system to the cross-connect terminal

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector on one end and three Krone Strips (237A) on the other. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK. They are low smoke and fume, non-halogenated (LSF, non-hal) cables.

Length—29.5 m

NT5K79AA Cable Assembly (UK only)

Purpose—This cable is used to connect the console to the cross-connect terminal

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector with two locking screws at one end and free-ended at the other end. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK. They are low smoke and fume, non-halogenated (LSF, non-hal) cables.

Length—15.3 m

NT5K80AA Cable Assembly (UK only)

Purpose—This cable is used to connect the console to the cross-connect terminal

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector with two locking screws at one end and free-ended at the other end. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK. They are low smoke and fume, non-halogenated (LSF, non-hal) cables.

Length—30.5 m

NT5K81AA Cable Assembly (UK only)

Purpose—This cable is used to connect the console to the cross-connect terminal

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector with two locking screws at one end and free-ended at the other end. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK. They are low smoke and fume, non-halogenated (LSF, non-hal) cables.

Length—91.4 m

NT5K1104 MDF to EEPE Cable

Purpose—This cable is used to connect the NT5K1106 EEPE backplane to the MDF connector panels in the EEPE module.

Length—20 in. (500 mm)

NT5K1109 Module to Module Power Harness

Purpose—This cable is used in DC modules to connect the input DC power and speed control signals vertically through the column. It is used to connect the EEPE module to the system.

NT5K1110 Intracabinet Network Cable

Purpose—This cable is used to connect the NT5K10AA Enhanced Dual Loop Buffer to the MDF panel.

Lentgh—20 in. (500 mm)

NT6D54 Field Wiring Kit

Purpose—Used in conjunction with the cable between the NT8D22 System Monitor and a QBL15 Power Distribution Box. The kit provides the necessary hardware to connect four NT6D52 rectifiers to the system monitor.

NT7D11 Module to Module Power Harness

Purpose—Used in DC-powered modules to conduct the input DC power and control signals vertically through the column. It is constructed in a modular form and can be disconnected for the removal and/or replacement of modules. The DC power harness is larger than that of the AC system because it requires more input wires to handle lower voltage and the associated higher current.

NT7D67DA Local External Maintenance Cable Assembly

Purpose—Used with options 21E, 51, 51C, 61, 61C, 71, 81, and 81C. Connects the TTY or the terminal and the SDI card to the I/O panel.

Length—120 cm (4 ft)

NT7D68AA Remote Carrier/Alarm Cable Assembly

Purpose—Used with Remote Carrier IPE floor-standing module configuration. Connects the NT7R52 Remote Carrier Interface card through the backplane connector to the I/O panel to provide T1 carrier span connection.

Length—120 cm (4 ft)

NT7D68BA Remote Maintenance Cable Assembly

Purpose—Used with Remote Carrier IPE floor-standing module configuration. Connects the NT7R52 Remote Carrier Interface card through the backplane connector to the I/O panel to provide TTY and system monitor connections.

Length—120 cm (4 ft)

NT7D68CA Remote Carrier/Alarm Cable Assembly to Small Cabinet

Purpose—Used with Remote Carrier IPE wall-mounted small cabinet configuration. Connects the NT7R52 Remote Carrier Interface card through the backplane P3 connector to the I/O panel to provide T1 carrier span connection.

Length—120 cm (4 ft)

NT7D68DA Remote Maintenance Cable Assembly to Small Cabinet

Purpose—Used with Remote Carrier IPE wall-mounted small cabinet configuration. Connects the NT7R52 Remote Carrier Interface card through the backplane P2 connector to the I/O panel to provide the TTY connection.

Length—120 cm (4 ft)

NT7D68EA Coaxial Interface Adapter Cable

Purpose—Used with Remote Carrier IPE configuration. Connects the RJ-48 connectors on the I/O panel assembly to the BNC E1 carrier span connectors.

Length—60 cm (2 ft)

NT7D69AA Extension Local Carrier Cable Assembly

Purpose—Used with STE, RT, NT, and XT systems. Connects the NT7R51 Local Carrier Interface faceplate to the NT7R67BA cable assembly.

Length—180 cm (6 ft)

NT7D69BA Extension Local Maintenance Cable Assembly

Purpose—Used with STE, RT, NT, and XT systems. Connects the NT7R51 Local Carrier Interface faceplate to the NT7R67CA cable assembly.

Length—180 cm (6 ft)

NT7D89 CP to I/O Panel RS-232 Cable

Purpose—Used with options 51C, 61C, 81, and 81C. Through connectors on the rear of the backplane, it connects the maintenance port on the NT6D66 CP Card to the I/O panel in the Core and Core/Network modules. This “wye” connected cable provides both RS-232 DTE and DCE connections at the I/O panel. Two required per system.

Length—38 cm (15 in.)

NT7D90 CP to I/O Panel Ethernet Cable

Purpose—Used with options 51C, 61C, 81, and 81C. Connects the Ethernet port on the NT6D66 CP Card to the I/O panel in the Core and Core/Network modules.

Length—34 cm (14 in.)

NT7R67AA Local Maintenance Cable Assembly

Purpose—Used with options 21E, 51, 51C, 61, 61C, 71, 81, and 81C. Connects the NT7R51 Local Carrier Interface Card to the I/O panel.

Length—120 cm (4 ft)

NT7R67BA Local Carrier/Monitor Cable Assembly

Purpose—Used with options 21E, 51, 51C, 61, 61C, 71, 81, and 81C. Connects the NT7R51 Local Carrier Interface Card to the I/O panel and to the T1 carrier span.

Length—120 cm (4 ft)

NT7R67CA Local Maintenance/Clock Cable Assembly

Purpose—Used with options 21E, 51, 51C, 61, 61C, 71, 81, and 81C. Connects the NT7R51 Local Carrier Interface Card to the I/O panel and to the clock controller card.

Length—120 cm (4 ft) and 60 cm (2 ft) branches

NT7R67EA Coaxial Interface Adapter Cable

Purpose—Used with options 21E, 51, 51C, 61, 61C, 71, 81, and 81C. Connects the RJ-48 connectors on the I/O panel assembly to the BNC connectors of the E1 carrier span.

Length—60 cm (2 ft)

NT8D40AA AC Power Cord

Purpose—Connects to an IG-L6-30 30-amp receptacle and conducts AC power into the pedestal for AC systems.

Length—2.7 m (9 ft)

NT8D40AM Module to Module Power Harness

Purpose—Used in AC modules to conduct the input AC power and control signals vertically through the column. It is constructed in a modular form and can be disconnected when necessary to allow for the removal and/or replacement of modules.

NT8D40AY AC Power Cord

Purpose—Used with option 21A. Connects to an IG-L6-30 30-amp receptacle and conducts AC power into the pedestal.

Length—2.7 m (9 ft)

NT8D40BJ System Monitor to Backplane Cable

Purpose—Used with option 21A. Connects the NT7D15 System Monitor to the CE/PE backplane to allow control and monitoring of the system.

NT8D40BK System Monitor Trip Cable

Purpose—Used with option 21A. Connects the NT7D15 System Monitor to the PDU. Allows the system monitor to trip the circuit breaker.

NT8D46AA System Monitor Column Cable

Purpose—Connects NT8D22 System Monitor signals vertically through the column.

NT8D46AC Thermostat Harness

Purpose—The thermostat harness is part of the temperature sensor assembly. It contains two thermal sensors and a fault LED. At 70 degrees Celsius, the thermal sensors trip and cause system shutdown. The thermostat harness plugs into the backplane of the top module.

NT8D46AD System Monitor to SDI Cable

Purpose—Connects an SDI card to the NT8D22 System Monitor. Replaces the NT8D46AA cable when the SDI card is in the same column as the system monitor.

This cable is not used with the NT7D15 System Monitor in option 21A.

NT8D46AG System Monitor to SDI Paddleboard Cable

Purpose—Connects the NT8D22 System Monitor to the NT8D41 SDI Paddleboard (use instead of the NT8D46AA cable).

This cable is not used with the NT7D15 System Monitor in option 21A.

NT8D46AH System Monitor to MDF Cable

Purpose—Replaced by the NT8D46BH cable.

Connects the system monitor to the MDF when a PFTU is used.

Length—9.7 m (32 ft)

NT8D46AJ System Monitor to UPS (Best) Cable

Purpose—Connects the NT8D22 System Monitor to a Best uninterruptible power supply (UPS). Used for UPS monitoring.

This cable is not used with the NT7D15 System Monitor in option 21A.

Length—13.7 m (45 ft)

NT8D46AL System Monitor Serial Link Cable

Purpose—Connects the NT8D22 System Monitor from one column to another.

This cable is not used with the NT7D15 System Monitor in option 21A.

Length—2.1 m (7 ft)

NT8D46AM Air Probe Harness AC

Purpose—The Air Probe Harness AC is part of the temperature sensor assembly and is used in AC systems. It uses a 24-pin connector. It senses exit air temperature and relates the information to the blower unit.

