

Model 70 Installation and Service Manual

DOCUMENT HISTORY

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Menu Maps and Other Navigation Aids

Many documents in the NuPoint Messenger library have menu maps or a "road map" procedure for help to reach a menu or to see which task to perform next. The List of Procedures at the back of the manual lists all of the procedures in the manual and where to find them.

Which Document Do I Use?

Topics listed below are described in the documents indicated. This table lists documents for the base hardware and software only, not optional features.

Topics	Installation and Service Manual	Technical Reference Manual	Reference and Configuration Manual
Activating an inactive configuration			√
Administration by phone			√
Billing			√
Call placement			√
Card configuration		√	√
Card replacement	√		
Defining a line group			√
Diagnostics	√		
Disk replacement	√		
Distribution lists			√
Duplicating a configuration			√
FCOSs and feature bits			√
Floppy backup and restore	√		
FPSA			√
GCOSs and groups			√
Glossary			√
Greetings			√
Hardware changes	√		
Hardware descriptions	√	√	
Installation procedures	√		
LCOSs and limits			√
Mailboxes			√
Message delivery			√
Message waiting lights			√
Paging			√
Passcode - mailbox			√
Password - console	√		
Phoneline exceptions		√	
Power information	√	√	
Prompts	√		√

RCOSs (NPA/NXX)			√
Repairing a server	√		
Replacing a server	√		
Reports			√
Resource Manager		√	
Service procedures	√		
Site preparation	√		
System administration			√
System maintenance	√		
System security			√
System verify	√		
Testing a configuration	√		√
Troubleshooting	√		
Updating	√		
Upgrading	√		
Verifying configuration parameters			√

What If Information Is Missing?

If the information you need is not yet available in the documents listed above, check the web site at www.mitel.com. To obtain other NuPoint Messenger documents, contact your distributor.

Conventions Used in This Manual

The procedures in this manual use the following conventions to describe how to enter configuration information and how information appears on the server console:

- Press Enter** Press the **Enter** key. For example, "Press **Enter** if the current number is correct." On some keyboards, this key is labeled "Return" or has a return arrow on it.
- Enter** Type the text shown, then press the **Enter** key. For example, "Enter the line **number** (1-24)" means to type a number from 1 through 24, then press the **Enter** key.
- Bold** Words or characters in bold type indicate either a value to be entered exactly as shown or, when used to indicate a variable entry, describe the type of value to be supplied. See example above.

Note: Unless otherwise stated, press **Enter** after each response.

Console Tips and Techniques

This manual assumes that you are familiar with using a console and keyboard. This section describes how to use the server effectively and make configuration sessions at the server console more productive.

Viewing Menus

- When you finish entering a value for a parameter, the server displays an abbreviated form of the current menu, called the "short menu." To view the complete current menu when a short menu appears, press **Enter**.
- To return to the Main Menu from any configuration menu, press **x** (Exit), until the Main Menu appears.

Accepting Defaults

- To accept a default displayed in a prompt, press Enter.
- To accept a default displayed in a menu, no action is necessary.

Quitting an Entry Session

At any point while entering offline or online parameters, you can quit. Quitting discards all entries that you have made and leaves the configuration the way it was before you started setting parameters.

To quit from the NuPoint Voice Configuration Offline or Online menu, select (Q) Quit -- Forget Changes and enter **y** to return to the NuPoint Voice Configuration Main menu.

Shortcut Commands

You can use the Ctrl (Control) key or the / (slash) key while simultaneously pressing another key to execute shortcut commands at the server console.

To do this...	Type...
Exit from the offline or online menus, or FCOS, LCOS, GCOS menus, and save any entries	X
Exit from the offline or online menus, or FCOS, LCOS, GCOS menus, without saving any entries	Q + Y
Stop scrolling a displayed report	Ctrl-S
Resume scrolling a displayed report	Ctrl-Q
Return to the application when a # or \$ prompt appears	Ctrl-D or <i>type exit</i>

Important Safety Instructions

These instructions provide basic installation information, necessary for the proper and safe functioning of this equipment. Persons installing or maintaining this product must read all of the safety instructions and the parts of system grounding which are applicable to the system being maintained.

Note: All installation personnel should consult the following information before attempting to install this product. Read all instructions before attempting to install or use this product.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



CAUTION:

Changes or modifications not expressly approved by MITEL could void the user's authority to operate the equipment.



WARNING:

Failure to follow all instructions may result in improper equipment operation and/or risk of electrical shock.

General

- Read all instructions
- Keep these instructions with the equipment
- Do not attempt to install or service this equipment, unless you are skilled in the installation and maintenance of electronic telecommunications equipment and have successfully completed specific training for this equipment.
- This product must be installed and serviced in accordance with this Technical Documentation.
- Follow all procedures outlined in the Technical Documentation in the sequence that is given.
- Install and configure this product with only the assemblies specified and in the locations stated in the Technical Documentation.
- Replace all covers, guards or barriers when you complete the installation and before you return the equipment to service.
- Do not connect telecommunications cabling to the system, service the system, or operate the system with the grounding conductor disconnected.
- Install all wiring according to local, state, and federal electrical code requirements.
- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying the telephone lines.
- The AC power socket/outlet should be installed near the equipment and should be easily accessible.



Warning: Protective Ground Connection (Protective earth)
To comply with safety requirements, this Class I equipment must be connected to a grounded or earthed mains receptacle. It must also be connected to a permanently connected, redundant and independent equipment protective ground (earth) conductor between the ground stud on the back of the unit and the wiring system ground (earth).

Protective Ground (Earth)

The protective ground (earth) conductor must be an insulated conductor, sized to comply with local electrical codes.

The protective ground (earth) conductor is provided as part of the three-wire, 15-Amp, ac-power cord set included with the equipment. If the power cord must be replaced, use a power cord of the same gauge that has the same insulation, number of conductors, and usage ratings.

The grounding conductor must be:

- Not smaller in size than and equivalent in insulation material and thickness to the grounded and ungrounded branch circuit supply conductor
- An insulated green wire with yellow stripes
- Part of the circuit that supplies that product or system
- Connected to ground (earth) at the service equipment

Supplementary Protective Ground (Earth)

Install the supplementary ground (earth) conductor before you connect other telecommunications wiring to the system. The conductor must be connected to the protective earth stud on the back of the unit.

The protective ground (earth) conductor must be insulated, not smaller in size than the unearthened branch-circuit supply conductors, and must be permanently connected to the building ground (earth) conductor. The insulation must be green with one or more yellow stripes.

The supplementary ground (earth) conductor must comply with the local electrical codes. The supplementary ground (earth) conductor must not depend on the power cord and plug of the product.

Preparing for Hardware Installation and Maintenance

Before you begin to install any Model 70 hardware, read this section.

These reader advisories are used in this manual.

Note: Information especially useful in relation to this procedure.

Caution: Information that helps you prevent equipment or software damage.

Caution: Information that helps you prevent an interruption to telecommunications traffic.

Warning: A hazard or condition that can injure or kill you.



CAUTION:

Many of the Model 70 components are easily damaged by electrostatic discharge (ESD) or rough handling: Circuit cards and hard disks are particularly susceptible to damage. Unless instructed otherwise, observe the precautions listed below and in individual sections while handling all components.

Follow these instructions to reduce the risk of equipment trouble, down-time, and customer dissatisfaction:

- Wear a grounded wrist strap while handling components in order to protect the components from electrostatic discharge (ESD).
- If you service an older Model 70 that does not include a separate ground wire, add a temporary grounding jumper before starting work.
- Do an orderly shutdown of your server before turning off the power. Refer to CP 6268, "Shut Down a System," for instructions.
- Turn off and unplug the server power, then label and unplug the phone cables before removing or installing components.
- Wait 60 seconds after you turn the server power off for the hard disk to stop spinning.
- Place the card on an anti-static mat to set switches or jumpers on a card.
- Store all components in anti-static bags in their original shipping boxes.

Regulatory Notice to U.S. Customers

Interconnection Information

This equipment complies with Part 68 of the FCC rules. The FCC label is located on either the rear or the bottom of the enclosure. This label contains the FCC registration and ringer equivalence number(s) (REN), for this equipment. If requested, this information must be provided to the telephone company. The FCC registration number for this equipment is either BN2USA 25709-VM-E or BN2CAN 25702-VM-E, depending upon the product's country of manufacture (refer to the registration label of the product).

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

Connection to the telephone network should be made using standard modular telephone jacks, type RJ14C and/or RJ48C. The RJ48C plug and/or jacks used comply with FCC Part 68 rules. Refer to the table below for the Service Order Code and Facility Interface Codes.

PORT	Service Order Code	FACILITY INTERFACE CODES	REN	Network Jacks
AG8	9.0F	02LS2 02GS-2 02RV2-T	0.8B 0.0B 0.0B	RJ14C
Dual T-1	6.0N	04DU9-BN 04DU9-DN	N/A	RJ48C

		04DU9-1KN 04DU9-1SN		
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ALLOWING THIS EQUIPMENT TO BE OPERATED IN SUCH A MANNER AS TO NOT PROVIDE FOR PROPER ANSWER SUPERVISION IS A VIOLATION OF PART 68 OF THE FCC RULES

AND

PROPER ANSWER SUPERVISION IS WHEN:

A. This equipment returns answer supervision to the PSTN when DID calls are:

- Answered by the called station
- Answered by the attendant
- Routed to the recorded announcement that can be administered by the CPE user
- Routed to a dial prompt

B. This equipment returns answer supervision on all DID calls forwarded to the PSTN.

Permissible exceptions are:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or bottom of each transmitted page, or on the first page of transmission, the date and the time it is sent, an identification of the business or other, or individual sending the message and the telephone number of the sending machine, or such business, or entity, or individual.

In order to program this information into your fax machine, you should:

1. Refer to the "Page Header" instructions provided with the reference manual for the fax software with this unit.
2. Enter information to the program including:
 - (a) The date and time the message is sent
 - (b) Your identification information

If this telephone equipment causes harm to the telephone network, the telephone company will notify in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper function of the equipment. If they do, you will be notified in advance in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this unit, please contact customer service at the address and phone listed below. The equipment does not contain any user serviceable components. If the equipment is causing network failure, the telephone company may request that you disconnect this equipment from the telephone network until the problem is resolved.

There are no user serviceable parts in this equipment. Refer all installation, servicing and repairs to qualified service personnel only.

This equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operators Consumers Act of 1990.

This equipment may not be used on public coin phone service provided by the telephone company. Connections to party lines service is subject to state tariffs. (Contact the state public utility commission, public service commission or corporation commission for information).

WHEN PROGRAMMING EMERGENCY NUMBERS AND (OR) MAKING TEST CALLS TO EMERGENCY NUMBERS:

1. Remain on the line and briefly explain to the dispatcher the reason for the call.
2. Perform such activities in the off-peak hours, such as early mornings or late evenings.

If you require a Mitel Networks return authorization number, or information on obtaining service or repairs for this equipment, please call the following telephone number:

1 - 888 - 901 - 6483

A Mitel Networks return authorization number must be obtained before sending equipment to the repair facility. The Mitel Networks repair facility is located at the following address:

All returns are to go to:

Mitel Networks
814 Proctor Ave.
Ogdensburg, N.Y. 13669

All calls are to go to:

Mitel Networks Repair Customer Service Desk
Phone Toll Free 1 - 888 - 901 - 6483
Phone Local 1 - 315 - 393 - 8466

Interference Information

Federal Communications Commission (FCC) Notice

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. 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 his own expense.

Regulatory Notice to Canadian Customers

Interconnection Information

NOTICE:

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an approved method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

The Ringer Equivalence Number for this equipment is 1.2B.

If you require a Mitel Networks return authorization number, or information on obtaining service or repairs for this equipment, please call the following telephone number:

1 - 888 - 901 - 6483

A Mitel Networks return authorization number must be obtained before sending equipment to the repair facility. The Mitel Networks repair facility is located at the following address:

Mitel Networks
340 Legget Drive
Kanata, Ontario
Canada K2K 1X3

Interference Information

Industry Canada Notice

This Class A digital apparatus meets all requirements of the Canadian Interference - Causing Equipment Regulations.

Regulatory Notice To European Customers

The "CE" mark is affixed to this product to demonstrate conformance to the R&TTE Directive 99/05/EC (Radio Equipment and Telecommunications Terminal Equipment Directive).



Declaration of Conformity

We, Mitel Networks

Of, Mitel Business Park
Portskewett
Gwent,
UK.

Declare under our sole responsibility that the product:

NuPoint Messenger and all associated peripherals manufactured by Mitel

To which this declaration relates is in conformity with the essential requirements specified in Article 3.1 (a) and 3.1 (b) of:

Directive 99/05/EC (Radio Equipment and Telecommunications Terminal Equipment Directive)

For a copy of the Original Signed Declaration (in full conformance with EN45014), please contact the Regulatory Approvals Manager at the above address.



Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures

The disconnect device for this product shall be the mains cord. The socket outlet used to power this product shall be installed near this equipment and shall be easily accessible.

- **To avoid risk of electrical shock hazard or fire do not insert or remove cards with the power connected.**
- **Do not service telephony cards whilst the host computer is powered on**
- **Do not service the host computer with the chassis powered on.**

To comply with the European immunity requirements, the ONS and E&M interfaces must be installed with the modular choke (P/N 57002040). The choke must be plugged into the RJ45 connector of the telecommunication ports.