NT8D46AP System Monitor Serial Link Cable

Purpose—Connects the NT8D22 System Monitor from one column to another.

This cable is not used with the NT7D15 System Monitor in option 21A.

Length—7.6 m (25 ft)

NT8D46AQ System Monitor to UPS (Exide) Cable

Purpose—Connects the NT8D22 System Monitor to an Exide uninterruptible power supply (UPS). Used for UPS monitoring.

This cable is not used with the NT7D15 System Monitor in option 21A.

Length—13.7 m (45 ft)

NT8D46AS System Monitor Inter-CPU Cable

Purpose—Used with options 61, 61C, 71, 81, and 81C. Connects the dual CPUs together for NT8D22 System Monitor functions. Replaces the NT8D46AA cable in both CPU modules.

This cable is not used with the NT7D15 System Monitor in option 21A.

NT8D46AT System Monitor to QBL15 Cable

Purpose—Connects the NT8D22 System Monitor to the QBL15 Power Distribution Box. Used to monitor the DC power plant.

Length—9.7 m (32 ft)

NT8D46AU System Monitor to UPS (Alpha) Cable

Purpose—Connects the NT8D22 System Monitor to an Alpha uninterruptible power supply (UPS). Used for UPS monitoring.

This cable is not used with the NT7D15 System Monitor in option 21A.

Length—13.7 m (45 ft)

NT8D46AV System Monitor to Power Cabinet Cable

Purpose—Connects the NT8D22 System Monitor to the MFA150 Power System, MPP600 Power Plant, or QCA13 Power Cabinet. Used to monitor the DC power plant.

Length—9.7 m (32 ft)

NT8D46AW System Monitor to QBL12 Cable

Purpose—Connects the NT8D22 System Monitor to the QBL12 Battery Distribution Box. Used to monitor the DC power plant.

Length—9.7 m (32 ft)

NT8D46BH System Monitor to MDF Cable

Purpose—Replaces the NT8D46AH cable.

Connects the system monitor to the MDF when a power failure transfer unit is used.

Length—9.7 m (32 ft)

NT8D46BV System Monitor to Power Cabinet Cable

Purpose—Connects the NT8D22 System Monitor to the MFA150 Power System, MPP600 Power Plant, or QCA13 Power Cabinet. Used to monitor the DC power plant.

Length—19.5 m (64 ft)

NT8D46CC System Monitor to Power Supply PCB Cable

Purpose—Connects the NT8D22 System Monitor to the power supply printed circuit board (PCB) in the NT7D67CB PDU.

NT8D46CV System Monitor to Power Cabinet Cable

Purpose—Connects the NT8D22 System Monitor to the MFA150 Power System, MPP600 Power Plant, or QCA13 Power Cabinet. Used to monitor the DC power plant.

Length—30.5 m (100 ft)

NT8D46DC Air Probe Harness DC

Purpose—The Air Probe Harness DC is part of the temperature sensor assembly and is used in DC systems. It uses a 36-pin connector. It senses exit air temperature and relates the information to the blower unit.

NT8D73 Intercabinet Network Cable

Purpose—Interconnects QPC414 Network Cards:

— from Network module to PE module or local site RPE module through the I/O panels

— from QCA55 cabinet to PE module

Lengths—

— NT8D73AD	1.8 m (6 ft)
— NT8D73AF	3.6 m (12 ft)
— NT8D73AL	6.0 m (20 ft)
— NT8D73AS	9.1 m (30 ft)

NT8D74 Clock Controller to Junctor Cable

Purpose—Connects the clock controller card to the junctor board in the NT8D36 InterGroup Module.

Lengths—

— NT8D74BC	1.2 m (4 ft)
— NT8D74BD	1.8 m (6 ft)
— NT8D74BE	2.4 m (8 ft)
— NT8D74BF	3.0 m (10 ft)
— NT8D74BJ	4.8 m (16 ft)

NT8D75 Clock Controller to Clock Controller Cable

Purpose—Interconnects clock controller cards.

Lengths—

— NT8D75BC	1.2 m (4 ft)
— NT8D75BD	1.8 m (6 ft)

NT8D76 IGS to InterGroup Module Cable

Purpose—Connects the QPC412 IGS Card to the junctor board in the NT8D36 InterGroup Module.

Lengths—

— NT8D76BC	1.2 m (4 ft)
— NT8D76BD	1.5 m (5 ft)
— NT8D76BE	1.8 m (6 ft)
— NT8D76BF	2.4 m (8 ft)
— NT8D76BG	3.0 m (10 ft)
— NT8D76BJ	3.6 m (12 ft)
— NT8D76BL	4.2 m (14 ft)
— NT8D76BP	4.8 m (16 ft)

Note: NT8D76BP is the longest CISPR cable for junctor to IGS application)

NT8D77 FDI to FDU Cable

Purpose—Connects the QPC742 FDI Card to the floppy disk unit.

Lengths—

— NT8D77BA	0.9 m (3 ft)
— NT8D77BB	0.6 m (2 ft)
— NT8D77BC	1.2 m (4 ft)
— NT8D77BD	1.8 m (6 ft)

NT8D78 CPU Cable

Purpose—Used in option 71. Connects the QPC580 CPU Interface Card to the QPC579 CPU Function Card.

Length—5 cm (2 in.)

NT8D79 PRI/DTI to Clock Controller Cable

Purpose—Connects the PRI or DTI cards designated as primary and secondary clock references to the clock controller cards.

Lengths—

— NT8D79AB	0.6 m (2 ft)
— NT8D79AC	1.2 m (4 ft)
— NT8D79AD	1.8 m (6 ft)
— NT8D79AE	2.4 m (8 ft)
— NT8D79AF	3.0 m (10 ft)

NT8D80 CPU Interface Cable

Purpose—

— connects the CMA card on CPU 0 to the CMA card on CPU 1 (options 61 and 71)

— connects a QPC584 MSI Card to the multi disk unit (options 51, 61, and 71)

— connects a QPC215 SBE Card to the network through the QPC441 3PE Card (option 71)

— connects the QPC441 3PE Card in network shelf 0 to the 3PE Card in network shelf 1 (option 61)

— connects the QPC441F 3PE Card in the Core/Network Module 0 to the QPC441F 3PE Card in the Core/Network Module 1 (options 61C and 81C)

— connects the QPC441F 3PE Card in Core Module 0 to the 3PE Card in Core Module 1 (option 81)

— connects the QPC441F 3PE Card in the Core/Network Module 0 to the 3PE card in the Core/Network Module 1 (option 81C)

Lengths—

— NT8D80AB	— NT8D80BB	0.6 m (2 ft)
— NT8D80AC	— NT8D80BC	1.2 m (4 ft)
— NT8D80AZ	— NT8D80BZ	1.5 m (5 ft)
— NT8D80AD	— NT8D80BD	1.8 m (6 ft)
— NT8D80AE	— NT8D80BE	2.4 m (8 ft)
— NT8D80AF	— NT8D80BF	3.0 m (10 ft)
— NT8D80AG	— NT8D80BG	3.6 m (12 ft)
— NT8D80AJ	— NT8D80BJ	4.8 m (16 ft)
— NT8D80AL	— NT8D80BL	6.0 m (20 ft)
— NT8D80AP	— NT8D80BP	7.6 m (25 ft)

NT8D81 Tip and Ring Cable

Purpose—Connects a line card to the I/O panel. The ribbon cable is attached to the EMI filter.

Length—50 cm (20 in.)

NT8D82 SDI to I/O Cable

Purpose— This cable assembly also includes the EMI filter. Connects the following cards to the I/O panel:

— QPC757 DCHI Card

— QPC513 ESDI Card

— QPC841 4-Port SDI Card

— QPC687 CPU Card

Lengths—

— NT8D82AC	1.2 m (4 ft)
— NT8D82AD	1.8 m (6 ft)

NT8D83 PRI/DTI to I/O Cable

Purpose— This cable assembly also includes the EMI filter. Connects the T1 port on a PRI or DTI card to the I/O panel.

Lengths—

— NT8D83AC	1.2 m (4 ft)
— NT8D83AD	1.8 m (6 ft)

NT8D84AA SDI Paddleboard to I/O Cable

Purpose— This cable assembly also includes the EMI filter. Connects the NT8D41 SDI Paddleboard to the I/O panel.

Length—45.7 cm (18 in.)

NT8D84BA System Monitor to I/O Cable

Purpose— This cable assembly also includes the EMI filter. Connects the NT7D15 System Monitor to the I/O panel.

Length—45.7 cm (18 in.)