In the European Union, the loopstart, groundstart, and E&M interfaces may not be connected directly to the PSTN. They may only be connected to a PBX.

1 Product Description

This chapter provides a high-level description of the NuPoint Messenger Model 70 hardware and software functions, features, and components. It also provides general server specifications.

Expanded discussions of some of the topics in this chapter appear in other chapters of this manual. Additional information is located in the *Reference and Configuration Manual* and the *Technical Reference Manual*.

Model 70 Overview

The Model 70 is based on a standard PC. It features seven ISA slots, an IDE hard disk, and a 3.5-inch floppy drive in a modular design for quick and easy hardware maintenance. Figure 1-1 shows the block diagram.

Figure 1-1 Model 70 Block Diagram

The server supports three types of ISA cards: telephony interface (analog and digital line cards), telephony service (Fax), and computer interface (Serial Interface, Ethernet) cards. The telephony cards provide up to 32 ports. The telephony interface and service cards support the Multi-Vendor Integration Protocol (MVIP) bus that links the cards and allows them to share resources.

One primary IDE hard disk supports up to 19,114 mailboxes and 210 hours of message storage at 18.5 Kbps or 157 hours at 24 Kbps; an optional second hard disk provides redundancy.

The NuPoint Voice software is pre-installed. The Model 70 uses QNX, a real-time, multi-tasking operating system, to control server resources.

Standard Model 70 features include voice messaging, message waiting signals, and notification services. The user interface includes an online user tutorial and single-digit Prompts or mnemonic Prompts that use letters instead of numbers for commands, such as "P" to play a message. The server supports up to four sets of Prompts.

Multiple optional features are available, including NuPoint Fax™, NP View, Cut-Through Paging, NuPoint Agent™, NP Forms, NP Receptionist, NP WakeUp, Integrations, NP Net, AMIS Analog, and Voice Profile for Internet Mail (VPIM).

The server supports two general categories of mailboxes, standard (user/owner) mailboxes and special applications mailboxes. All mailboxes can be passcode protected.

Classes of service are assigned to each mailbox. The Features Class of Service (FCOS), Limits

Class of Service (LCOS), and Group Class of Service (GCOS) determine the options for each mailbox and how the mailboxes function in relation to each other and the server. The Network Class of Service (NCOS), Restriction Class of Service (RCOS), and Tenant Class of Service (TCOS) work with optional features.

The system administrator can add and change hardware and software configurations, perform maintenance functions, and generate system reports. Many of these tasks can be performed remotely by telephone and modem.

The Model 70 supports the Audio Messaging Interchange Specification (AMIS) standard and Administered Voice Profile for Internet Mail (VPIM), which can be configured to deliver twice mail to mailboxes on other vendors' systems.

Regulatory Standards Compliance

This equipment complies with the following standards:

Safety

- CSA C22.2No.950-95,
- ANSI/UL1950 3rd Edition,
- EN60950:1992,Amendment 4.

EMC

- FCC Part 15
- Industry Canada ICES003
- EN55022:1998
- EN55024:1998
- EN61000-3-2, amendment 14

Network

- FCC Part 68
- Industry Canada CS03 Issue 8

Server Environment

Temperature	Operating: 50 - 9-F (10 - 35-C) Nonoperating: 40 - 158°F (8 - 70°C)
Humidity	Operating: 85% at 95-F (35-C) Nonoperating: 95% at 95°F (35°C)
Altitude	Operating: to 10,000 ft (3,000 m) Nonoperating: to 50,000 ft (15,240 m)
Heat output	1200 BTU
Noise at operator position	41 dB maximum with peripherals idle
ESD	15 KV
AC power	100 - 120 VAC, 50 - 60 Hz, 200 W 200 - 240 VAC, 50 - 60 Hz, 200 W

Physical Specifications

Height (with feet installed)	17 inches (43 cm)
Width	7.5 inches (19 cm)
Depth	16.5 inches (42 cm)
Weight	21 pounds (9.5 Kg)

Major Hardware Components

The Model 70 features a modular design for quick and easy component maintenance. All major hardware components are replaceable and are referred to as field replaceable units (FRUs).

For installation and system administration, you must have a VT100 compatible terminal (administrative console). For remote administration and maintenance, you must also have an external modem.

Cabinet

The Model 70 is housed in a standard PC cabinet. The housing and the motherboard are considered one component. The power supply operates at 120 or 240VAC.

The rear panel, shown in Figure 1-2, includes these connectors:

- Serial Port A provides connection to the console
- Serial Port B provides connection to the remote administration/maintenance modem and optional printer
- Parallel Port provides connection through an A/B switch to the CD-ROM drive and optional Zip drive
- Card Slots 0-6 provide connections for seven cards
- Voltage Selector Switch selects operating voltage: 120 VAC (default) or 240 VAC
- AC Input Power Connector provides power for the server
- Back Panel Fan provides cooling for the cabinet

Figure 1-2 Model 70 Rear Panel Connectors

The front panel, shown in Figure 1-3, includes these features, controls, and indicators:

- Hard Disk LED lit when the hard disk is accessed
- Power LED lit when the server power is on
- Primary Hard Disk and Secondary Hard Disk provide message storage
- Floppy Drive interface used to install, service, back up, and update the software
- Power Switch turns the server on and off
- Reset Button resets the server without turning the power off (warm boot)

Figure 1-3 Model 70 Front Panel Controls and Indicators

Figure 1-4 shows the inside of the cabinet. It includes these components:

- Slots 0-6 slot 6 is furthest from the power supply
- Power Supply provides power for the system components
- Front Bezel Assembly includes Reset button, power on/off switch, hard disk activity and power LEDs, fan, and speaker
- Bay for Hard Disk and Floppy Drive contains hard disk and floppy drive
- Front Fan and Card Guides provides cooling and supports expansion cards
- Motherboard includes CPU and memory

Figure 1-4 Model 70 Internal Components

Hard Disk

The IDE hard disk stores the software for the operating system, speech, names, greetings, Prompts, messages, and applications. The server can accommodate one or two hard disks for up to 210 hours of storage, with redundancy, at 18.5 Kbps. For information about a specific hard disk, see the Technical Reference Manual and the Hard Disk Information Sheets.

Floppy Drive

The 3.5-inch, 1.44 MB floppy drive uses double-sided, high-density diskettes. Use the floppy drive for maintenance and to back up mailbox and account data files.

Line Cards

The line cards provide these features as the primary interface between the server and the telephone network:

- Speech digitization (analog-to-digital and digital-to-analog) and compression
- Line signaling and supervision
- DTMF and progress tone detection and synthesis
- Control and speech buffer memory
- MVIP support that enables the server to interface with a wide range of telephony cards

There are two general types of line cards, analog and digital. Each analog line card (four or eight ports) supports Loop Start, Ground Start, Direct Inward Dialing (DID), or E&M trunks. The DID, E&M, and Ground Start line cards require an external -48V power supply. The T1 card (24 ports) supports two T1 digital trunks. For detailed information about line cards, see the Technical Reference Manual.

Specialty Cards

The Model 70 supports specialty cards such as Fax cards, Ethernet cards, and Serial Interface cards that support fax, computer, and LAN services.

Fax Card

Fax cards handle incoming fax messages. When an incoming fax tone occurs, the Fax card performs a "handshake" with the fax machine that is sending the tone, then processes the incoming fax. The Fax card sends the fax to the hard disk for later retrieval or distribution by the user. For detailed information about Fax cards, see the Technical Reference and NuPoint Fax manuals.

Serial Interface Card

One Serial Interface card provides two, four, eight, or 16/32 ports for applications such as a PBX integration and NP Net. The 16/32 port card provides the additional channels through an external module. For detailed information about the Serial Interface cards, see the Technical Reference Manual.

Some older servers include a Smartcard with two, four, or eight ports that is compatible with EIA RS 232-C, CCITT V.24, and V.28 asynchronous communications standards. For detailed information about Smartcards, see the Technical Reference Manual.

Ethernet Cards

One Ethernet card provides local area networking capabilities. For detailed information about Ethernet cards, see the *Technical Reference Manual*.

Major Software Components

Depending on your specific server configuration, your Model 70 includes some or all of the features discussed in this section. Software, including support for optional features, is loaded on the server before shipment. Some optional features require additional hardware. For detailed information on the base software, see the Reference and Configuration Manual.

Integrations

An integration establishes the connection between the PBX and the server and provides information about direct or forwarded calls as well as the message waiting signal for the user. Integrations are transparent to both users and callers.

Direct Data Link enables the server to use a separate serial link to receive call processing information from the PBX.

Electronic Set Emulation enables the server to act like an electronic telephone set to the PBX. Inband DTMF is standard. It allows the PBX and the server to communicate by exchanging tones in the voice frequency band.

Mailbox User Features

The mailbox user can receive, review, save, delete, reply to, or send messages. These delivery options are available to users:

- Marking a message as urgent

- Making a message confidential so that it cannot be passed on to another user
- Specifying a message delivery date in the future
- Requesting a return receipt to verify that the message was received

Users can customize greetings, personal distribution lists, fax delivery, and reminder calls within their mailboxes.

Message waiting provides a "stutter" dial tone or flashing light indicator at the user's phone to signal that a new message has arrived. This indicator is available only for the telephone number associated with the user mailbox.

The mailbox can include two types of outdial notification, Paging and Message Delivery. Paging notification calls a telephone number for a radio pager to let the mailbox user know in real time that a message is waiting. The server can deliver the first 30 seconds of the voice message to a voice pager. (Actual message length depends on the pager service.) It can also send customized alphanumeric messages. The user can customize paging so that the server calls up to two primary and two alternative pager numbers. Notification can be set either for a specified interval for all messages or only for urgent messages.

Message Delivery provides notification to a telephone number not associated with a pager. The server calls the designated telephone number at specified intervals. When the call is answered, Message Delivery announces the message(s) for review and asks the user to log into the mailbox.

Outside Caller Features

All features for outside callers can be enabled and disabled from the server console. A caller who leaves a message can:

- Replay and re-record the message
- Make a message urgent, placing it at the front of the message queue
- Leave messages in additional mailboxes on the server
- Be transferred to the operator or any other extension on the switch

Optional Features

AMIS Analog is a system networking application that enables the server to communicate with voice processing systems from other vendors. For details, see the AMIS Analog guide.

Call Detail Recorder (CDR) tracks server activity for billing purposes. It records such call information as number of messages received, faxes delivered, and outdial notifications, on a mailbox or system level.

Cut-Through Paging sends the actual call-back number rather than the mailbox number to the mailbox user's pager.

Functionally Partitioned System Administration (FPSA) adds extra security to server administration by allowing customers to limit access to operations, administration, and maintenance functions to specific departments or individuals. In addition, FPSA allows certain administrative functions to be off-loaded to restricted groups within the organization. For details,

see the Reference and Configuration Manual.

NP Net, a digital networking application, enables up to 1500 remotely located systems to communicate on 16 simultaneously operating digital links. If Administered AMIS is also in use, some of the 1500 remote servers must be shared. For details, see the NP Net Administration guide.

NP Receptionist allows the server to answer each incoming phone call and prompt the caller to enter the extension number or name of the desired party, then transfer the caller to the desired extension. For details, see the NP Receptionist guide.

NP View is a desktop messaging program that works with NuPoint Voice and NuPoint Fax to allow users to view, send, and receive voice and fax messages on their PCs and to launch an Email application to exchange messages. For details, see the NP View guides for administrators and users.

NP WakeUp lets the mailbox user schedule wakeup or reminder calls. For details, see the NP WakeUp guide.

NuPoint Agent adds automated attendant and call processing capabilities so you can control the time, destination, and method to handle each call event. For details, see the NuPoint Agent Reference and Configuration manual.

NuPoint Fax and the Fax card allow users to send, receive, answer, voice annotate, and distribute fax messages through Fax Mail, Fax Broadcast, Guaranteed Fax, Fax Publishing, and Walkaway Fax. The NuPoint Fax software is included with the server. The Fax card must be purchased separately. For details, see the NuPoint Fax manual.

The Special Pager Terminal Protocol customizes outdial notification to interact with the private or highly specialized pager network systems (TNPP protocol) used by hospitals and other organizations.

VPIM enables users to send voice and fax messages from a NuPoint Messenger system to other, different voice mail systems. For details, see the VPIM guide.

2 Installing New Systems

This chapter provides step-by-step procedures for installing a new Model 70. Additional information is located in the *Reference and Configuration* and *Technical Reference* manuals.

Each server is shipped with the hardware and software preconfigured to the customer order. The exact configuration differs according to the optional features.

Selecting and Preparing the Site

The Model 70 is designed to work in a typical commercial environment. Physical space requirements are nominal. For details about the physical specifications and the server environment, see chapter 1.

Environmental Requirements

Choose a site that is:

- Within 3 ft. (1 m) of the connection for a dedicated circuit with an isolated ground that protects against electrical noise and surges
- Clean and dust free
- Well ventilated and away from heat sources, including direct sunlight
- At least 3 ft. (1 m) from strong electromagnetic fields produced by electrical devices such as air conditioners, large fans, electric motors, radio and TV transmitters, and high-frequency security devices

Facility Power Requirements

Provide a dedicated circuit with an isolated ground for the server to minimize transient power disturbances. See Figure 2-1.

- Verify that resistance and impedance between the server and the master ground bar (MGB) equals less than 1 W.
- Verify that the voltage between the server and the MGB equals 0 V.
- Verify that the current equals 0.1 A RMS or less when all telephone lines are idle.
- If you have two or more voice mail servers at your site, use a separate circuit for each server.
- Verify that the supplementary ground (earth) can be permanently connected.

Figure 2-1 Typical 110-VAC Single Phase Receptacle

Table 2-1 lists the AC power requirements for the server.

Table 2-1 AC Power Specifications for Model 70				
Power Item	System Power Supply		Power Configuration Card	
Input voltage	90—132V	180—264V	90—132V	180—264V
Input frequency	47—63 Hz	47—63 Hz	47—63 Hz	47—63 Hz
Maximum steady input current	4 A	2 A	2 A	1 A

Recommended c i r c u i t b r e a k e r	15 A	8 A	8 A	8 A
Recommended r e c e p t a c l e	NEMA No. 5-20R or b e t t e r	NEMA or country c o d e a p p r o v e d	NEMA No. 5-20R or b e t t e r	NEMA or country c o d e a p p r o v e d
Wire size, power p a n e l b o a r d t o r e c e p t a c l e	14 AWG (4110 c i r c u l a r m i l s) o r b e t t e r	14 AWG (4110 c i r c u l a r m i l s) o r b e t t e r	14 AWG (4110 c i r c u l a r m i l s) o r b e t t e r	14 AWG (4110 c i r c u l a r m i l s) o r b e t t e r

The power connections for the server are like a typical computer. See Figure 2-2. A chassis ground connection provides the safety ground as well as a return path for spurious currents that

might reach the chassis due to voltage transients induced by electromagnetic fields near inter-assembly cabling and other electrical harnesses.

During installation connect the chassis ground to an isolated ground before connecting the power.

Figure 2-2 Model 70 Rear Panel Power and Ground Connections

Checking Requirements for Peripheral Serial Devices

Most peripheral devices connect to serial ports. The server includes two serial ports; connect the console and modem to these ports. To add ports for other devices, such as a printer, use a Serial Interface card; for details, see TR 1908 in the Technical Reference Manual. Tables 2-2 and 2-3 show connector pinouts and signals for serial ports on the CPU and the serial interface card. In the configuration menus, serial ports on an optional card appear as "CTI #." Use a shielded cable to connect to a serial port

Table 2-2 Pinout for the Serial Ports on the CPU Card		
9 Pin Connector (CPU)	25 Pin Connector	Signal Name
Pin 1	Pin 4, Pin 5	Carrier Detect
Pin 2	Pin 2	<i>Receive Data</i>
Pin 3	Pin 3	<i>Transmit Data</i>
Pin 4	Pin 6	Data Terminal Ready
Pin 5	Pin 7	Signal Ground
Pin 6	Pin 20	<i>Data Set Ready</i>
Pin 7	Pin 8	<i>Request To Send</i>
Pin 8	Pin 8	Clear To Send
Pin 9	No Connection	Ring Indicate

Names of required signals appear in *bold italics*.

Table 2-3 Pinout for DB-25 Ports on the Serial Interface Card					
Pin	RS-232	RS-232 Description	V.24	V.24 Description	Direction
1*	AA	Frame/Chassis Ground (FG)		Frame Ground	n/a
2	BA	Transmitted Data (TxD)	103	Transmitted Data	out
3	BB	Received Data (RxD)	104	Received Data	in
4	CA	Request To Send (RTS)	105	Request To Send	out
5	CB	Clear To Send (CTS)	106	Ready For Sending	in
6	CC	Data Set Ready (DSR)	107	Data Set Ready	in

7	AB	Signal Ground (SG)	102	Signal Ground DTE Com DCE Com	n/a
8	CF	Data Carrier Detect (DCD)	109	Data Channel Received/ Line Signal Detector	in
20	DC	Data Terminal Ready (DTR)	108/2	Data Terminal Ready	out
22	CE	Ring Indicator (RI)	125	Calling Indicator	in

Console Requirements

Check that the console for the server is VT100-compatible. For specifications, see Table 2-4. Refer to the manufacturer's documentation for switch settings. If you use a PC, you must run Procomm 2.1 and install the keyboard-driver file provided with the system.

Table 2-4 Console Specifications	
Parameter	Requirement
Baud Rates	9600 Baud
Auto Scroll	Enabled
Auto Line Feed	Disabled
Line Mode	Full Duplex
Parity	None
Data Bits	8
Stop Bits	1
Data Protocol	X-On/X-Off

Plan to connect the console to serial port 1, located on the CPU card. Your shipment includes RS-232 cables with a 25-pin D-type and a 9-pin D-type connector.

Modem Requirements

For maintenance purposes, your shipment includes a US Robotics Sportster modem with the server. Plan to connect the modem to serial port 2.

For most applications, configure the serial port device type as a modem. Occasionally, the modem handling tasks do not start properly for remote access, so you may need to set the serial port device type as a null terminal. To configure the modem as a modem device type, see the installation procedure in this chapter. To configure the modem as a null terminal, see chapter 4.

Note: Do not leave remote access connected for extended periods. If you hang up before exiting from all menus, the active console may not close properly, placing the next modem user into the active console session.

Printer Requirements

The server supports DTE serial printers that use X-On/X-Off data transmission protocols. Check that the printer meets the specifications listed in Table 2-5. If the pinout on the printer differs from the list in Table 2-3, you may need a "null-modem" cable that swaps pins 2 and 3 of the interface. Plan to connect the printer to a port located on the Serial Interface card.

Table 2-5 Printer Specifications	
Parameter	Requirement
Baud Rate	9600 Baud
Auto Line Feed	Disabled
Line Mode	Full Duplex
Parity	None
Data Bits	8
Stop Bits	1
Data Protocol	X-On/X-Off
Print Speed	380 Characters/sec.

Telephone Lines

You can use a 6- or 12-connector "octopus" interface cable to connect the line card ports directly to a customer-supplied 25-pair. Your shipment includes two types of octopus cables, both of which have a RJ-21X connector. For LS, GS, or DID systems, use the 12-connector RJ-61, which has two wires per port. For E&M systems, use the 6-connector RJ-61, which has four wires per port.

You can connect the line card ports and the customer-supplied 25-pair cable to a patch panel. Your shipment includes two types of patch panels. For LS, GS, and DID systems, use the 2 RJ-21 panel, which has two wires per port. For E&M systems, use the 4 RJ-21 panel, which has four wires per port.

CAUTION: Install carbon-type or gas-type protectors on any unprotected lines that come from an unprotected PBX to protect the line card ports from power surges. Place the protectors as close as possible to where the phone lines enter the building.

Obtain the worksheets that show the line groups for this configuration, then list the telephone numbers and their corresponding ports on the server. Work closely with your project manager to prevent accidental interruption of the telephone services.

Planning the configuration

Because the configuration process is complex and distributors frequently use a few similar

configurations for several systems, NuPoint Voice includes Quick Config, a tool to copy a known good configuration to a new system. The predefined system can include line groups (without line assignments), mailboxes, and an integration.

If you have a predefined system, back it up to floppy:

1. From the Main menu, select (S) `System Maintenance`.
2. At the System Maintenance menu, select (F) `Floppy Backup`, then follow the prompts to insert the diskettes.
3. If any diskette is not formatted in QNX, enter `y` at the prompt to format the diskette and continue the backup.
4. When the backup is complete, a report appears and the server returns to the System Maintenance menu. Label the diskettes as "Quick Config diskette *n* of *nn*."

The Quick Config Tool pre-configures this base information on a new system:

- Line-group information for incoming and outgoing applications
- Feature Class of Service (FCOS)
- Limits Class of Service (LCOS)
- Group Class of Service (GCOS)
- Network Class of Service (NCOS)
- Tenant group Class of Service (TCOS)
- Restriction Class of Service (RCOS)
- Phonenumber Exceptions
- Mailboxes
- Distribution lists
- Call treatment types
- NuPoint Voice
- Logfile
- Dial by name
- Event Recorder
- ATLOG
- TNPP
- Pager task
- NP Rapid Dial table
- Time zone

The Quick Config Tool pre-configures this information for options on a new system:

- Video dispatch
- Alarm
- NP Net
- Node table administrator
- EECO
- Digital translation administrator
- NP View License
- NP WakeUp
- Receptionist extension
- ATLOG
- NP Rapid Dial table
- Terminal number
- NuPoint Fax
- Speech recognition group
- Language and passage tables
- NuPoint Agent

The Quick Config Tool preconfigures these integrations on a new system:

- Lucent, Mitel, and Nortel with In-Channel
- Lucent, Mitel, and Nortel with Voice Bridge
- UI_ESMDI
- Enhanced Data Link Integration

- Rolm
- Enhanced Inband

The Quick Config Tool does not preconfigure information for specific hardware, Resource Manager, optional features, or site-specific data such as banners or system revision history.

Preparing for the Installation

1. Set up a log to record the server model and all serial numbers, the server configuration and options, information found on the worksheets provided by the system design engineer, and other information about the system.
2. Check that the power cord is compatible with the power outlet. If the power cord is not compatible, obtain a power cord that meets these criteria:
 - Rated for use at the available AC voltage at 125% of the current rating
 - A grounding-type plug that shows certification by an agency acceptable in the country
 - An IEC type CEE-22 female connector at the product end
 - Less than 14.8 feet (4.5 meters) long
3. Gather these tools:
 - Phillips screwdriver (#2 bit)
 - Medium flat-bladed screwdriver
 - Anti-static wrist strap
 - Conductive foam pad

Installing the Model 70 Hardware

The server is preconfigured at the factory. This procedure describes how to install it at the site.

1. Check that the site is ready as described in this chapter.
2. Check that all cards in the chassis are firmly seated.
 - (a) Remove the two screws at the back left of the server, then slide the cover toward the back. See Figure 2-3.

Figure 2-3 Model 70 Server Cover
 - (b) Slide the cover back, then lift it up. See Figure 2-3.
 - (c) Check that the cards are not bowed, are seated correctly, and are secured with a screw through the bracket, and that all internal cables are firmly seated.
 - (d) Replace the cover and the two screws. See Figure 2-3.
3. Place the server near the dedicated circuit with the isolated ground.
4. Connect the ground stud on the server to the isolated ground. See Figure 2-4.
5. Check the voltage selector switch, then plug the server into the dedicated circuit. See Figure 2-4.

Figure 2-4 Model 70 Rear Panel with Connections

Note: The factory default is 110V. When using a 220V power source, set the voltage switch on the rear panel to 220V before plugging in the power cord.

6. Install the console.
 - (a) Check the switch settings on the console. See the manufacturer's documentation for specific switch settings.
 - (b) Plug the console cable into the console and into serial port 1. Leave the power switch off. See Figure 2-4.
7. Plug the modem cable into the modem and into serial port 2. See Figure 2-4.
8. Plug the printer cable into the printer and into a port on the Serial Interface card.
9. If the system includes an A/B Switch box and Zip drive, go to step 11; if an A/B switch box and Zip drive are not included, go to step 17.
10. Place the A/B switch box on a flat surface near the server and plug the A/B switch box into parallel port 1. See Figures 2-4 and 2-5.

Figure 2-5 A/B Switch Box Controls and Connections

11. Place the CD-ROM drive on a flat surface near the server and plug the CD-ROM cable into the CD-ROM drive and the A/B switch box. See Figures 2-5 and 2-6.
12. Plug the power supply cables into the power cord receptacle on the CD-ROM drive and the AC power outlet.
13. Place the Zip drive on a flat surface near the server.
14. Plug the Zip drive cable into the Zip drive and the A/B switch box. See Figures 2-5 and 2-7.
15. Plug the power supply cables into the power cord receptacle on the Zip drive, the power jack on the A/B switch, and the AC power outlets.
16. Place the CD-ROM drive on a flat surface near the server and plug the CD-ROM cable into the CD-ROM drive and parallel port 1.

Figure 2-6 CD-ROM Drive With Controls and Connections

Figure 2-7 Zip drive

17. Plug the power supply cable into the power cord receptacle on the CD-ROM drive and the AC power outlet.
18. Connect the telephone lines between the server ports and the main distribution frame (MDF). Use the information on the worksheets supplied by the system designer. The exact connections depend on the system design and type of PBX.

Note: In the European Union, the loopstart, groundstart, and E&M interfaces may not be connected directly to the PSTN. They may only be connected to a PBX

- (a) Locate the MDF.
- (b) Mount the RJ-45 modular connector blocks within 10 feet of the server.
- (c) Run standard 24-gauge twisted pair telephone wire between the MDF punchdown blocks and the RJ-45 modular blocks. For E&M signaling leads, use a second wire pair for each RJ-45 modular block.
- (d) Connect each wire pair to the terminals on the MDF punchdown block. To maintain Tip & Ring integrity, connect Tip above Ring on the punchdown block.
- (e) Connect each twisted pair to the RJ-45 modular block.

- (f) Label each modular block to indicate which telephone line and server port will connect through it.
 - (g) Install the telephone cables from the modular blocks to the server ports.
19. Check the quality of the installation.
- (a) Check that all peripheral cables and connections are tight, properly labeled, and easily identifiable.
 - (b) Check grounding.