NT8D85 Network to PE Cable

Purpose—Connects the following:

— CMA card on CPU 0 to the CMA card on CPU 1 (options 61 and 71)

— QPC414 Network Card to PRI or DTI card

— QPC414 Network Card to QPC659 DLB Card (for internal cabling only)

— QPC414 Network Card to E and F connectors on the NT8D47 RPE module, used only for internal cabinet connections

— QPC659 DLB Card to QPC659 DLB Card when connecting two NT8D13 PE Modules together

Lengths—

— NT8D85BB	0.6 m (2 ft)
— NT8D85BC	1.2 m (4 ft)
— NT8D85BZ	1.5 m (5 ft)
— NT8D85BD	1.8 m (6 ft)
— NT8D85BE	2.4 m (8 ft)
— NT8D85BF	3.0 m (10 ft)
— NT8D85BJ	4.8 m (16 ft)
— NT8D85BL	6.0 m (20 ft)
— NT8D85BP	7.6 m (25 ft)
— NT8D85BV	10.7 m (35 ft)

NT8D86 Network to I/O Cable

Purpose— This cable assembly also includes the EMI filter. Connects the following to the I/O panel:

— QPC414 Network Card

— PRI or DTI card

— QPC659 DLB Card

— NT8D47 RPE Module

Length—

— NT8D86AC 1.5 m (5 ft)

— NT8D86BD 1.8 m (6 ft)

NT8D87 Conference/TDS to Music Trunk Cable

Purpose—This cable is used to connect the NT8D17AA Conference/TDS Card to the music trunk or I/O connector panel.

Length—This cable is available in the following lengths:

— NT8D87AC 1.2 m (4 ft)

— NT8D87AD 1.8 m (6 ft)

NT8D88 Network to I/O Cable

Purpose— This cable assembly also includes the EMI filter. Connects the NT8D04 Superloop Network Card to the I/O panel.

Lengths—

— NT8D88AC 1.5 m (5 ft)

— NT8D88AD 1.8 m (6 ft)

NT8D90AF SDI Multiple-Port Cable

Purpose—An internal multiple-port extension cable for the QPC841 4-Port SDI Card. Connects from the I/O panel to the NT8D96AB cable.

Length—3 m (10 ft)

NT8D91 Network to Controller Cable

Purpose—Used for internal cabling to connect the NT8D04 Superloop Network Card to the NT8D01 Controller Card.

Lengths—

— NT8D91AC	1.2 m (4 ft)
— NT8D91AD	1.8 m (6 ft)
— NT8D91AE	2.4 m (8 ft)
— NT8D91AF	3.0 m (10 ft)
— NT8D91AG	3.6 m (12 ft)
— NT8D91AJ	4.8 m (16 ft)
— NT8D91AP	7.6 m (25 ft)
— NT8D91AT	10.6 m (35 ft)
— NT8D91AV	13.7 m (45 ft)

NT8D92AB Controller to I/O Cable

Purpose—Connects the NT8D01 Controller Card to the I/O panel. Used only when the network loop is cabled externally.

Length—50 cm (20 in.)

NT8D93 SDI Paddleboard I/O to DTE/DCE Cable

Purpose—Connects the NT8D41 SDI Paddleboard to DTE or DCE through the I/O panel.

Lengths—

— NT8D93AJ	4.8 m (16 ft)
— NT8D93AW	14.6 m (48 ft)

NT8D95 SDI I/O to DTE/DCE Cable

Purpose—Connects ports on the following cards to DTE or DCE through the I/O panel:

— QPC513 ESDI Card

— QPC841 4-Port SDI Card

— QPC687 CPU Card

Lengths—

— NT8D95AJ (male-to-male)	4.8 m (16 ft)
— NT8D95BJ (male-to-female)	4.8 m (16 ft)
— NT8D95AT (male-to-male)	10.3 m (34 ft)
— NT8D95BT (male-to-female)	10.3 m (34 ft)
— NT8D95AW (male-to-male)	14.6 m (48 ft)
— NT8D95BW (male-to-female)	14.6 m (48 ft)

NT8D96AB SDI Multiport Cable

Purpose—Three-way cable used with the QPC841 Quad Serial Data Interface Card. Connects external terminal equipment to the I/O panel.

Connects the PRI or DTI card to the MDF through the I/O panel.

Length—0.6 m (2 ft)

NT8D97AX PRI/DTI I/O to MDF Cable

Purpose—This cable connects the PRI/DTI card to the MDF via the I/O connector panel.

Length—15.2 m (50 ft)

NT8D98 Intercabinet Network Cable

Purpose—Interconnects NT8D04 Superloop Network Cards:

— from Network module to IPE module through the I/O panel

— from QCA55 cabinet to IPE module (used for system upgrades)

Lengths—

— NT8D98AD	1.8 m (6 ft)
— NT8D98AF	3.6 m (12 ft)
— NT8D98AL	6.0 m (20 ft)
— NT8D98AS	9.1 m (30 ft)
— NT8D98AT	11.5 m (38 ft)
	(NT8D98AT not for QCA55 cabinet application)

NT8D99 CPU to Network Cable

Purpose—Interconnects NT8D35 Network Modules in a full group configuration. Connects to backplane connector A, B, C, D, or E (therefore, it is also known as the ABCDE cable).

Lengths—

— NT8D99BB	0.65 m (26 in)
— NT8D99AC	1.2 m (4 ft)
— NT8D99BD	1.95 m (66 in)

NT9D47 EMSI to SMDU Data Cable

Purpose—Connects an NT9D34 EMSI Card to the NT9D33 SMDU (option 21E, STE system).

Lengths—

— NT9D47AB	0.6 m (2 ft)
— NT9D47AD	1.8 m (6 ft)

NT9D66 EMSI to SMDU Power Cable

Purpose—Connects an NT9D34 EMSI Card to the NT9D33 SMDU (option 21E, STE system).

Lengths—

— NT9D66AB	0.6 m (2 ft)
— NT9D66AD	1.8 m (6 ft)

NT9D89 EMSI to MDU Data Cable

Purpose—Connects an NT9D34 EMSI Card to the NTND16 or NT8D69 MDU (options 51/61/71).

Lengths—

— NT9D89AB	0.6 m (2 ft)
— NT9D89AD	1.8 m (6 ft)

NT9J93AD PRI/DTI Echo Canceler to I/O Cable

Purpose—Connects the PRI or DTI echo canceler port to the I/O panel.

Length—1.8 m (6 ft)

NT9J94AB RPE to I/O Cable

Purpose—This cable is used to connect the NT8D47 RPE to the I/O connector panel.

Length—0.6 m (2 ft)

NT9J96 Intracabinet Network Cable

Purpose—Used for system upgrades. Connects the QPC414 Network Card to the I/O panel within a QCA55 cabinet.

Lengths—

— NT9J96AC	1.0 m (40 in.)
— NT9J96AD	1.8 m (70 in.)
— NT9J96AE	2.2 m (85 in.)
— NT9J96AG	3.6 m (12 ft)
— NT9J96AH	4.3 m (14 ft)
— NT9J96AJ	4.8 m (16 ft)

NT9J97 Intracabinet Network Cable

Purpose—Used for system upgrades. Connects the NT8D04 Superloop Network Card to the I/O panel in a QCA55 cabinet.

Lengths—

— NT9J97AC	1.0 m (40 in.)
— NT9J97AD	1.8 m (70 in.)
— NT9J97AE	2.2 m (85 in.)
— NT9J97AG	3.6 m (12 ft)
— NT9J97AH	4.3 m (14 ft)
— NT9J97AJ	4.8 m (16 ft)

NT9J98 Intracabinet Network Cable

Purpose—Used for system upgrades. Connects the QPC414 Network Card to the I/O panel of the QCA108 or QCA136 cabinet.

Lengths—

— NT9J98AC	1.0 m (40 in.)
— NT9J98AD	1.8 m (70 in.)
— NT9J98AE	2.2 m (85 in.)

NT9J99 Intracabinet Network Cable

Purpose—Used for system upgrades. Connects the NT8D04 Superloop Network Card to the I/O panel of the QCA108 or QCA136 cabinet.

Lengths—

— NT9J99AC	1.0 m (40 in.)
— NT9J99AD	1.8 m (70 in.)
— NT9J99AE	2.2 m (85 in.)

NTAG01AA Cable Assembly (UK only)

Purpose—This cable is used to connect the console to the cross-connect terminal.

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector with two locking screws at one end and free-ended at the other end. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK.

Length—0.5 m

NTAG02AA Cable Assembly (UK only)

Purpose—This cable is used to connect the console to the cross-connect terminal.

Features—25-pair, 24 AWG tinned copper conductors. The cable has a 90 degree, 25-pair D-type connector with two locking screws at one end and free-ended at the other end. These cables utilize a custom compounded jacketing that meets the requirements for specific PBX contracts in the UK.

Length—91.4 m

NTAG81AA Audio Cable

Purpose—Connects external analog music source or a recording device to the 3.5 mm Audio Jack on the NTAG36 Meridian Integrated RAN card faceplate. This is a splitter cable that provides the audio input signal on one connector and the audio output signal on the other connector.

NTAG81BA Maintenance Extender Cable

Purpose—Extends the NTAG81CA PC Maintenance cable or the NTAG81DA VLAN Maintenance cable when connecting a terminal to the NTAG36 Meridian Integraded RAN card. It is terminated with one 9-pin D-sub male and one 9-pin D-Sub female connector.

Length—5 m (16.4 feet)

NTAG81CA PC Maintenance Cable

Purpose—Connects the terminal to the NTAG36 Meridian Integrated RAN card maintenance port on the faceplate. It is terminated with an 8-pin Mini-DIN male connector and a 9-pin D-Sub female connector.

Length—3 m (9.8 feet)

NTAG81DA VLAN Maintenance Cable

Purpose—Connects the Mini-DIN maintenance connector on the NTAG36 Meridian Integraded RAN (MIRAN) faceplate to a terminal or to an adjacent MIRAN to form a LAN daisy chain. It is terminated with an 8-pin Mini-DIN connector on the common side and two 9-pin D-Sub connectors one male and one female, on the split side.

Length—3 m (9.8 feet)

NTAK410 Carrier Remote DC Power Cable

Purpose—Used to connect the cabinet to a reserve battery power supply or to a DC power source through the NTAK28 Junction Box.

Length—1.8 m (70 in.)

NTAK1204 Carrier Remote Inter-cabinet Cable

Purpose—Used to connect the main cabinet to the expansion unit in the small Carrier Remote IPE cabinet.

Length—2.2m (85 in.)

NTCG03 Reference Clock Cable

Purpose—Used to connect each of the CLK0 or CLK1 ports on the NT5D12AA Dual DTI/PRI (DDP) card to the primary or secondary source ports on the Clock Controller card 0 or 1.

Length—

— NTCG03AA	4.2 m (14 ft)
— NTCG03AB	0.84 m (2.8 ft)
— NTCG03AC	1.2 m (4.0 ft)
— NTCG03AD	2.1 m (7 ft)

NTCK46 External DCHI Cable

Purpose—Used to connect the NT5D12AA Dual DTI/PRI (DDP) card to the QPC757 DCHI D-Channel Handler card.

Length—

— NTCK46AA	1.8 m (6 ft)
— NTCK46AB	5.4 m (18 ft)
— NTCK46AC	10.6 m (35 ft)
— NTCK46AD	15.2 m (50 ft)

NTCK80 External MSDL Cable

Purpose—Used to connect the NT5D12AA Dual DTI-PRI (DDP) card to the NT6D80 MSDL card.

Length—

— NTCK80AA	1.8 m (6 ft)
— NTCK80AB	5.4 m (18 ft)
— NTCK80AC	10.6 m (35 ft)
— NTCK80AD	15.2 m (50 ft)

NTND11 CP to CP Cable

Purpose—Used with options 61C, 81, and 81C. Through connectors on the rear of the backplane, connects the card slot for the NT6D66 CP Card in Core Module 0 to the card slot for the CP card in Core Module 1 in option 81, and the NT6D66 CP Card in Core/Network Module 0 to the NT6D66 CP Card in Core/Network Module 1 for options 61C and 81C. For option 61C with Core/Network modules stacked in one column, NTND11AA (2 ft) is used. Two required per system.

Length—

— NTND11AA	0.6 m (2 ft.)
— NTND11BA	1.8 m (6 ft.)

NTND13 IOP to IOP SCSI Cable

Purpose—Used with options 61C, 81, and 81C. Through connectors on the rear of the backplane, connects the card slot for the NT6D63 IOP Card in Core Module 0 to the card slot for the IOP card in Core Module 1 for option 81 and connects the card slot for the NT6D63 IOP Card in Core/Network Module 0 to the NT6D63 IOP Card in the Core/Network Module 1.

It connects the card slot for the NT5D20 IOP/CMDU Card in Core/Network Module 0 to the NT5D20 IOP/CMDU Card in the Core/Network Module 1 in option 81C. One required per system.

Length—NTND13BC 1.8 m (6 ft)

NTND14 CNI to 3PE Cable

Purpose—Used with options 81 and 81C. Through connectors on the rear of the backplane, connects ports on the NT6D65 CNI Card to the network through the QPC441 3PE Card. Two required per half group.

Lengths—

— NTND14BA	1.8 m (6 ft)
— NTND14BB	2.5 m (8 ft)
— NTND14BC	3.0 m (10 ft)
— NTND14BD	3.6 m (12 ft)
— NTND14BE	7.6 m (25 ft)

NTND26 MSDL DCHI Interface Cable

Purpose—Connects a multipurpose serial data link (MSDL) port to the ISDN PRI trunk connector for DCH.

Lengths—

— NTND26AA	1.8 m (6 ft)
— NTND26AB	5.5 m (18 ft)
— NTND26AC	10.6 m (35 ft)
— NTND26AD	15.2 m (50 ft)

NTND27AB MSDL to I/O Panel Cable

Purpose—Connects an MSDL port to the I/O panel.

Length—1.8 m (6 ft)

NTND28 Intercabinet Cable

Purpose—Used for upgrades to option 81 and 81C. Connects NT6D60 Core Modules to an EMI-filter connector housing on QCA55 or QCA108 Cabinets for option 81 and connects NT5D21 Core/Network Modules to an EMI-filter connector housing on QCA55 or QCA108 Cabinets for option 81C. Quantity required is determined by the system configuration.

Included in the NTND33 Core Module Upgrade Kits.

Lengths—

— NTND28BA 4 m (13 ft)

— NTND28BB 4.8 m (16 ft)

— NTND28BC 6.7 m (22 ft)

NTND33 Core Module Upgrade Kit

Purpose—Sets of cables and a connector housing used with Core module upgrades to option 81:

— NTND33CB Clock/Group 0 Kit—provides cables for the clock controller card and a single network group (Group 0)

— NTND33CC Two-Group Kit—provides the cables for network groups other than Group 0; one kit required for groups 1 and 2; an additional kit required for groups 3 and 4; used with the NTND33CB kit. This kit can also be used when upgrading to option 81C.

Note: The NTND33CB Clock/Group 0 Kit replaces the NTND33BB Group 0 Kit. The NTND33CC Two-Group Kit replaces the NTND33BC Group 1–2 and NTND33BD Group 3–4 Kits.

NTND33CA Network Expansion Kit

Purpose—Sets of cables and connector housings used to add additional network groups.

Length—NTND28BA 4 m (13 ft)

NTND37 Dual SDI Cable

Purpose—Used with option 21E. The external interface between SDI ports configured on the NTND02 MSPS Card and the SDI devices. One end of the cable has one connector, which attaches to the I/O panel. The other end of the cable has two connectors, each of which attaches to a DTE or DCE device.

NTND94 CNI to I/O Panel Cable

Purpose—Used for upgrades to options 81 and 81C. Through connectors on the rear of the backplane, connects the two ports on the NT6D65 CNI Card to the I/O panel in the Core or Core/Network module. Two required per half group.

Included in the NTND33 Core Module Upgrade Kits.

Lengths—NTND94DA 0.5 m (20 in.)

NTND95 3PE to Connector Housing Cable

Purpose—Used for upgrades to options 81 and 81C. Connects QPC441 3PE Cards in Network modules to an EMI-filter connector housing. Two required per half group.

Included in the NTND33 Core Module Upgrade Kits.

Length—2.5 m (8 ft)

P0704007 Superloop Adapter Plate

Purpose—Reduces the QPC414 network loop cutout to accept a superloop connection.

P0715058 Universal I/O Panel

System hardware—All

Purpose—Provides increased I/O panel capacity for QPC414 network loops that must extend outside the Meridian 1 module, or other connectivity provided by this panel.

QCA328AD Connector Cable

Purpose—Used to connect the PRI pack to the D-channel interface card, the QPC757 DCHI.

Features—25-pair cable with a 25-pin D-type male connector at one end and a 15-pin D-type male connector at the other end.

Lengths—

— QCAD328A 6 ft (1.8 m)

— QCAD328B 18 ft (5.5 m)

QCAD36A and QCAD37A Terminal Connector Cables

Purpose—To connect a serial data interface (SDI) circuit pack to a local data terminal or data communications equipment.

The QCAD36A connector is used when the data terminal is located within 16 cable ft (4.9 m) of the SDI card. For greater distances (up to 50 cable ft), use the QCAD37A connector.

Features—25-wire, 24 AWG standard EIA interface cable. Connectorized at both ends (90 degree. hoods), 16 ft (4.9 m) or 50 ft (15.2 m) in length.

Quantity—One cable for each terminal.

QCAD38A Connector Cable

Purpose—To interconnect two changeover and memory arbitrator packs in a dual-CPU configuration.

Features—25-pair cable; 2.5 ft (762 mm) in length.

QCAD40 Connector Cable

Purpose—Used in Meridian SL-1 S to connect the main tape unit to the tape interface pack; 3 ft (915 mm) in length.

Length—1 m (3 ft)

QCAD42 Connector Cable

Purpose—Used to connect an SDI port to the input/output panel.