Configuring and Testing the Server

1. Turn on the console.
2. Turn on the system and check that it initializes.

Copying a Known Good Configuration

1. If your distributor provided QuickConfig diskettes, use the QuickConfig Tool to install the configuration on the new system.
 - (a) From the Main menu, select (S) System maintenance.
 - (b) At the System Maintenance menu, select (Q) QuickConfig Tool.
 - (c) At the prompt for how many Quick Config diskettes you have, enter the **number** of diskettes.
 - (d) At the prompt for confirmation enter **y**, then follow the prompts to insert the Quick Config diskettes.

Verifying Server Operation

You can run the Online System Verify to check records, speech, and Prompts at any time while the server is running and call traffic is low.

1. Run the Online System Verify of all records, speech, and prompts. If errors occur, run Verify again. If errors continue to occur, contact your support representative.
 - (a) From the Main menu, select (S) System maintenance, then (U) System Verify.
 - (b) At the System Verify menu, select select (R) Verify Records and, at the prompt, specify that the results will be logged.
 - (c) At the Record Verification menu, select which records to verify.
The server displays dots while the verification runs, then returns to the Record Verification menu.
 - (d) Select (X) Exit to return to the System Verify menu.
 - (e) At the System Verify menu, select (S) Verify Speech and, at the prompt, specify that the results will be logged.
 - (f) At the Speech Verification menu, select which speech to verify.
The server displays dots while the verification runs, then returns to the Speech Verification menu.
 - (g) Select (X) Exit until you reach the System Maintenance menu.

Setting Up the Modem

1. Configure the modem as a modem-type device.
 - (a) Turn off the power for the modem and set switches 3, 5, and 8 to On. Set switches 1, 2, 4, 6, and 7 to Off.
 - (b) Turn the modem power on.
 - (c) From the Main menu, select (S) System maintenance, (O) Additional Options, then (P) Console/Serial Port Setup menu.
 - (d) At the Console/Serial Port menu, assign the serial port as a modem device and set it to 9600 baud.
2. Reboot the server.
 - (a) At the System Maintenance menu, select (S) System shutdown, then type **shutdown**.
 - (b) At the prompt to select a module, enter **a**.
 - (c) At the prompt about the message waiting queue, enter **N** to shut down the server immediately.
 - (d) When all lines are off-hook, a prompt appears about the verification option. Enter **N** to skip the offline verification and continue the shutdown.
 - (e) At the prompt to enable or disable modules, enter **N** to keep the server enabled.
 - (f) When the shutdown is complete, the System Maintenance menu appears. Reboot the server.

Completing the Configuration

1. Run a System Information report and send it to the console or printer. For details, see the *Reference and Configuration Manual*.
2. Check the System Information report to confirm that all features are included.
3. Configure an integration. For details, see the manual for the integration.
4. Configure the server software. For details, see the *Reference and Configuration Manual*.
5. Configure any optional features. For details, see the manual(s) for the optional feature(s).
6. Configure the mailboxes. For details, see the *Reference and Configuration Manual*.

Testing Telephone Lines

1. Set up your equipment as shown in Figure 2-8.

Figure 2-8 Test Equipment Setup

- (a) Use the telephone test set to verify the following parameters:
 - Ringing voltage or proper E & M Signaling
 - End-to-end transmission of voice
 - End-to-end transmission of DTMF
 - Sound quality of lines (no noise or static)
 - Hunting capability of hunt lines
2. Test answering capabilities.

- (a) Plug a working telephone (Test Set B) into a server port.
- (b) Call on Test Set A and check that the server answers with the appropriate greeting. If a port does not answer, refer to Table 2-6 for more information.
- (c) Repeat steps a and b for all additional ports.

Note: This test cannot be done on installations with full PBX integration where each port is linked to the telephone extension through software. For such installations, see the test plan provided with the integration software package.

Table 2-6 Frequent Problems and Reference Documents	
Possible Problem	Reference Document
Line card jumpers: Loop start/E & M settings	Technical Reference Manual
Line card jumpers: addressing	Technical Reference Manual
Line card: not seated properly	Chapter 4
Line group programming	Reference and Configuration Manual

- 3. Check the accuracy of voice Prompts.
 - (a) Create two mailboxes on the server console, using the Unlimited Feature Class of Service, FCOS 1, and the default Limits Class of Service, LCOS 1. For details, see the *Reference and Configuration Manual*.
 - (b) Disable the tutorial on the second mailbox.
 - (c) Call the first mailbox from the test telephone and go through the tutorial. Then:
 - Press **8** on the keypad for User Options and listen for the User Options menu.
 - Make a message for the second mailbox.
 - Press **9** on the keypad twice to exit the mailbox and return to the Company greeting.
 - (d) Enter the number of the second mailbox. Then:
 - Listen for "You have an unplayed message..." Do not respond. After the time-out, check that the server plays the entire menu: "Press P to Play..."
 - Play the message, then listen for the Prompts to keep, discard, answer, and so on.
 - Press **2** on the keypad to answer the message, then listen for the Prompt to record additional comments.
 - Press **9** on the keypad to exit the mailbox.
 - (e) If any Prompt is missing, reinstall the Prompts; for details, see Chapter 3.
- 4. Verify Mailbox Dialing Plan
 - (a) Set up a dialing plan for the server. For details, see the *Reference and Configuration Manual*.
 - (b) Set up one test mailbox for each leading digit of the dialing plan.
 - (c) Call the server and enter the number of the first mailbox. Repeat for the other mailboxes. If the server does not accept a valid number, check the programming for the mailbox dialing plan for that port group.
 - (d) Try to enter an invalid mailbox number for each dialing plan position and check that the server responds: "That is not a valid mailbox number. Please enter another mailbox number."
 - (e) If the Prompt is missing, reinstall the Prompts; for details, see Chapter 3.

5. Test Call Attendant Operation
 - (a) Attach a telephone test set to Line B. See Figure 2-8.
 - (b) Call Line B from Test Set A and check for ringing on the test set.
 - (c) Test each of the attendant access routes that apply to the server. When the dial string to reach the attendant is invoked, listen to the call progress on the test set. Stay on the line at Test Set A until you are transferred to the attendant.
 - (d) If the call fails, do the following:
 - Repeat the test, but insert a plus (+) after the dialed telephone number; many PBXs do not transfer properly if the hangup occurs too fast.
 - Check the programming of the Call Attendant string (take two sets and transfer one to the operator). The programming sequence should be identical to the manual transfer operation.
 - Check the phoneline exception (LE 23) for timing the switch hook flash. If the time is too long, an immediate disconnect occurs when the server issues a switch hook flash. If the time is too short, the call is not placed on hold.
6. Test Message Indicators
 - (a) Create a mailbox and assign it the FCOS that enables the Caller's Menu. For details, see the *Reference and Configuration Manual*.
 - (b) Call the mailbox and leave a message. Check that the message completes properly under each of the following conditions:
 - You stop speaking and the server "hears" three seconds of dial tone.
 - You enter a valid DTMF tone.
 - The server "hears" five seconds of dial tone.
 - You reach the maximum message length allowed by the mailbox LCOS.
 - (c) Check that the message waiting indicator activates.
 - (d) Log into the mailbox and retrieve the message. Log out. Check that the message waiting indicator turns off.
7. Test Feature Classes of Service (FCOS)
 - (a) Create several mailboxes and assign each a different FCOS. For details, see the *Reference and Configuration Manual*.
 - (b) Test all features assigned to each FCOS. Check that appropriate prompts play and all server responses are correct.
 - (c) If a problem occurs, check the FCOS programming, especially possible feature conflicts.
8. Test Limit Classes of Service (LCOS)
 - (a) Create several mailboxes and assign each a different LCOS. For details, see the *Reference and Configuration Manual*.
 - (b) Test mailboxes to ensure parameters are correct.
9. Test Group Classes of Service (GCOS)
 - (a) Create several mailboxes and assign each a different GCOS. For details, see the *Reference and Configuration Manual*.
 - (b) Make messages among mailboxes.
 - (c) Verify that you can deliver only those messages allowed by each mailbox GCOS.

Completing the Installation

1. Complete the post-implementation documentation.
 - End User System Registration
 - Quality Feedback Report
2. Meet with the project manager to turn the system over to the customer.

3 Update or Upgrade Software

This section provides instructions to:

- Install the CD-ROM drive
- Update the software
- Install an optional feature
- Add Prompts
- Increase system hours
- Install a Revision Support Disk (RSD)
- Install a Patch disk

Before you start any of these processes:

- Print the current configuration
- Back up the server
- Connect a printer to the terminal or use the capture file function (for example, PROCOMM) to record all steps of the procedure

Install the CD-ROM Drive

This procedure describes how to install the CD-ROM drive in order to update the system software.

1. Back up the server to floppy diskette or Zip disk.
 - (a) From the Main menu, select (S) System maintenance, then (F) Floppy backup, and follow the prompts to insert the diskettes.
OR
From the Main menu, select (S) System maintenance, then (Z) Zip drive backup, and follow the prompts to insert the Zip disks.
 - (b) If any diskette is not formatted in QNX, enter **Y** at the prompt to format the diskette or Zip disk and continue the backup.
 - (c) When the backup is complete, a report appears and the server returns to the System Maintenance menu. Label and store the diskettes or Zip disks.
2. Shut down the system.
 - (a) At the System Maintenance menu, select (S) System shutdown, then type **shutdown**.

- (b) At the prompt to select a module, enter **a**. The status of each line appears as idle, active, or stopped. The server stops any calls still in progress after five minutes.
 - (c) At the prompt about the message waiting queue, enter **y** to wait for the queue to clear or enter **n** to shut down the server immediately.
 - (d) When all lines are off-hook, a prompt appears about the Verify option. Enter **y** to verify the server.
 - (e) At the prompt to enable or disable modules, enter **y** to disable the server.
 - (f) At the Module Maintenance menu, select (D) **DISABLE a module**, then enter **a** and type **disable**. The Maintenance From Hard Disk menu appears.
3. Install the hardware for the CD-ROM drive.
- (a) Turn off the power to the server.
 - (a) Place the CD-ROM drive on a flat surface near the server.
 - (b) If the system does not include a Zip drive, go to step g.
 - (c) If a Zip drive is installed, unplug it.
 - (d) Plug the parallel cable into parallel port 1 and into port COM on the A/B switch. See Figures 3-1 and 3-2.
 - (e) Plug the cable for the Zip drive into the Zip drive and into port B on the A/B switch. See Figures 3-2 and 3-3.
 - (f) Plug the cable for the CD-ROM drive into the CD-ROM drive and into port A on the A/B switch. See Figures 3-2 and 3-4.
 - (g) Plug the cable for the A/B switch power supply into the power jack on the A/B switch, then plug the power supply into the AC power receptacle. Go to step i.

Figure 3-1 Server Rear Panel With Connections

Figure 3-2 A/B Switch Box Controls and Connections

Figure 3-3 Zip Drive Controls and Connections

Figure 3-4 CD-ROM Drive Controls and Connections

- (h) Plug the cable for the CD-ROM drive into the CD-ROM drive and into parallel port 1. See Figures 3-1 and 3-4.
 - (i) Plug the power cables for the CD-ROM drive into the power port on the CD-ROM drive and into the AC power receptacle.
4. Turn on the power to the server. The server boots to the Maintenance From Hard Disk menu.

Update the Software

- 1. If the system includes an A/B switch, press the selector switch to turn LED A on. Insert the Standard CD-ROM in the CD-ROM drive.
- 2. Insert the Floppy Boot diskette, then press the Reset button to boot the system from the floppy drive.
- 3. At the prompt to verify the system type, enter **y** if the information is correct.
- 4. At the prompt, enter **service**.

5. At the prompt, insert the Service diskette and press **Enter**.
6. At the prompt to select a process, enter **update**.
7. A message appears about the process, then a prompt to continue or exit appears. Enter **y** or press **Enter** to continue.

The installation process runs automatically to load the base software, optional features, and Prompts. The process takes from 30 minutes to 2 hours, depending on the mix of options and Prompts. During the process, the file names appear on the screen and prompts appear about the update. Respond appropriately for your site.

8. If the system includes hotel or custom Prompts, at the prompt, insert the Prompts CD-ROM. The process loads the Prompts automatically.
9. At the prompt to install a patch, enter **n**. The process updates the configuration files automatically.
10. Remove the diskette from the floppy drive.
11. When all configuration files are updated, press **Enter** to reboot the server.
12. Back up the server to a new set of diskettes.

Install an Optional Feature

To complete this process, you must have the Standard CD-ROM and both the Service and Service Plus diskettes.

1. Duplicate the Active Configuration. From the Main menu, select (S) System maintenance, (R) Reconfiguration, (R) Reconfigure System, (G) Offline menu, then (B) Duplicate Active Configuration, and (X) to exit and save the configuration.
2. Merge the Service diskettes.
 - (a) From the Main menu, select (S) System Maintenance, (O) Additional Options, then (U) Utility menu.
 - (b) At the Utility menu, select (M) Merge Service Diskettes.
 - (c) Follow the prompts to insert the Service and Service Plus diskettes.
 - (d) Check the list of enabled features to be sure that it includes all features for the system. If any features are missing, contact your support representative. If all features are included, continue with the installation process.
 - (e) Enter **x** until you reach the System Maintenance menu.
 - (f) Remove the diskette from the floppy drive.
3. Shut down the system.
 - (a) At the System Maintenance menu, select (S) System shutdown, then type **shutdown**.
 - (b) At the prompt to select a module, enter **1**. The status of each line appears as idle, active, or stopped. The server stops any calls still in progress after five minutes.
 - (c) At the prompt about the message waiting queue, enter **y** to wait for the queue to clear or enter **n** to shut down the server immediately.
 - (d) When all lines are off-hook, a prompt appears about the Verify option. Enter **y** to verify the server.