Features—25-wire flat ribbon cable, 28 AWG, 95 in. (2413 mm) in length.

QCAD110 Connector Cable

Purpose—To interconnect the QPC411 System Clock Generator or QPC471 Clock Controller to the QPC417 Junctor.

Features—This 25-pair cable has a 180 degree connector at one end and a 90 degree connector at the other.

QCAD115 Connector Cable

Purpose—Used to connect PE shelf to Input/Output panel.

Features—25-pair ribbon cable, 26 AWG, 20 in. (508 mm) in length. Two 50-pin connections.

QCAD116 Connector Cable

Purpose—Used to connect a PE shelf to the input/output panel.

Features—25-pair flat ribbon cable, 26 AWG, 40 in. (1016 mm) in length. Two 50-pin connectors.

QCAD117 Connector Cable

Purpose—Used to connect a PE shelf to the input/output panel.

Features—25-pair flat ribbon cable, 26 AWG, 60 in. (1651 mm) in length. Two 50-pin connectors.

QCAD118 Connector Cable

Purpose—Used to connect a PE shelf to the input/output panel.

Features—25-pair flat ribbon cable, 26 AWG, 80 in. (2032 mm) in length. Two 50-pin connectors.

QCAD119 Connector Cable

Purpose—Used to connect an SDI port to the input/output panel.

Features—25-wire flat ribbon cable, 28 AWG, 65 in. (1651 mm) in length.

QCAD120 Connector Cable

Purpose—Used to connect an SDI port to the input/output panel.

Features—25-wire flat ribbon cable, 28 AWG, 75 in. (1905 mm) in length.

QCAD121 Connector Cable

Purpose—Used to connect an SDI port to the input/output panel.

Features—25-wire flat ribbon cable, 28 AWG, 45 in. (1143 mm) in length.

QCAD122 Connector Cable

Purpose—Interconnects the QPC412 InterGroup Switch pack to the QPC417 Junctor.

Features—25-pair cable; has a 180 degree connector at one end and a 90 degree connector at the other. Available in lengths of 4 ft (1220 mm), 6 ft (1830 mm), 10 ft (3050 mm), and 20 ft (6100 mm).

QCAD123 Connector Cable

Purpose—Interconnects two changeover and memory arbitrator packs in a dual-CPU configuration or connects the bus extender pack with the three-port extender.

Features—25-pair cable. Available in lengths of 2 ft (610 mm), 3 ft (915 mm), 4 ft (1220 mm), 6 ft (1830 mm), 10 ft (3050 mm), and 20 ft (6100 mm).

QCAD124 Connector Cable

Purpose—

— to connect each network circuit pack to a group of PE shelves

— to interconnect network extender circuit packs

— to interconnect PE shelves in the same network loop

— to interconnect tone and digit switch circuit packs

— to connect multigroup switch packs to multigroup extender packs

— to interconnect multigroup extender packs

Features—18-pair, 26 AWG tigh-twisted cable, connectorized at both ends (90 degree connectors). Use NE-A18Q for 180 degree connectors.

Lengths—

FT	MM	FT	MM
3	915	20	6100
4	1220	25	7600
6	1830	35	10700
10	3050	45	13800
15	4560	50	15240

QCAD125 Connector Cable

Purpose—Connects clock controller 0 to clock controller 1. This is a 25-pair cable with a 50-pin, 90 degree connector on each end.

Length—3 m (10 ft)

QCAD126 Connector Cable

Purpose—Connects the CPU bus to the option shelf in Meridian SL-1 S. Has 90 degree connector hoods at each end.

Length—1.5 m (5 ft)

QCAD128 Connector Cable

Purpose—Connects the QPC472 DTI Carrier Interface connector (J5) to the cabinet filter panel. A 15-conductor flat ribbon cable with a 15-pin D-type female connector at one end and a 15-pin D-type male connector at the other.

Length—2.1 m (7 ft)

QCAD129 Connector Cable

Purpose—Connects QPC472 DTI Echo Canceler connector (J4) to the cabinet filter panel in a shielded cabinet or directly to the Echo Canceller via a standard RS-232-C cable.

Features—A 10-conductor twisted pair cable with a 15-pin D-type male connector at one end and a 25-pin D-type female connector at the other.

QCAD130 Connector Cable

Purpose—Connects QPC472 DTI Reference Clock connector (J1 or J2) to the QPC471 Clock Controller.

Features—A 9-conductor flat ribbon cable terminated at both ends with a 9-pin D-type connector.

QCAD133 PRI/DTI I/O to MDF Cable

Purpose—Provides shielded cable pairs to connect the PRI or DTI card to the MDF through the I/O panel. Also, connects the 15-pin I/O filter connector to the 15-pin (Network Channel Terminating Equipment (NCTE) connector.

Length—15.2 m (50 ft)

QCAD172 Connector Cable

Purpose—Used on the Meridian SL-1 N when an additional network shelf is required to mount Digital Trunk Interface cards (QPC472).

QCAD209 Connector Cable

Purpose—Used on the Meridian SL-1 N and XN when replacing a QUW1 magnetic tape unit with a mass storage unit.

QCAD253 Connector Cable

Purpose—Used on the Meridian SL-1 S to connect a mass storage module to the mass storage interface.

QCAD273 Power Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST to carry 15A/125V.

QCAD274 Power Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST to carry 20A/225V.

QCAD274A AC Power Cord

Purpose—Connects to an IG-L6-30 30-amp receptacle and conducts AC power to the NT6D52 rectifier.

Length—2.7 m (9 ft)

QCAD275 Power Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST to carry 30A/125V.

QCAD276 Power Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST for the second tier.

QCAD277 Power Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST for the third tier.

QCAD278 Power Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST for the base cabinet.

QCAD279 Power Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST for the disk drive.

QCAD281 Connector Cable

Purpose—Used to connect a digital trunk or I/O panel to a cross-connect terminal.

QCAD282 Connector Cable

Purpose—Used to connect a digital trunk to an I/O panel (EMI systems only).

QCAD283 Power Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST to carry 30A/150V.

QCAD287 Power Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST for the power fail.

QCAD291 Connector Cable

Purpose—Used to connect a digital trunk toan I/O panel (SN/ST EMI systems).

QCAD293 Network Loop Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST to connect from the network circuit pack to a peripheral buffer circuit pack to the PE shelf.

Lengths—Available in five different lengths to connect to the five PE shelf positions:

— A1 cable connects to PE shelf position 1

— A2 cable connects to PE shelf position 2

— A3 cable connects to PE shelf position 3

— A4 cable connects to PE shelf position 4

— A5 cable connects to PE shelf position 5

QCAD294 P10 Cable

Purpose—Used on the Meridian SL-1 SN and ST to extend P10 connections from cabinet to cross-connect terminal.

QCAD299 RPE Power Adapter Cable

Purpose—Used on the Meridian SL-1 SN and ST. Used in QCA144 to power shelves.

QCAD300 RPE Power Adapter Cable

Purpose—Used on the Meridian SL-1 SN and ST. Used in QCA146 to power shelves.

QCAD306 Power Adapter Cable

Purpose—Used to connect power to the QPC699 backplane, which is mounted in a QSD73 CE expansion shelf.

QCAD308 PE Cable Assembly

Purpose—Used on the Meridian SL-1 SN and ST. Power cable serving positions 1 through 4 in QCA137 PE cabinet.

QCAD309 Alarm Adapter Cable

Purpose—Used on the Meridian SL-1 SN and ST to extend alarm connections to alarm port in QCA136, QCA141 and QCA137 cabinets.

QCAD310 Ground Cable

Purpose—Used on the Meridian SL-1 SN and ST to extend ground connections for a CE cabinet to a PE cabinet.

QCAD311 Intracabinet Network Cable

Purpose—Used on the Meridian SL-1 SN and ST to connect PE shelves to the network loop in the cabinet. In addition:

- QCAD311A1: used in first tier of the PE expansion cabinet; also in A, L, M, MS converted to SN/ST
- QCAD311A2: used in second tier of the PE expansion cabinet
- QCAD311A3: used in third tier of the PE expansion cabinet
- QCAD311A4: connect SN and ST network to A, L, M, MS for ST upgrade
- QCAD311A5: connect SN and ST network to A, L, M, MS for ST upgrade
- QCAD311A6: connect SN and ST network to A, L, M, MS for ST upgrade

QCAD312 Intercabinet Network Cable

Purpose—Used on the Meridian SL-1 SN and ST to extend network loops from the CE cabinet to the PE cabinet.

QCAD313 PE Cable Assembly

Purpose—Used on the Meridian SL-1 SN and ST. Power cable serving positions 5 and 6 and cooling units in QCA137 cabinet.

QCAD320 Connector Cable

Purpose—Used on the Meridian SL-1 SN and ST to connect the QMM45 FDM to the QPC742 FDI. The cables are 3 ft and 6 ft long.