- (e) At the prompt to enable or disable modules, enter **Y** to disable the server.
- (f) At the Module Maintenance menu, select (D) `DISABLE` a module, then enter **a** and type `disable`. The Maintenance From Hard Disk menu appears.
4. Check that all cables for the CD-ROM drive and optional A/B switch are securely connected.
5. If the system includes an A/B switch, press the selector switch to turn on LED A.
6. Insert the Standard CD-ROM in the CD-ROM drive.
7. At the prompt for an activity, enter `install.options`, then enter **Y** to continue.
8. At the list of options, enter **Y** to install all options, including any that are already installed on the server, or enter **N** to select specific options and follow these steps:
 - (a) At the prompt to select an individual option, enter an option **number**, then press **Enter**.
 - (b) To add another optional feature, repeat step a.
 - (c) When all optional features are selected, enter `done` at the prompt to select an individual item. The process runs automatically.
9. When the installation is complete, remove the diskette from the floppy drive.
10. At the prompt, enter `host.status` to enable the server.
11. At the Module Maintenance Menu prompt, enter **e**.
12. At the prompt, enter **1** to enable the server. The server automatically reboots.
13. From the Main Menu, select (S) `System maintenance`, (R) `Reconfiguration`, (R) `Reconfigure System`, (G) `Offline Menu`.
14. Select (B) `Duplicate Configuration`, then (X) `Exit`.
15. Select (A) `Activate Configuration`, then (A) to activate the configuration.
16. To configure the new feature(s), refer to the appropriate manual(s).

Install a Prompt set

To complete this process, you must have the Standard and Prompts CD-ROMs and both the Service and Service Plus diskettes.

1. Duplicate the Active Configuration. From the Main menu, select (S) `System maintenance`, (R) `Reconfiguration`, (R) `Reconfigure System`, (G) `Offline menu`, then (B) `Duplicate Active Configuration`, and (X) to exit and save the configuration.
2. Merge the Service diskettes.
 - (a) From the Main menu, select (S) `System Maintenance`, (O) `Additional Options`, then (U) `Utility menu`.
 - (b) At the Utility menu, select (M) `Merge Service Diskettes`.
 - (c) Follow the prompts to insert the Service and Service Plus diskettes.
 - (d) Check the list of enabled features to be sure that it includes all features for the system. If any features are missing, contact your support representative. If all features are included, continue with the installation process.
 - (e) Enter **x** until you reach the System Maintenance menu.
 - (f) Remove the diskette from the floppy drive.
3. Shut down the system.

- (a) At the System Maintenance menu, select (S) `System shutdown`, then type **shutdown**.
 - (b) At the prompt to select a module, enter **1**. The status of each line appears as idle, active, or stopped. The server stops any calls still in progress after five minutes.
 - (c) At the prompt about the message waiting queue, enter **Y** to wait for the queue to clear or enter **N** to shut down the server immediately.
 - (d) When all lines are off-hook, a prompt appears about the Verify option. Enter **Y** to verify the server.
 - (e) At the prompt to enable or disable modules, enter **Y** to disable the server.
 - (f) At the Module Maintenance menu, select (D) `DISABLE a module`, then enter **a** and type **disable**. The Maintenance From Hard Disk menu appears.
4. Check that all cables for the CD-ROM drive and optional A/B switch are securely connected.
 5. If the system includes an A/B switch, press the selector switch to turn on LED A.
 6. Insert the Standard CD-ROM in the CD-ROM drive.
 7. At the prompt to for an activity, enter **prompts.add**, then enter **Y** to continue.
 8. At the list of Prompt sets:
If you will not install any of the Prompts sets on the Standard CD-ROM, enter **done** at the prompt to select an individual item, then go to step 8. OR
Enter **Y** to install all Prompt sets, including any that are already installed on the server. OR
Enter **N** to select specific Prompt sets and follow these steps:
 - (a) At the prompt to select an individual Prompt set, enter a Prompt set **number**, then press **Enter**.
 - (b) To add another Prompt set, repeat step a.
 - (c) When all Prompt sets are selected, enter **done** at the prompt to select an individual item. The process runs automatically.
 9. If you will install hotel or custom Prompts that are on the Prompts CD-ROM, at the prompt, insert the Prompts CD-ROM. then repeat step 7.
 10. When the installation is complete, remove the diskette from the floppy drive.
 11. At the prompt, enter **host.status** to enable the server.
 12. At the Module Maintenance Menu prompt, enter **e**.
 13. At the prompt, enter **1** to enable the server. The server automatically reboots.
 14. From the Main Menu, select (S) `System maintenance`, (R) `Reconfiguration`, (R) `Reconfigure System`, (G) `Offline Menu`.
 15. Select (B) `Duplicate Configuration`, then (X) `Exit`.
 16. Select (A) `Activate Configuration`, then (A) to activate the configuration.
 17. To configure the LCOS for the new Prompt set(s), see the *Reference and Configuration Manual*, CP 5017.
 18. To set the default language to the new Prompt set(s), see the *Reference and Configuration Manual*, CP 3312.

Increase the Server Hours

To complete this process, you must have the Standard CD-ROM and the Floppy Boot, Service,

and Service Plus diskettes.

1. Duplicate the Active Configuration. From the Main menu, select (S) System maintenance, (R) Reconfiguration, (R) Reconfigure System, (G) Offline menu, then (B) Duplicate Active Configuration, and (X) to exit and save the configuration.
2. Merge the Service diskettes.
 - (a) From the Main menu, select (S) System Maintenance, (O) Additional Options, then (U) Utility menu.
 - (b) At the Utility menu, select (M) Merge Service Diskettes.
 - (c) Follow the prompts to insert the Service and Service Plus diskettes.
 - (d) Check the list of enabled features to be sure that it includes all features for the system. If any features are missing, contact your support representative. If all features are included, continue with the installation process.
 - (e) Enter **x** until you reach the System Maintenance menu.
 - (f) Remove the diskette from the floppy drive.
3. Shut down the system.
 - (a) At the System Maintenance menu, select (S) System Shutdown, then type **shutdown**.
 - (b) At the prompt to select a module, enter **1**. The status of each line appears as idle, active, or stopped. The server stops any calls still in progress after five minutes.
 - (c) At the prompt about the message waiting queue, enter **y** to wait for the queue to clear or enter **n** to shut down the server immediately.
 - (d) When all lines are off-hook, a prompt appears about the Verify option. Enter **y** to verify the server.
 - (e) At the prompt to enable or disable modules, enter **y** to disable the server.
 - (f) At the Module Maintenance menu, select (D) DISABLE a module, then enter **a** and type **disable**. The Maintenance From Hard Disk menu appears.
4. Insert the Floppy Boot diskette, then press the Reset button to boot the system from the floppy drive.
5. At the prompt to select an option, enter **service**.
6. At the prompt, insert the Service diskette, and press **Enter**.
7. Check that all cables for the CD-ROM drive and optional A/B switch are securely connected.
8. If the system includes an A/B switch, press the selector switch to turn on LED A
9. Insert the Standard CD-ROM in the CD-ROM drive
10. At the prompt to select a process, enter **upgrade**.
11. A message appears about the process, then a prompt to continue or exit appears. Enter **Y** or press **Enter** to continue. The upgrade process runs automatically.
12. When the process is complete, remove the diskette from the floppy drive.
13. After the server reboots, enable the server.
 - (a) At the prompt, enter **host.status** to enable the server.
 - (b) At the Module Maintenance Menu prompt, enter **e**.
 - (c) At the prompt, enter **a** to enable the server. The server automatically reboots.

14. At the Main Menu, select (S) System Maintenance, (R) Reconfiguration, (R) Reconfigure System, (G) Offline Menu.
15. Select (B) Duplicate Configuration, then (X) Exit.
16. Select (A) Activate Configuration, then (A) to activate the configuration.

Install an RSD

If you perform a software update or reload on the same Software Release, you must also install any current RSD.

If an error occurs while installing the RSD, make a printout of the procedure and contact your support representative.

1. Duplicate the Active Configuration. From the Main menu, select (S) System Maintenance, (R) Reconfiguration, (R) Reconfigure System, (G) Offline menu, then (B) Duplicate Active Configuration, and (X) to exit and save the configuration.
2. Reach the System Maintenance menu, choose (S) System Shutdown, then enter **Y** to disable the server.
3. The system automatically reboots, and the Run Maintenance from Hard Disk Menu appears.
4. At the prompt for an activity, enter **install.rsd**.
5. At the prompt, enter **Y** to install the RSD.
6. When prompted, insert the Standard CD-ROM, and press **Enter**. The installation process runs automatically.
7. At the prompt to install another Patch, enter **N**.
8. When the installation is complete, remove the diskette from the floppy drive.
9. At the prompt, enter **host.status** to enable the server.
 - (a) At the Module Maintenance Mmenu prompt, enter **e**.
 - (b) At the prompt, enter **1** to enable the server. The system automatically reboots.
10. From the Main Menu, select (S) System maintenance, (R) Reconfiguration, (R) Reconfigure System, (G) Offline Menu.
11. Select (B) Duplicate Configuration, then (X) Exit.
12. Select (A) Activate Configuration, then (A) to activate the configuration.
13. Check that the System Information Report shows the RSD.

Install a Patch

If you perform a software update or reload on the same software release, you must also install any current patch. Use the utility for downloadable patches.

If an error occurs while installing a downloadable patch, make a printout of the procedure and contact your support representative.

- To back up a downloadable patch through the utility, follow these steps:

1. From the Main menu, select (S) System maintenance, (O) Additional Options, then (Z) Copy downloadable Patch to diskette.
2. Insert a diskette in the floppy drive, then follow the prompts on the screen.
 - To install a downloadable patch through the utility, follow these steps:
 1. From the Main menu, select (S) System maintenance, (O) Additional Options, then (V) Install Downloadable Patch.
 2. Check the patch file name that appears, then enter Y to install the patch.
 3. When the Additional Options menu appears, exit to the Main menu.
 4. At the Main menu, select (R) Report generation, then (I) System information.
 5. Verify that the system information report shows this patch, then exit to the Main menu.
 - To remove the most recently installed downloadable patch through the utility, follow these steps:
 1. From the Main menu, select (S) System maintenance, (O) Additional Options, then (W) Uninstall downloadable Patch, then follow the prompts on the screen.
 2. To remove other previously installed patches, repeat step 1.

4 Troubleshooting and Replacing Parts

How To Use This Chapter

This chapter provides troubleshooting instructions and step-by-step procedures for replacing Field Replaceable Units (FRUs) in a Model 70. Additional information is located in the *Reference and Configuration Manual* and the *Technical Reference Manual*.

Service Strategy

The Model 70 is designed for ease of installation, system expansion, or service and repair. Perform all maintenance and administration, either on-site or remotely, on a regular basis. Most field repairs replace components, such as the cabinet, hard disk(s), floppy drive, and line cards, within the Model 70.

If your support representative needs to log in to the server remotely, configure the maintenance modem according to the information that starts following the Troubleshooting section.

Troubleshooting Overview

This section discusses troubleshooting and corrective maintenance. If you experience problems during installation, check your work, then try to restart the server. If the server still fails, call your support representative for additional instructions.

General Troubleshooting Steps

1. Meet with the customer and discuss the symptoms in order to define the problem. Ask these questions:

- Did the server fail after a hardware expansion or upgrade?
 - May indicate defective new hardware, a hardware configuration problem, hardware incompatibility, or an installation problem.
 - Is the problem constant or intermittent?
 - May indicate a loose cable or other intermittent component. Consider the power environment:
 - Is the grounding correct?
 - Any changes to connected devices?
 - Any power surges or line hits?
 - Did the company hire new employees?
 - The server may be exceeding original capacities.
 - Are users properly trained?
 - Problems may be caused by misuse of the system
 - When was the last preventive maintenance performed?
 - Check for blocked filters, dim LEDs, or out of service components.
2. Before you log in, record any error messages that appear on the console.
 3. Check and record the condition of all status lamps and LEDs for the system and individual components, including the hard disks.
 4. Try to log in to the console.
 5. Does the server accept the user name and do you see the prompt for the password?
 6. Does the server accept the password and allow log in?
 7. After you log in, run the Logfile and check for error messages.
 8. If the symptoms seem to be related to a specific port or to the network, check the Usage report to identify any ports or lines that do not carry normal traffic.
 9. Follow the specific troubleshooting steps this chapter.
 10. When the tests and checks indicate a specific failed component, remove and replace the FRU.
 11. Check that the system operates correctly.
 12. Return the failed component for repair according to the terms of your support plan.

Specific Troubleshooting Steps

These troubleshooting steps are grouped by topic.

WARNING: Do not attempt to remove or replace any components or peripherals when the server is turned on. Hazardous voltage and current are present in this product.

CAUTION: Electrostatic discharge (ESD) can damage components. To reduce risk, wear an anti-static wrist strap attached to a metal part of the server chassis.