QCAD321 Power Adapter Cable

Purpose—Used on the Meridian SL-1 SN and ST to connect QCA136, QCA137, QCA141, QCA144, and QCA146 cabinets to a QBL15 battery distribution box.

QCAD328 PRI to DCHI Cable

Purpose—Connects the DCHI port (J5) on the QPC720 PRI Card to the odd port (J2) on the QPC757 DCHI Card.

Lengths—

— QCAD328A	1.8 m (6 ft)
— QCAD328B	5.5 m (18 ft)
— QCAD328C	10.6 m (35 ft)
— QCAD328D	15.2 m (50 ft)

QCAD332/333 3-Port SDI Cables

Purpose—Used to cable three SDI ports.

— QCAD332, 3 male to 1 female (internal ST cabinet use)

— QCAD333, 1 male to 3 female (external cabinet use)

QCB6 Tape Unit Connector Cable

Purpose—To connect the QUW-type tape unit to the tape interface circuit pack (QPC33).

Features—36-pair, 26 AWG tight-twisted cable. Connectorized at both ends.

Length—5 ft (1.52 m)

Quantity—One for each tape interface circuit pack

QCB12/13 Connector Cable

Purpose—To connect the QPC130 CDR tape control to the magnetic tape unit. Refer to *Call Detail Recording description and formats* (553-2631-100), 553-2631-101.

Interface cables

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)/NT/XT

Purpose—Twisted-pair cables used to interface PE shelves, alarms, power failure transfer units, and serial data interface circuit packs with equipment that is external to the Meridian SL-1 cabinet. Each cable terminates on a filter connector located in the cabinet top panel.

Lengths—Interface cables are available in the lengths shown in Table 14.

Table 14
Cables available

Cable description	Wires	Length inches	Length (mm)	Order code
QCAD115 PE Flat	50	20	(510)	A0295696
QCAD116 PE Flat	50	40	(1015)	A0295697
QCAD117 PE Flat	50	60	(1525)	A0295698
QCAD118 PE Flat	50	80	(2030)	A0295699
QCAD119 SDI Flat	25	65	(1650)	A0295999
QCAD120 SDI Flat	25	75	(1905)	A0296000
QCAD42 SDI Flat	25	95	(2415)	A0296285
QCAD137 SDI Flat	25	30	(760)	A0313143 (Note)
QCAD190 PE Round	50	74	(1880)	A0317608
QCAD191 PE Round	50	71	(1805)	A0317609
QCAD192 PE Round	50	68	(1730)	A0317610
QCAD193 PE Round	50	61	(1550)	A0317611
QCAD194 PE Round	50	58	(1475)	A0317612
QCAD195 PE Round	50	55	(1400)	A0317613
QCAD196 PE Round	50	48	(1220)	A0317614
QCAD197 PE Round	50	43	(1095)	A0317615
QCAD198 PE Round	50	40	(1015)	A0317616
QCAD199 PE Round	50	33	(840)	A0317617
QCAD200 PE Round	50	30	(760)	A0317618
QCAD201 PE Round	50	27	(685)	A0317619

Note: The QCAD137 is used only with the S system hardware.

Miscellaneous equipment

A0345353 A/B-Switch

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Connects a remote PC, used as a Meridian 1 COMPANION diagnostic terminal, to Meridian 1. If also used for other applications, disconnects it from Meridian 1.

A0377992 Black Box ABCDE-Switch

System hardware—option 51C/61C/81/81C

Purpose—Connects multiple SDI and CPSI ports to one terminal or one modem.

A0378252 Battery Pack Assembly

System hardware—option 21E

Purpose—Provides CPU memory backup for up to 60 minutes during power failures. Attaches to the NTND02 MSPS Card.

A0381391 UDS FastTalk v.32/42b

System hardware—option 81/81C

Purpose—Verified for operation with option 81 and 81C. Provides 9600 baud transmission. Equipped with a 6-ft power cord for a standard 110 V ac wall socket, a cable that connects to an RJ-11C jack, and an internal telephone jack for voice capability.

A0601396 Nullmodem

System hardware—option 21E/51/51C/61/61C/71/81/81C and systems NT and XT upgraded to support IPE cards.

Purpose—Compact DB-25F/DB-25M nullmodem adapter.

A0601397 Nullmodem

System hardware—option 21E/51/51C/61/61C/71/81/81C and systems NT and XT upgraded to support IPE cards.

Purpose—Compact DB-25F/DB-25F nullmodem adapter.

A0633651 40MB PCMCIA Flash Card

System hardware—options 21E/51/51C/61/61C/71/81/81C and all systems equipped with a Meridian 1 IPE shelf which are running X11 release 21 and later software, and are equipped with the NTAG36 Meridian Integrated RAN (MIRAN) card.

Purpose—This PCMCIA Flash card provides additional memory storage when loaded on to an NTAG36AA Meridian Integrated RAN (MIRAN) card. 1 MB of Flash memory provides up to two minutes of additional storage. This card provides over one hour of additional memory storage to MIRAN.

A0634488, A0634489, A0634490, A0634491, A0634492, A0634493 Fiber Remote Multi-IPE

System hardware—option 21E/51C/61C/71/81/81C; systems NT/XT that have been upgraded to provide IPE capability.

Purpose—Provides Meridian 1 functionality to a Remote IPE via a fiber optic span. Select one of the following four varieties, depending on your environment:

— A0634488: Fiber Remote Multi-IPE - Single-mode (1-4 superloops)

— A0634489: Fiber Remote Multi-IPE - Single-mode (1-2 superloops)

— A0634490: Fiber Remote Multi-IPE - Multi-mode (1-4 superloops)

— A0634491: Fiber Remote Multi-IPE - Multi-mode (1-2 superloops)

— A0634492: Fiber Remote Multi-IPE - Single-mode, redundant option

— A0634493: Fiber Remote Multi-IPE - Multi-mode, redundant option

Note: The 1-2 superloop or 1-4 superloop version refers to the number of superloops transmitted over a single fiber span.

Quantity—One per Meridian 1 (required), and up to one per remote IPE.

A0634494 Fiber Remote Multi-IPE Rack Mount Shelf Option

System hardware—option 21E/51C/61C/71/81/81C; and systems NT and XT that have been upgraded to provide IPE capability.

Purpose—Provides equipment to rack-mount the Fiber Remote Multi-IPE

Quantity—One per Fiber Remote Multi-IPE where rack mounting is desired.

A0660403 3MB PCMCIA Flash Card

System hardware—options 21E/51/51C/61/61C/71/81/81C and all systems equipped with a Meridian 1 IPE shelf which are running X11 release 21 and later software, and are equipped with the NTAG36 Meridian Integrated RAN (MIRAN) card.

Purpose—This PCMCIA Flash card allows software enhancements or maintenance upgrades to be loaded on to the card and installed onto the NTAG36 MIRAN card.

NT5D52AA Ethernet Adapter card

System hardware—option 21E/51/51C/61/61C/71/81/81C and systems NT and XT upgraded to support IPE cards.

Purpose—This adapter card is installed on the IPE module I/O panel only when the NT5D51 Meridian Integrated Conference Bridge (MICB) card is to be connected to the Ethernet.

NT5D62 PCMCIA Hard Drive card

System hardware—option 21E/51/51C/61/61C/71/81/81C and systems NT and XT upgraded to support IPE cards.

Purpose—This PCMCIA card contains the software and configuration for the NT5D51 Meridian Integrated Conference Bridge (MICB) card. It must be installed into the lower PCMCIA drive for the MICB card to operate.

NT7D0902 Rear Mount Conduit Kit

System hardware—option 21/21E/51/51C/61/61C/71/81/81C (DC-power)

Purpose—Allows conduit to enter the NT7D67CB PDU from the rear (above the floor).

NT7R62AA Bracket for Small Cabinet I/O Panel Assembly

System hardware—All

Purpose—Bracket that modifies the Fibre Remote Carrier IPE cabinet so that the I/O panel assembly can connect to the Small Carrier Remote IPE cabinet.

Quantity—One per Small Carrier Remote IPE cabinet.

NT8B80AB-03 Remote Access Device

System hardware—option 21/21E/51/51C/61/61C/71/81/81C

Purpose—Allows the COMPANION system to run PC applications remotely. It uses an RS-232 interface to connect to the PC and a TCM interface to connect to the COMPANION Meridian Controller Card (CMCC). It contains an internal modem.

NT8D63 Overhead Cable Tray Kit

System hardware—All

Purpose—Holds I/O cables that go from the system to the MDF. Provides support for overhead cabling tray. Mounts to the highest module in each column. Though this kit does NOT include the cable tray, it does contain:

— support brackets

— front and rear top cap air grills with cutouts

P0704007 Superloop Adapter Plate

System hardware—All

Purpose—Reduces the QPC414 network loop cutout to accept a superloop connection.

P0715058 Universal I/O Panel

System hardware—All

Purpose—Provides increased I/O panel capacity for QPC414 network loops that must extend outside the Meridian 1 module, or other connectivity provided by this panel.