- #### Application Software Problems
1. Check that all cables are installed correctly.
 2. Verify that server hardware configuration is correct.

3. Verify that server software is properly configured.

Power Supply Problems 1. Make sure the server is plugged in.

2. Check that the $\pm 12V$ and $+5V$ outputs are within $\pm 5\%$.
3. Make sure all cables are installed correctly.
4. Check for short-circuits or defective peripherals by unplugging one peripheral at a time, then turning on power to the server. When the server starts, you have isolated the problem.

Communications Failure Server does not answer calls OR Call is answered, but followed by silence

1. Call all stations. The problem could be associated with a bad station port rather than with the Model 70.
2. Check for loose phone line connections.
3. Remove line cord from line card. Plug into a single line loop phone and call the station. Does the phone ring? Do you get dial tone on line? If not, then faulty PBX port or line cord; replace it.

Console/Terminal Problems

Characters on-screen are distorted or incorrect OR Characters do not appear

1. Make sure the terminal is plugged in and turned on.
2. Check the terminal cable connectors at both ends.
3. Check the brightness and contrast controls.
4. Check the console speed, baud rate, and setup.
5. Enter <Ctrl-Q> to clear the <Ctrl-S>.
6. Move the console to another serial port.
7. Check that Green LED on backplane is lit. If not lit, replace backplane fuse.

Console function is missing a prompt or does not react to entry

1. Check console terminal settings, especially the baud rate.
2. Reset the console, then try again.
3. Get a different terminal.

Server resets terminal's baud rate on restart

1. Disable auto baud detection on the terminal.
2. Check console cable.

CD-ROM Drive Problems Message "/bcd0/ . . . not accessible" appears.

1. Make sure all power and parallel data cables are plugged in.
2. Check the switches on the A/B switch box.
3. Bypass the A/B switch and connect the cable for the CD-ROM directly to parallel port 1.

Floppy Drive Problems

1. Make sure floppy drive data cables are properly installed.

2. Check that the power cable is plugged in.

Cannot boot from floppy drive.

1. Make sure you are using the correct Floppy boot diskette.
2. Make sure the Floppy boot diskette is in the floppy drive.
3. Make sure the floppy drive light goes on when you turn on the server.
4. Run the Diagnostics from the Maintenance from Hard Disk menu.
5. Turn power off, remove the floppy drive and install a spare floppy drive. Turn the power on and try again.
6. If the server can start from the spare floppy drive, return the original floppy drive for repair.

Cannot backup to diskette

1. Diskette might be defective or it might be full. Try another diskette.
2. Check that diskette is double-sided, high density, 1.44MB.

Update, install, or increase hours fails

1. Is the Service diskette write-protected? If so, disable write-protection. If it still fails, contact your support representative for a new diskette.
2. Is this the correct Service diskette?
3. Check the floppy drive for failure.

Hard Disk Problems

Checks for all symptoms

1. Check that voltage (12V/5V) is within $\pm 5\%$.
2. Check that all cables are secure.
3. Check the hard disk configuration (see the Hard Disk Information sheets).

Light does not go on when hard disk is in use

1. Check that voltage (12V/5V) is within $\pm 5\%$.
2. Make sure power and data cables for the hard disk are properly installed.
3. Check the hard disk configuration.

You receive "Doubly allocated speech blocks" or "Out of range message number" or "Invalid Reference Count"

1. Run Diagnose.
2. If Diagnose passes, run System Verify two or more times.
3. If System Verify passes and the messages continue, call your support representative.

You receive "Self Test 78" error

1. Check cable connections.
2. Replace the hard disk.

Integration Problems

Some extensions call forward properly with greeting, but others do not

1. Check the Configuration report that the PBX lines are installed in the correct server ports with correct line group assignments.
2. If a data link is installed, check it or run the Event Recorder.
3. Compare PBX dial strings of working extensions with non-working extensions.
4. Check extension forwarding targets in the PBX.
5. Compare Message Waiting indicator types.
6. Check that the mailbox is properly configured.
7. Check the Classes of Service for the PBX.

Line Card Problems

Poor voice quality on outside calls, recorded messages, or greetings for loop start, ground start, and DID line cards

1. Check if problem occurs on all calls from one caller, some calls from one or more callers, or all calls.
2. If the problem is limited to a single caller from a single phone, make test calls from another telephone line. If quality improves, the problem is probably not with the line cards.
3. Check if the problem occurs on one port, several ports, all ports on one card, or all ports on all cards. Check the Mailbox Dump function to determine the source, then make test calls on various ports to determine a pattern.
4. If problem occurs on only some ports or phone lines, unplug the suspected line(s) from the server, then make these checks:
 - For loop start or ground start ports, plug the line into a standard 2500-type set or telephone test set, then make test calls.
 - For DID ports, call into the server from a 2500-type set or telephone test set.
5. Interchange telephone lines between good and faulty ports, then make test calls. Check whether the problem remains on a port or follows a telephone line.

Note: For a serial link integrated system, incoming calls on relocated lines receive the general greeting. Change the relocated lines to busy-out and reconnect them normally as soon as you complete testing. If possible, test while call traffic is low.

6. If the problem follows one or more telephone lines, make either of these checks:
 - If the server is on a PBX, check for PBX line interface card problems.
 - If the server is on CO lines, use a transmission test set to make these checks:
 - The local loop circuit loss at 1KHz is about -4 to -8dB.
 - The local loop message circuit noise, C-message weighted and balanced, is <20dBmC.
 - If an audible hum is present, measure the noise-to-ground value with C-message and 3KHz flat filters.
7. If the problem affects all ports and the telephone lines are good, check the power supply voltages and power environment.
8. Check fuse on backplane. If required, replace fuse.

Distortion and/or chopped words

1. Test the signal-to-noise ratio on the telephone lines.
2. Check for nearby sources of hum or noise such as RF, FM, or motors. Connect the appropriate line filter to the line card.
3. Use a Digigrabber to check dB level of DTMF digit. If +3 to +8, then add a 600 Ω load.
4. Check levels on the telephone lines to ensure they are normal.
5. Make sure user's phone is working.
6. With an oscilloscope, check the line noise.
7. Check the power supply voltages and the power environment.
8. Replace the line card.

All other line card problems

1. Insure that switch S-1 is in the Ready position.
2. Exchange the phone line (not applicable for Integrations).
3. Check the Logfile.
4. Use a 2500 set or a hand set to test ringing, DTMF, and speech path.
5. With power off, reset line card and retry. Check backplane fuse.
6. With power off, reseal line card.
7. With power off, replace the line card with a new one configured for the application.
8. Check that the MVIP bus is terminated correctly and only at each end.

System and Miscellaneous Problems Silence when prompt should be heard

1. Check the line card.
2. Check to see if the problem is common to all line groups.
3. Check to see if user interface (in the Offline menu) is set to Standard.
4. Reload the Prompts.
5. Check line group configuration.

Server resets without apparent reason

1. Check the Logfile for errors, then check the configuration.
2. Check that all disks are enabled; update redundancy if needed.
3. Check the power and grounding connections, then check the power environment.
4. Check the telephone lines and related equipment for irregular activity.
5. Check 5V power on the last line card in the server.
6. If new hardware was added, check for address conflicts.

Company greeting sounds distorted

1. Use a regular telephone to re-record the company greeting. Do not use the Attendant console.
2. Run Diagnose to check for media problems.

3. Run System Verify of all records and speech.

Maintenance Modem Configuration

Use the information in this section to configure your maintenance modem. For most applications, configure the serial port device type as a modem. Occasionally, the modem handling tasks do not start properly for remote access, so you may need to set the serial port device type as a null terminal.

Note: Do not leave remote access connected for extended periods. If you hang up before exiting from all menus, the active console may not close properly, placing the next modem user into the active console session.

Configuring as a Modem-Type Device

Use these steps to configure a modem-type device at the voice mail server:1. For the US Robotics Sportster modem, turn off the power for the modem and set only these switches to On:

- 3, Enable result code display
 - 5, Disable auto answer
 - 8, Smart mode AT command set recognition
2. Turn the modem power on.
 3. From the Main menu, select (S) System Maintenance, (O) Additional Options, then (P) Console/Serial Port Setup menu.
 4. Assign the serial port as a modem device and set it to 9600 baud.
 5. Reboot the system to enable the new configuration.

Configuring as a Null Terminal-Type Device

Use these steps to configure a null terminal-type device at the voice mail server:1. For the US Robotics Sportster modem, turn off the power for the modem and set only these switches to On:

- 1, Ignore DTR
 - 4, Suppress keyboard echo
 - 7, Use &F0 generic software setup at power on to On.
2. Turn the modem power on.
 3. From the Main menu, select (S) System Maintenance, (O) Additional Options, then (P) Console/Serial Port Setup menu.
 4. Assign the serial port as a terminal device and set it to 9600 baud.
 5. Reboot the system to enable the new configuration.

Note: When remote access as a terminal is no longer needed, reconfigure the serial port and modem as a modem-type device.

Replacing Parts in a Desktop Chassis

Use these procedures to remove and install parts in a desktop Model 70. The desktop model comes in two versions. To quickly identify the version of the chassis for repair purposes, look at the lower left corner of the front panel. The older chassis has a key lock. The newer chassis does not have a key lock.

Obtain an antistatic mat and a container to hold the screws before you change any parts. When you remove a component, place it on the nonconductive surface.

Prepare the Chassis

CAUTION: Protect the server and components from ESD damage during work.

1. Wear a grounded wrist strap and attach it to the server to protect all components from electrostatic discharge.
2. Shut down the system (for details, see chapter 5) and turn off the power, then wait one minute for the hard disk to stop spinning.

WARNING: Do not attempt to remove or replace any components when the server is plugged in. Hazardous voltage and current are present in this product.

3. Label all cables, then unplug the power cables from the server.

Remove the Cover

1. Remove the five screws that secure the top cover to the back panel. See Figure 4-1.

Figure 4-1 Desktop Chassis Cover

2. For an older desktop chassis:
To loosen the cover, hold the cover on both sides at the back and press your thumbs against the back panel. Slide the cover back, then lift it up. See Figure 4-1.
OR
For a newer desktop chassis, lift the top cover off.

Remove and Install Circuit Cards

1. Locate the line card you will remove, then unplug all cables from the card.
2. Remove the screw from the retaining bracket for the card. See Figure 4-2.

Figure 4-2 Circuit Card and Retaining Bracket Screw

3. Pull the card straight out, then place it in an anti-static bag for return and repair.
4. If you will not replace the card, secure the slot cover with the screw that held the retaining bracket. See Figure 4-3.

Figure 4-3 Slot Cover

5. If you are installing a card in an unused slot, follow these steps:
 - (a) Remove the slot cover. See Figure 4-3.
 - (b) Place the card on a grounded, static-free surface with the component side up and verify

that you have the correct circuit card and that all switches and jumpers are set. For details, see the *Technical Reference Manual*.

- (c) If the card has a serial number, record it in the equipment log.
- (d) Firmly press the card into the connector on the motherboard. See Figure 4-2.
- (e) Secure the retaining bracket with a 6-32 Phillips screw.
- (f) Plug the cables into the card.

Remove and Install a Hard Disk/Floppy Drive

WARNING: When the drive carrier is removed, the power switch terminals are accessible. These terminals can have hazardous voltages present even when the power switch is turned off. Unplug the system before performing the procedure. Failure to do so can cause personal injury and damage equipment.

1. For the older desktop chassis:
 - (a) Label, then unplug the data and power cables from the hard disk and floppy drive.
 - (b) Remove the screws that secure the carrier to the chassis, then slide the carrier toward the back of the system. See Figure 4-4.

Figure 4-4 Drive Carrier (Older Desktop Chassis)

- (c) Remove the three or four screws that secure the hard disk to the carrier. See Figure 4-5.
OR
Remove the three screws that secure the floppy drive to the carrier. See Figure 4-6. Do not remove the EMI shield or filter panel at the front of the bay.

Figure 4-5 Hard Disk and Carrier, Older Desktop Chassis

Figure 4-6 Floppy Drive and Carrier, Older Desktop Chassis

- (d) Remove the hard disk OR floppy drive from the carrier and place it in an anti-static bag.

Note: If you are troubleshooting, install the hard disk OR floppy drive in the spare cabinet to test it. If you are replacing the hard disk, prepare it for return and repair.

- (e) Configure the hard disk as master for a single disk or the primary of a redundant pair. Configure the hard disk as slave for a second disk or the redundant disk. For details, see the Hard Disk Information sheets.
- (f) Slide the hard disk into the carrier with the component side facing away from the floppy drive OR slide the floppy drive into the carrier next to the hard disk.
- (g) Align the mounting holes and secure the hard disk with three or four screws. Leave 0.5 to 1.0 inch between the front edge of the hard disk and the front edge of the carrier.
OR
Align the mounting holes and secure the floppy drive. See Figure 4-5.
- (h) Place the carrier in the server so the front of the floppy drive lines up with the opening in the front panel and the front tab on the carrier lines up with the slot that projects from the side of the 5.25-inch bay.
- (i) Align the tab and screw holes, then secure the carrier with four screws. If necessary, loosen the mounting screws for the floppy drive and align it with the front bezel.

- (j) Plug in the data and power cables.
- 2. For the newer desktop chassis:
 - (a) Label, then unplug the data and power cables from the hard disk and floppy drive.