P0741489 Extraction Tool

System hardware—option 51C/61C/81/81C

Purpose—Used to disconnect cable connectors attached to the rear of the backplane in the NT6D60 Core Module, NT9D11 Core/Network Module, and NT5D21 Core/Network Module.

QRY551 Channel Service Unit

Purpose—When required under FCC regulations (FCC 03), provides a 24-channel digital interface between a PRI or DTI and T1 line when connecting to registered common carrier trunks.

BIX Cross-Connect System

Purpose—Provides modular terminations and cross connections for the system. (See *BIX In-Building Cross-Connect System Material Description* (631-4511-100) for ordering information for the BIX system and Tables 15 and 16 for designation label ordering information.)

Table 15
Order numbers for BIX designation labels for NT8D13 PE Modules

Description	Color	Order number
Basic 500/2500 telephone labels (eight circuits per card) A set of four labels for each PE shelf is used	White	P0641810
SL-1 telephone (eight circuits)	Blue	P0641813
CO/FX/WATS trunk (two circuits)	Green	P0587230
CO/FX/WATS trunk (four circuits)	Green	P0641812
Loop signaling trunk (two circuits)	Red	P0587231
Loop signaling trunk (four circuits)	Red	P0641811
E&M/DX and Paging trunk (two circuits)	Yellow	P0587233
Recorded Telephone Dictation trunk (two circuits)	Orange	P0587232
Recorded Announcement trunk (two circuits)	Purple	P0587234
Four-wire E&M/DX Type I trunk (two circuits)	Yellow	P0631858
Four-wire E&M/DX Type II trunk (two circuits)	Yellow	P0631859
Emergency and Power Failure Transfer cables (P10, PFJ1, PFJ2)	Yellow	P0641814
Power failure transfer cables (P10, PFJ1, PFJ2)	Yellow	P0641814
Blank labels for telephones	Yellow Blue Silver	P0588401 P0588403 P0588404
Blank labels for trunks and riser cables	Green Blue	P0588415 P0588416

Table 16
Order numbers for BIX designation labels for NT8D37 IPE and NT8D11 CE/PE Modules

Label		Part number
NT8D37 IPE Module or NT8D11 CE/PE Module (24-port applications)		P0711371
NT8D37 IPE Module (16-port applications)		P0711372
NT8D11 CE/PE Module (16-port applications)		P0711373
NT8D15 E&M Trunk Card (2-wire type 1)		P0711379
NT8D15 E&M Trunk Card (2-wire paging)		P0711377
NT8D15 E&M Trunk Card (4-wire type 1)		P0711374
NT8D15 E&M Trunk Card (4-wire type 2)		P0711375
NT8D14 Universal Trunk Card (RAN)		P0711376
NT8D14 Universal Trunk Card (paging)		P0711378
NT8D14 Universal Trunk Card (CO/FX/WATS)		P0711380
NT8D14 Universal Trunk Card (DID/loop)		P0711381
Power Failure Transfer Unit (PFTU):	main source second source	P0711382 P0711383

Blank faceplates

System hardware—All

Purpose—An NT7D05 blank faceplate is required in a slot reserved for the ringing generator when a ringing generator is not used. Although not required, other unoccupied slots can be covered by any of the following blank faceplates, depending on the width of the slot:

— NT8D31AA 2.2 cm (0.875 in.)

— NT8D31AB 2.5 cm (1 in.)

— NT8D31AD 5 cm (2 in.)

Bulkhead assembly

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)/NT/XT

Purpose—Used to provide access for intercabinet cables between adjacent cabinets when suppression of electromagnetic interference is a requirement. Each cabinet side panel is equipped with four access holes.

Quantity—One P0635898 Bulkhead Assembly is required for each access hole to be equipped.

Cable support brackets

Purpose—To support cable racks above the cabinets. Refer to 553-3001-210.

Quantity—Two brackets per cabinet required to support the cable rack.

— Designed to accommodate 18 in. (460 mm) wide ladder-type cable rack:

- P0625093—2 in. (51 mm) support bracket
- P0625094—11 in. (279 mm) support bracket

— Designed to accommodate variable size ladder type cable racks of up to 18 in. wide:

- P0642526—11 in. support bracket (USA only)

Connecting blocks

Purpose—Used at the MDF or cross-connect field to interconnect Meridian SL-1 equipment with associated lines, trunks, and other equipment.

NE-66MQ2A-50	NE-66Q6A25
NE-66QC100	NE-150
NE-66Q2A50	NE-268

Dummy faceplates

Purpose—Inserted into any unoccupied shelf slot position of CE shelves as an aid to efficient cooling.

Quantity—One P0572335 single dummy faceplate for a single shelf slot position or one P0572336 double faceplate for a double slot position.

Earthquake bracing kit

System hardware—All

Purpose—Holds all the parts of a column in place during a major physical disruption such as an earthquake. Used only for non-raised floor. Each kit contains:

— four threaded rods

— two tie bars

— miscellaneous hardware (such as nuts and washers)

Three earthquake bracing kits are available:

— NT8D64AA for two tiers

— NT8D64AB for three tiers

— NT8D64AC for four tiers

Extension kits

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)/XL(QCA97). Used in early version Meridian SL-1 cabinets (blue).

Purpose—To contain excess cable and hide cables laying on top of cabinets without built in extension covers.

Available kits:

— P0622940 Kit for single cabinet

— P0622941 Kit for two cabinets side-by-side

— P0552944 Front cover

— P0622938 Side cover

— P0622941 Extension kit for front and rear

Field wiring kit

System hardware—option 21/51/61/71

Purpose—The NT6D54AA Field Wiring Kit is used in conjunction with the System Monitor to QBL15 cable. It provides the necessary hardware to connect four NT6D52AA rectifiers to a system monitor.

Filter assembly

Purpose—Installed in QUD-type cooling units to filter air used in cooling Meridian SL-1 common equipment. Order as P0634911.

Filter connector housing

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)/NT/XT

Purpose—Used to house a maximum of 16 filter connectors. Eight P0639958 Filter Connector Housings can be mounted on the top panel of Meridian SL-1 cabinets.

Filter connectors

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)/NT/XT

Purpose—Filter Connectors are used when suppression of electromagnetic interference is a requirement. They serve as connecting points between the interface cables within the cabinet and external cables. Sixteen filter connectors can be mounted in one filter connector housing.

Quantity—One filter connector is required for each interface cable. The following types of filter connectors are available:

— MVC01421 Filter Connector (PE), used to connect to a 25-pair connectorized cable serving peripheral equipment, alarms, power fail transfer equipment, and auxiliary equipment

— A0297366 Filter Connector (SDI), used to connect RS-232-type connections serving a TTY, modem, DTI, or other input/output device

— P0643762 Filter Connector, used to link connectorized cables serving a DTI carrier interface

— P0647266 Filter Connector, used to link connectorized cables serving a DTI/echo Canceler interface

Filter connector hardware

— Connector Hardware Package MVC01561 contains sufficient hardware to mount seven MVC01421 Filter Connectors (PE) in the cabinet top panel.

— Connector Hardware Package MVC01562 contains sufficient hardware to mount two A0297366 Filter Connectors in the cabinet top panel.

Filter connector cover plate

A P0642917 Cover Plate is used to cover vacant filter connector openings in the Filter Connector Housing.

Key and cross-connect terminal designations

To identify key functions, terminals, cables, equipment, and terminating points. Refer to Tables 17 and 18.

Table 17
Key Descriptions for SL-1 sets, consoles, and add-on modules

Station equipment	Order number
SL-1 Set	
English	P0486393
French	P0386394
Attendant Console	
English	P0586395
French	P0586396
SL-1 Set with special features	
(ACD, Hotel/Motel, etc.)	
English	P0596155
French	P0625089
Attendant Console with special features	
English	P0596156
French	P062590
QMT3 Lamp Field Array	P0560497
QMT8 Add-on Data Module	P0593934

Table 18
Designations for cross-connect terminals (Part 1 of 2)

NE-Type Termination Block					
	Color	**66MQ2A50**	**66Q6A25 66Q6A50**	**66QC100**	**150 268**
PE Circuit Packs					
QPC192, 267, 286, 302, 343, 353,354, 452, 494, 521, 532, 558	Blue	P0559416	P0552986	P0560460	P0552988
QPC297, 311, 341, 342, 432, 451,518, 519, 520	White	P0559413	P0552983	P0552982	P0552989
QPC217, 218, 272, 293, 450, 525, 526, 527, 528	Green	P0559415	P0552984	P0552980	P0552990
QPC71, 287	Yellow	P0559417	P0552987	P0552979	P0552991
QPC72, 288, 449, 559, 560	Red	P0559414	P0552985	P0552981	P0552992
QPC73, 289	Orange	P0560417	P0560470	P0560416	P0560465
QPC74, 290	Purple	P0566942	P0566940	P0566941	P0566939
QPC219, 295,	Orange	P0586352	P0586356	P0586344	P0586348
QPC237, 296, 390, 391	Yellow	P0586353	P0586357	P0586345	P0586349
QPC239, 294	Purple	P0586350	P0586354	P0586342	P0586346
QPC250	Yellow	P0586351	P0386355	P0586343	P0586347
Emergency Transfer Unit					
PFJ1 to PFJ4	White	P0560466	P0560471	P0560461	P0552993
PFJ5	White	P0560467	P0560473	P0560462	P0552994
PFJ1 Title	White		P0560472	P0559400	P0559400
PFJ2 Title	White			P0559401	P0559401

Table 18
Designations for cross-connect terminals (Part 2 of 2)

NE-Type Termination Block					
	Color	**66MQ2A50**	**66Q6A25 66Q6A50**	**66QC100**	**150 268**
PFJ3 Title	White			P0559402	P0559402
PFJ4 Title	White			P0559403	P0559403
Designation Strips					
PFJ5 Title	White			P0559404	P0559404
Loop-Shelf	White	P0560475	P0552997	P0552997	
Card No.	White				P0552998
PFT No.	White				P0552999

Mini-terminal block

System hardware—MS/N/NT/XT

Software generic—X11, X37

Purpose—Facilitates the termination of multi-ground wire connections to the Meridian SL-1 for those cabinet installations where two or more wires (minimum three) are required.

Quantity—The terminal block is automatically supplied with a QCA55 cabinet for XT, QCA97 and QCA98 for XL, and QCA108 for XT machines. For other types of cabinets, customers must specify requirements for the Miniterminal (P0680121).

Multipurpose cleaning kit

Purpose—Used for cleaning magnetic tape unit heads. Order as MVC01119 3M CK-90 Multipurpose Cleaning Kit.

Northern Telecom Publications—NTP holders

Purpose—To store Northern Telecom Publications relevant to the Meridian SL-1 systems. There are two types of storage racks: single (five pockets) and double (up to eight pockets).

Features—Mounted on any cabinet side panel.

TELLABS 251 24-Channel Digital Echo Canceler

Purpose—For use with PRI and DTI when echo control is required on voice calls.

Wireway flange fitting

System hardware—MS/N/N(QCA96)/XN/XN(QCA97)/NT/XT

Purpose—Designed to accept 4 in. by 4 in. overhead ducting (NEMA Type 1 Wireway or equivalent).

Quantity—One P0642924 Wireway Flange Fitting is required for each cabinet served by overhead ducting.

List of terms

Table 19 lists all of the mnemonics used in this document and their definitions.

Table 19
Glossary (Part 1 of 6)

Mnemonic	Description
ACD	Automatic Call Distribution
ADM	Add-On Data Module
AIM	Asynchronous Interface Module
AIOD	Automatically Identified Outward Dialing
ALU	Arithmetic Logic Unit
ANI	Automatic Number Identification
AOP	Attendant Overflow Position
ASIM	Asynchronous/Synchronous Interface Module
ATX	Autodial Tandem Transfer
BKI	Break-In
BLF	Busy Lamp Field
bps	Bits Per Second
BRI	Basic Rate Interface
BRIT	Basic Rate Interface Trunk
BTU	Bus Terminating Unit
CALL ID	Call ID
CAMA	Centralized Automatic Message Accounting
CAS	Centralized Attendant Service
CASM	Centralized Attendant Service—Main

Table 19
Glossary (Part 2 of 6)

Mnemonic	Description
CASR	Centralized Attendant Service—Remote
CBT	Core Bus Terminator
CC	Clock Controller
CDR	Call Detail Recording
CDRX	Call Detail Recording Enhancement
CE	Common Equipment
CGM	Console Graphics Module
CIM	Control, Interface, and Memory
CMA	Changeover and Memory Arbitrator
CMDU	Core Multi Drive Unit
CNI	Core Network Interface
CO	Central Office
CP	Call Processor
CPI	Computer Private Branch Exchange Interface
CPND	Call Party Name Display
CPU	Central Processing Unit
CRT	Cathode Ray Tube
CT	Control and Timing
DASS2	Digital Access Signaling System 2
DCE	Data Communication Equipment
DCHI	D-Channel Handler Interface
DCK	Recorded Telephone Dictation Trunk feature
DID	Direct Inward Dialing
DLB	Dual Loop Peripheral Buffer
DOD	Direct Outward Dialing
DPNSS1	Digital Private Network Signaling System 1
DTE	Data Terminal Equipment
DTI	Digital Trunk Interface
DTMF	Dual Tone Multifrequency

Table 19
Glossary (Part 3 of 6)

Mnemonic	Description
DTR	Digitone Receiver
EAR	Enhanced ACD Routing
ECT	Enhanced Call Treatment
EDRG	Executive Distinctive Ringing
EIA	Electronic Industry Association
EMI	Electromagnetic Interference
EQA	FCC Equal Access
ESN	Electronic Switched Network
EURO	Euro ISDN
FCDR	Format of Call Detail Recording
FDI	Floppy Disk Interface
FDM	Floppy Disk Module
FDU	Floppy Disk Unit
FM	Fully Modular
FN	Function
FRTA	French Type Approval
GRPI	1.5/2.0 Mbps ISDN Gateway
HOSP	Hospital Management
HSDC	High Speed Data Card
ICM	Integrated CPU/Memory
IDA	Integrated Digital Access
IGS	InterGroup Switch
INDB	International nB+D
I/O	Input/Output
IODU/C	Input/Output Disk Unit with CD-ROM
IOP	I/O Processor
IOP/CMDU	I/O Processor/Core Multi Drive Unit
IPB	InterProcessor Bus
IPE	Intelligent Peripheral Equipment

Table 19
Glossary (Part 4 of 6)

Mnemonic	Description
ISDLC	Integrated Services Digital Line Card
ISDN	Integrated Services Digital Network
IVR	Hold in Queue for Interactive Voice Response
KD3	Spanish Signaling Protocol
LCD	Liquid Crystal Display
LRE	Logic Return Equalizer
MCA	Meridian Communications Adapter
MCDR	Mini Call Detail Recording
MCDS	Multi-Channel Data System
MDF	Main Distribution Frame
MDU	Multi Disk Unit
MFC	Multifrequency Compelled Signaling
MFS	Multifrequency Signaling
MGC	Multigroup Control
MGE	Multigroup Extender
MGS	Multigroup Switch
MISP	Multipurpose ISDN Signaling Processor
MLIO	Multi-Language I/O
MLM	Meridian Link Module
MPDU	Module Power Distribution Unit
MSDL	Multipurpose Serial Data Link
MSI	Mass Storage Interface
MSPS	Misc/SDI/Peripheral Signaling
MSU	Mass Storage Unit
NT1	Network Termination Unit
OAID	Outgoing Automatic Incoming Dial
OANI	Outgoing Automatic Number Identification
OPAO	Outpulsing of Asterisk and Octothorpe
OPX	Off-Premises Extension

Table 19
Glossary (Part 5 of 6)

Mnemonic	Description
ORC	Originator Ringing Control
OVLP	Overlap Signaling
PAD	Packet Assembler/Disassembler
PBX	Private Branch Exchange
PCM	Pulse Code Modulation
PDU	Power Distribution Unit
PE	Peripheral Equipment
PFTU	Power Failure Transfer Unit
PHNT	Phantom Terminal Number Operation
PPM	Periodic Pulse Metering
PRA	Primary Rate Access
PRI	Primary Rate Interface
PROM	Programmable Read-Only Memory
PTE	Packet Transport Equipment
QM	Quarter Modular
QSDI	Quad Serial Data Interface
RAM	Random Access Memory
RAN	Recorded Announcement
RFI	Radio-Frequency Interference
ROM	Read-Only Memory
RPE	Remote Peripheral Equipment
RTC	Real-Time Clock
SAMM	Stand-Alone Meridian Mail
SBE	Segmented Bus Extender
SCG	System Clock Generator
SCSI	Small Computer System Interface
SDI	Serial Data Interface
SEQ	Sequencer
SILC	S/T Interface Line Card

Table 19
Glossary (Part 6 of 6)

Mnemonic	Description
SML	System Message Lookup
TCM	Time Compression Multiplexing
TDS	Tone and Digit Switch
THF	Trunk Hook Flash
TOPS	Traffic Operator Position System
TSPS	Traffic Service Position System
TTY	Teletype Machine
UEM	Universal Equipment Module
UK	United Kingdom
UILC	Universal Interface Line Card
UPS	Uninterruptible Power Supply
VNS	Virtual Network Services
XMFC	Extended Multifrequency Compelled Signaling
XMFE	Extended Multifrequency Signaling For Socotel
2DR	Two-Way, Dial Repeating
3PE	Three-Port Extender

Index

Symbols

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X

Meridian 1

Meridian 1

Equipment identification

Information is subject to change without notice. Nortel Networks Corporation reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant. This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules, and the radio interference regulations of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

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