WARNING: When the drive carrier is removed, the power switch terminals are accessible. These terminals can have hazardous voltages present even when the power switch is turned off. Unplug the system before performing the procedure. Failure to do so can cause personal injury and damage equipment.

- (b) Use a screwdriver to pry the front cover away from the chassis at the sides.
- (c) Remove the screws that secure the carrier to the chassis, then slide the carrier out the front of the chassis. See Figure 4-7.

Figure 4-7 Drive Carrier (Newer Desktop Chassis)

- (d) Remove the hard disk from the carrier. See Figure 4-7.
- (e) Place the new hard disk on a grounded, static-free surface.

Note: If you are troubleshooting, install the hard disk in the spare cabinet to test it. If you are replacing the hard disk, prepare it for return and repair.

- (f) Configure the hard disk as master for a single disk or the primary of a redundant pair. Configure the hard disk as slave for a second disk or the redundant disk. For details, see the Hard Disk Information sheets.
- (g) Slide the hard disk into the carrier.
- (h) Align the mounting holes and secure the hard disk. See Figure 4-7.
- (i) Plug in the data and power cables.

Replace the Power Supply

1. Insert a flat-blade screwdriver behind the edge of the front cover and gently pry off the front cover.

Note: The front panel is plastic and normally comes off easily. Do not force it.

2. At the front panel, remove the two Phillips head screws that hold the power switch, and set them aside, then pull the power switch out of the front panel. See Figure 4-8.

Figure 4-8 Screws for Power Switch

3. At the back panel, remove the four power supply mounting screws and set them aside. See Figure 4-8.

Figure 4-9 Screws for Power Supply and Fan (Desktop Chassis)

4. Unplug these power connectors on the power supply wiring harness; see Figure 4-10.
 - P1, P2 (on the motherboard)
 - P3
 - P4
 - P5 (from the floppy drive and hard disk(s))

Figure 4-10 Wiring Harness (Desktop Chassis)

5. Remove the old power supply and mark it as “defective” with the date.
6. Place the new power supply in the chassis and use four Phillips head screws to secure it to the back panel. See Figure 4-9.
7. Plug in these power connectors on the wiring harness; see Figure 4-10.
 - P1, P2 (on the motherboard)
 - P3
 - P4
 - P5 (to the floppy drive and hard disk(s))
8. Route the cable for the power switch through the chassis, then secure it in the front panel with two Phillips head screws. See Figure 4-8.

Replace the Fan

1. At the back panel, remove the four fan mounting screws and set them aside. See Figure 4-9.
2. Unplug the power cable from the fan.
3. Place the label side of the fan against the inside of the rear panel and secure it with four Phillips head screws. See Figure 4-9.
4. Plug in the power cable for the new fan.

Prepare the Chassis for Service

1. Check that the wires do not contact the cover, panels, or cards.
2. Replace the top cover and secure it with five Phillips head screws in the back panel. See Figure 4-1.
3. Plug the power cord(s) into the chassis.
4. Plug all labeled cables into the correct cards and connectors.
5. Turn on the power, boot the server, test that the server functions normally, and restart voice mail service.

Replacing Parts in a Tower Chassis

Use these procedures to remove and install parts in a tower chassis.

Obtain an antistatic mat and a container to hold the screws before you change any parts. When you remove a component, place it on the nonconductive surface.

Prepare the Chassis

CAUTION: Protect the server and components from ESD damage during work.

1. Wear a grounded wrist strap and attach it to the server to protect all components from electrostatic discharge.
2. Shut down the system (for details, see chapter 5) and turn off the power, then wait one minute for the hard disk to stop spinning.

WARNING: Do not attempt to remove or replace any components when the server is plugged in. Hazardous voltage and current are present in this product.

3. Label all cables, then unplug the power cables from the server.

Remove the Cover

1. Remove the two screws that secure the left-side cover to the back panel. See Figure 4-11.
2. Slide the cover toward the back and lift it away.

Figure 4-11 Tower Chassis Cover

Remove/Install a Circuit Card

Note: If you will remove or install a circuit card in slot 6, you must first temporarily remove any card in slot 5 in order to have room to maneuver the slot 6 card.

1. Remove the screw from the retaining bracket for the card.
2. Pull the card straight out, then place it in an anti-static bag for return and repair.
3. If you will not replace the card, secure the slot cover with the screw that held the retaining bracket.
4. If you are installing a card in an unused slot, remove the slot cover.
5. Place the new card on a grounded, static-free surface with the component side up and verify that you have the correct circuit card and that all switches and jumpers are set. For details, see the *Technical Reference Manual*.
6. If the card has a serial number, record it in the equipment log.
7. Firmly press the card into the connector on the motherboard.
8. Secure the retaining bracket with a 6-32 Phillips screw.
9. Plug the cables into the card.

Remove/Install a Hard Disk/Floppy Drive

1. Label, then unplug the data and power cables from the hard disk or floppy drive.
2. Use a screwdriver to pry the front cover away from the chassis at the sides.

Note: The front panel is plastic and normally comes off easily. Do not force it.

3. Remove the screw that secures the carrier to the chassis, then press the lever and pull the carrier out of the front panel, into the chassis. See Figure 4-12.

Note: You may need to push the drive carrier from the front.

Figure 4-12 Drive Carrier (Tower Chassis)

4. Remove the four screws that secure the hard disk or floppy drive to the carrier, then slide it out of the carrier.
5. Place the new hard disk or floppy drive on a grounded, static-free surface.

Note: If you are troubleshooting, install the hard disk in the spare cabinet to test it. If you are replacing the hard disk, prepare it for return and repair.

6. Configure the hard disk as master for a single disk or the primary of a redundant pair. Configure the hard disk as slave for a second disk or the redundant disk. For details, see the Hard Disk Information sheets.

The floppy drive is configured at the factory.

7. Slide the hard disk or floppy drive into the carrier and secure it with two screws.
8. Slide the carrier into the chassis until the lever clicks in place, align the mounting bracket, and secure it with one screw. See Figure 4-12.
9. Plug in the data and power cables.
10. Align the front cover, then push it to secure it in place.

Replace the Power Supply

1. At the back panel, remove the four power supply mounting screws and set them aside. See Figure 4-13.

Figure 4-13 Rear of Tower Chassis

2. Unplug these power connectors on the power supply wiring harness; see Figure 4-14.
 - P1 (on the motherboard)
 - P2 (to the back panel fan)
 - P4 (to the front panel fan)
 - P5 (from the floppy drive and hard disk(s))

Figure 4-14 Wiring Harness (Tower Chassis)

3. Remove the old power supply and mark it as “defective” with the date.
4. Place the new power supply in the chassis and use four Phillips head screws to secure it to the back panel. See Figure 4-13.
5. Plug in these power connectors on the wiring harness; see Figure 4-14.
 - P1 (on the motherboard)
 - P2 (to the back panel fan)
 - P4 (to the front panel fan)
 - P5 (from the floppy drive and hard disk(s)).

Replace the Back Panel Fan

1. At the back panel, remove the four fan mounting screws and set them aside. See Figure 4-13.
2. Unplug connector P2 on the power supply wiring harness. See Figure 4-14.
3. Remove the old fan and mark it as “defective” with the date.
4. Place the label side of the new fan against the inside of the rear panel and secure it in place with four Phillips head screws. See Figure 4-13.
5. Plug in connector P2 on the wiring harness. See Figure 4-14.

Replace the Front Panel Fan

1. Use a screwdriver to pry the front cover away from the chassis at the sides.

Note: The front panel is plastic and normally comes off easily. Do not force it.

2. At the front panel, remove the four fan mounting screws and set them aside. See Figure 4-15.

Figure 4-15 Front Fan (Tower Chassis)

3. Unplug connector P4 on the power supply wiring harness. See Figure 4-14.
4. Remove the old fan and mark it as “defective” with the date.
5. Place the unlabeled side of the new fan against the inside of the front panel and secure it in place with four Phillips head screws. See Figure 4-15.
6. Plug in connector P4 on the wiring harness. See Figure 4-14.
7. Align the front cover, then push it to secure it in place.

Prepare the Chassis for Service

1. Check that the wires do not contact the cover, panels, or cards.
2. Align the tabs on the side cover with the slots in the chassis, then slide the cover toward the front of the chassis and secure it with two Phillips head screws in the back panel. See Figure 4-11.
3. Plug the power cord(s) into the chassis.
4. Plug all labeled cables into the correct cards and connectors.
5. Turn on the power, boot the server, test that the server functions normally, and restart voice mail service.

5 System Administration

How To Use This Chapter

This chapter provides step-by-step procedures for system administration tasks on a NuPoint Messenger Model 70. Additional information is located in the *Reference and Configuration Manual* and the *Technical Reference Manual*.

A task list and the Procedures (CPs) that describe system administration procedures are located at the end of this chapter.

Users familiar with NuPoint Messenger servers can use each CP as a checklist if desired, while new users can use the CPs for step-by-step instructions. After gaining experience with this documentation, you will develop your own way of using the task list. One approach to using the task list is provided below:

Using the Task List

From the task list, select the title of the task that you want to perform and note its CP number. Look through the CPs in this chapter until you find the CP number. Follow the instructions given in the CP.

A reference line in each CP contains pointers to supplemental information such as another procedure, a technical reference in the *Technical Reference Manual*, another manual, or menu maps.

If you need to interrupt your work to seek reference information, mark the CP with your bookmark or otherwise note where you are in the CP so that when you return to the CP, you can continue to execute the steps from the point where you left it.

System Administration

The system administrator creates and maintains all mailboxes and their functions on the server. The Model 70 allows the administrator to perform the following tasks:

- Configure and customize the server
 - Create, modify, delete, and reassign mailboxes
 - Build classes of service (FCOS, LCOS, GCOS, NCOS, RCOS, and TCOS)
 - Set up system-wide distribution lists and broadcast mailboxes
 - Create the "message of the day"
 - Create phonenumber exceptions, modifying telephony parameters that do not use the Model 70 default values (see the *Technical Reference Manual*)
 - Add optional features and expand capacities
 - Change the server time and date, when required
- Create system and client reports
 - Statistics: five reports show server resource usage (for example, usage of line ports, speech storage, trunks and messages)
 - System information: ten reports give information about server configuration and programming (see the *Reference and Configuration Manual*)
 - Billing: four reports break down charges for individual users and calculate amounts for billback (see the *Reference and Configuration Manual*)
- Perform maintenance, backup, and troubleshooting
 - Routine maintenance of software files
 - System backups and restoration
 - System diagnostics and fault isolation

The application software includes default values that can be changed through the console. Prompts guide the administrator. To access online help, enter a question mark (?) after any prompt.

Administration security features include passcode protection for the console to prevent unauthorized access to the server from a terminal.

Administration by Phone

Limited system administration can be performed over the telephone through the administrator's mailbox. These functions include:

- Creating, deleting, and modifying mailboxes
- Changing mailbox passcodes
- Changing the system clock
- Getting usage statistics
- Backing up the server to diskette, if the backup fits on one diskette

In addition to passcode protection, timing parameters help prevent unauthorized access through an administrator's mailbox. The timing parameters function as follows:

- The software allows three to five seconds for a response to each prompt before announcing "no change" and returning to the Administration menu.
- If more time is needed, the administrator can press "1" after a prompt to restart the timer. The server issues an error message and repeats the prompt.

For security, do not assign a name or individual greeting to the administrator's mailbox. Unauthorized users should not know that they have accessed a special purpose mailbox.

For instructions on Administration by Phone, refer to the *Reference and Configuration Manual*.

Administrative Hardware

The customer must provide all administrative equipment. This equipment is recommended:

- Standard VT100-compatible terminal for system administration
- Outboard modem for remote administration
- A/B box (console or modem active) for both on-site and remote administration

Worksheets

Worksheets facilitate installation and help you establish a paper trail backup for all work done on the server.

Use the worksheets to establish system and individual mailbox parameters, groups and classes of service, special application mailboxes, outdial notification operations, message waiting indication, and integration parameters. For sample worksheets, refer to the Reference and Configuration Manual. If you need other worksheets, contact your distributor.

System Administration Task List

Add a Disk (add.disk) -----	CP 6282
Add a Redundant Disk (make.redundant)-----	CP 6281
Add or Cancel a Phonenumber Exception -----	CP 7022
Back Up a Class of Service-----	CP 5412
Back Up to Floppy -----	CP 5703
Change Server Status From Hard Disk-----	CP 5314
Diagnose a Disk With Server Offline -----	CP 7030
Diagnose a Disk With Server Online -----	CP 7029
Enable a Hard Disk -----	CP 7019
Enable the Server-----	CP 7014

Install a Redundant Hard Disk	CP 6284
Name the Configurations	CP 7004
Recover a Lost Console Passcode	CP 5303
Reload the Software (system.reload)	CP 6267
Remove a Disk (remove.disk)	CP 2182
Replace a Disk Offline (Single, Primary, or Redundant Drives)	CP 6592
Replace the Redundant Disk Online	CP 6283
Restore a Class of Service	CP 5413
Restore the System (system.restore)	CP 5704
Set the Site Name, Banner, and Code	CP 5415
Set the System Time and Date	CP 5414
Shut Down a Hard Disk	CP 7017
Shut Down the Server	CP 6268
Update Disk Redundancy	CP 7015
Verify the Server Offline	CP 5701
View Hard Disk Operational Parameters	CP 5313
View or Edit History File	CP 5304
View the Configuration Names	CP 7005

Note: Procedures for building the customer database are in the *Reference and Configuration Manual*.

For additional information, refer to the *Technical Reference Manual* and the *System Implementation Guide*. For detailed information about an optional feature, refer to the manual for that optional feature.

Updates to procedures and the Model 70 are issued to the field in Release Notes.

CP 2182 Remove a Disk (remove.disk)

This procedure describes how to remove a disk either online or offline. You can remove the primary disk of a primary/redundant pair or the disk pair.

You can run the Remove Disk program online, from the Hardware Configuration menu, or offline, by booting from the Floppy Boot diskette. For best results, use the online menus. Both procedures stop call processing.

The Model 70 is a one module server. At the prompt for the number of the host or module, enter 1 or a.



CAUTION!

Remove.disk takes one or both disks of a redundant pair out of service. Do not run this program unless instructed to do so by your support representative.



WARNING!

During this procedure, the server cannot process calls. If possible, perform this procedure when call traffic is low.

Procedure Steps

Prepare the System

1. Reach the Hard Disk Utilities menu, then go to the SCSI Status menu.
Reference: Menu Map 8
2. Select (E) SCSI Status and check that the status is ENA. Exit the menu.
3. If the disk that will remain is out of sync, update the redundancy.
Reference: CP 7015
4. Reach the virtual drive table, then disable the disk you will remove.
Reference: CP 7017
5. To run remove.disk online, go to step 6. To run remove.disk offline, go to step 12.

Run remove.disk Online

6. Reach the Hardware Configuration menu, then to go the Disk Configuration menu.
Reference: Menu Map 12
7. Select (R) Remove a disk of redundant pairs.
8. At the prompt, insert the Service diskette and press **Enter**.
9. At the prompt, enter the **ID** of the disk to remove, then type **REMOVE** to confirm. The new configuration appears.
10. To remove the other disk, repeat steps 6 through 9.
11. During a period of low-call traffic, go to step 20 to physically remove the disk.

Run remove.disk Offline

12. Shut down the server, but leave it enabled.
Reference: CP 6268
13. Insert the Floppy Boot diskette. Reset the system and boot from the floppy.
14. At the prompt, enter **service**, then insert the Service diskette and press **Enter**.
15. At the prompt to select a process, enter **remove.disk**.
16. A message appears about the process, then a prompt to continue or exit. Press **Enter**.
17. At the prompt, type **REMOVE** to confirm the process, then enter the **ID** of the disk you are removing, and enter **Y**.
18. Repeat steps 12 through 17 to remove the other disk or press **Enter** to stop. The new configuration appears.
19. Remove the Service diskette from the floppy drive.

Physically Remove the Hard Disk

20. If you ran the online process, shut down the server, but leave it enabled.
Reference: CP 6268
21. Turn the power off and physically remove the hard disk.
Reference: Chapter 4

Restart the System

22. Turn the power on.
23. If you ran remove.disk online, go to step 26. If you ran remove.disk offline, go to the next

step.

24. Reach the System Maintenance menu, then go to the Host Maintenance menu.
Reference: Menu Map 12
25. Select (T) Module Status and verify that the server is enabled.
26. Reach the Hard Disk Utilities menu, then select the "K" option to update disk redundancy.
Reference: CP 7015

CP 5303 Recover a Lost Console Passcode

This procedure describes how to access the console after the Root or Superuser passcode for the console has been lost.

It is assumed that the server has been shut down following the procedure in CP 6268.



WARNING!

For this procedure, the server is removed from normal operation. If possible, perform this procedure when call traffic is low.

Procedure Steps

1. On the NuPoint Messenger server, enter **bypass** for the normal login and password.
2. At the prompt, insert the Service diskette and press **Enter**.

Note: If the system includes FPSA, the prompt asks for the FPSA diskette.

3. Enter the new Root or Superuser **password**, up to 253 alphanumeric characters, then enter it again to confirm. The server automatically restarts.

CP 5304 View or Edit History File

This procedure describes how to view or edit the History File.

The History File is a record of modifications made to the server. The system administrator, your distributor, or technical personnel can make entries to this record. Before updating software, always review this record to check for custom changes that can be over-written with the new software.

Procedure Steps

1. Reach the System Maintenance menu, go to the Additional Options menu, then go to the Utility menu, then to the History menu.
Reference: Menu Map 12

Show the History File

2. Select (S) Show file, then enter the number of a specific record or enter a for all non-empty records.

3. The file appears on the console. To stop scrolling, press Ctrl-S. To restart scrolling, press Ctrl-Q.

Update the History File

4. Select (U) Update file to enter information in the History File.
5. At the prompts, enter the following information:
 - The **name** of the person who modified the server, up to 15 characters
 - A description of the **problem**, up to 79 characters
 - A description of the **changes** that corrected the problem, up to 159 characters
 - Any other necessary information, up to 79 characters, or press **Enter** to leave blank

CP 5313 View Hard Disk Operational Parameters

This procedure describes how to determine the size and manufacturer of the hard disk.

Procedure Steps

1. Reach the System Maintenance menu, then go to the Hard Disk Utilities menu.
Reference: Menu Map 8
2. Select (O) Display the Operation Parameters for a disk, then enter the **ID** for the disk.
3. Check the Operational Parameters Report. The manufacturer and model number appear near the top of page 1. The disk capacity appears near the bottom of page 4.

```
Operational Parameters for Hard Disk 0:0
```

```
Vendor: FUJITSU
Model: M2684S-512
Rev: 2026
```

```
Disk capacity: 1039328
Press any key to continue...
```

4. Press any key to return to the Hard Disk Utilities menu.

CP 5314 Change Server Status From Hard Disk

This procedure describes how to change the status of server from the Maintenance From Hard Disk menu. Although you can disable the server with a Permission Category Two login, you must log in as the System Superuser to enable the server.

The Model 70 is a one module server. At the prompt for the number of the host or module, enter 1 or a.

Procedure Steps

1. Log in as Superuser and boot the system to the Maintenance From Hard Disk menu. If the server is currently disabled, it boots to the Maintenance From Hard Disk menu by default; enter **y** to continue.

2. At the prompt to select a process, enter **host.status**.
3. To enable the server, go to step 4. To disable the server, go to step 5.

Table the Server

4. Select (E) ENABLE a module, then enter **1** or **a**. The server resets and starts normal operation.

Disable the Server

5. Select (D) DISABLE a module, then enter **1** or **a** and type **disable** to confirm. The server resets and boots to the Maintenance From Hard Disk menu.

CP 5412 Back Up a Class of Service

This procedure describes how to back up the defined Classes Of Service (COS) for the system. Run this program in addition to the floppy backup. This program does not replace the floppy backup.

Procedure Steps

1. Reach the System Maintenance menu, then go to the System Configuration menu.
Reference: Menu Map 1
2. Select (B) Backup COS.
3. Follow the prompts to insert each backup diskette, then press **Y** to continue.
4. If any diskette is not formatted in QNX, enter **Y** to format the diskette, then continue the backup.
5. Store the diskettes in a safe location.

CP 5413 Restore a Class of Service

This procedure describes how to restore the defined Classes Of Service (COS) for the server. This program is not the same as the restore program on the Maintenance From Hard Disk menu.

Procedure Steps

1. Reach the System Maintenance menu, then go to the System Configuration menu.
Reference: Menu Map 1
2. Select (A) Restore COS, then insert the first diskette and press **Y**.
3. At the prompts, enter **Y** for each type of COS to be restored.
4. Insert the diskettes at the prompt. The server restores each selected COS and returns to the System Configuration menu.

CP 5414 Set the System Time and Date

This procedure describes how to set the time and date on the server.

Procedure Steps

1. Reach the System Maintenance menu, then go to the System Maintenance - Additional Options menu.
Reference: Menu Map 12
2. To change the time zone, select (Y) Time Zone Configuration, then (E) Set time zone for system site, and enter the **letter** for your continent, then enter the **letter** for your region.
3. To name the time zone, select (C) Name time zone and enter a **name**, up to 35 characters, such as the city where the server is installed.
4. Enter **x** to exit and save changes, then reboot the server. The date and time zone change to the new time zone.
5. If either the date or time is incorrect, reach the System Maintenance menu, then go to the System Maintenance - Additional Options menu.
6. Select (T) Time and Date, then enter the date in the format of **mm-dd-yy**, or press **Enter** to keep the current date, then enter the time in the format of **hh:mm** with **am** or **pm**, or press **Enter** to keep the current time. The new time and date appear, then the server returns to the System Maintenance - Additional Options menu.

CP 5415 Set the Site Name, Banner, and Code

This procedure describes how to set the name, banner, and code for the site.

Procedure Steps

1. Reach the System Maintenance menu.
Reference: Menu Map 1
2. Select (N) System Name, Code, and Banner.
3. At the prompt to change the site name, enter **N** to keep the current name or enter **Y** to change the name, then enter a descriptive **name**, up to 60 characters.
4. At the prompt to change the site code, enter **N** to keep the current code or enter **Y** to change the code, then enter a new **code**, up to 10 characters.
5. At the prompt to change the site banner, enter **N** to keep the current banner or enter **Y** to change the banner, then enter a new **banner**, up to 240 characters. At the end of the text, enter a period (.) on a new line and press **Enter**. The server returns to the System Maintenance menu.

CP 5701 Verify the Server Offline

This procedure describes how to verify the server offline. The server must be shut down to run this program. For information about how to verify the server online, see chapter 2.

The Model 70 is a one module server. At the prompt for the number of the host or module, enter 1 or a.



WARNING!

This procedure requires that you shut down the server, stopping call processing. If possible, perform this procedure when call traffic is low.

Procedure Steps

1. Reach the System Maintenance menu.
Reference: Menu Map 1
2. Select (S) System Shutdown, then type **shutdown**.
3. At the prompt to select a host, enter **a** to shut down the server.
4. At the prompt to wait for the message waiting queue to clear, enter **Y**.
5. When all phone lines into the server are off-hook, enter **Y** at the prompt to start the verification process.
6. At the prompt to log the results, enter **Y** or press **Enter**.
7. If any errors occur during verification, contact your support representative.
8. At the prompt, enable or disable the server if needed, then continue until the shutdown is complete and the System Maintenance Menu appears.
9. Reach the Reports menu.
Reference: Menu Map 9
10. Select (V) Verify and check the report. If any errors appear in the report, contact your support representative.
11. Exit to the Main menu.
12. Turn off the power or press the Reset button to reboot.

CP 5703 Back Up to Floppy

This procedure describes how to back up the server to floppy.

Procedure Steps

1. Reach the System Maintenance menu.
Reference: Menu Map 1
2. Select (F) Floppy Backup, then follow the prompts to insert the diskettes.
3. Insert the floppy diskettes when prompted.
4. If any diskette is not formatted in QNX, enter **Y** at the prompt to format the diskette and continue the backup.
5. When the backup is complete, a report appears and the server returns to the System Maintenance menu. Label the diskettes and store them in a safe place.

CP 5704 Restore the System (system.restore)

This procedure describes how to restore files from a backup.

Before starting, shut down and disable the server.



WARNING!

During this procedure, the server cannot process calls. If possible, perform this procedure when call traffic is low.

Procedure Steps

1. Boot the server. The Maintenance From Hard Disk menu appears.
2. At the prompt to select a process, enter **system.restore**.
3. At the prompt, enter the **number** of diskettes in the last backup.
4. Insert diskette each diskette when prompted and enter **Y** to continue.
5. Follow the prompts to specify which information to restore.
 - Mailboxes with the tutorial turned on or off
 - Configuration, security, and billing information
6. To restore the configuration and billing information, specify which of the following information to restore; otherwise go to step 8.
 - Billing rates
 - Site name
 - Site code
 - Banner
 - System revision history
 - Remote console history
 - Remote console task commands
 - Current billing data
 - NuPoint Voice configuration 0 or 1
7. Insert the diskettes when prompted. When all files are restored, a report appears on the console and the server returns to the Maintenance From Hard Disk menu.
8. Enable and restart the server.

CP 6267 Reload the Software (system.reload)

This procedure describes how to reload the software on a Model 70. Use this option **only when you are instructed to use it** on a non-redundant server with a disk failure. This procedure deletes all existing speech, accounts, and configuration.

To update the software and preserve the existing speech, accounts, and configuration, see Chapter 3.



WARNING!

The System Reload program erases all information currently on the hard disk. Run this program only if your technical support group instructs you to do so.



CAUTION!

Shut down and disable the server using the process described in CP 6268.

Procedure Steps

1. If the system includes an A/B switch, press the selector switch to turn LEDA on. Insert the CD-ROM in the CD-ROM drive.
2. Insert the Floppy Boot diskette, then press the reset button or turn on the power to boot the system from the floppy.
3. At the prompt, insert the Service diskette, then press **Enter**.
4. At the prompt to select a process, enter `system.reload`.
5. A caution appears about the system reload process, then a prompt to continue or exit. Enter `y` or press **Enter** to continue.
6. At the prompt for the number of hosts, enter `a`.
7. Follow the prompts to check and confirm or correct the configuration information.

The reload process runs automatically for 60 to 90 minutes and loads the base software, all optional features, Prompts, and some optional Prompts. The file names and script appear on the screen.

8. If the system includes optional hotel or custom Prompts, at the prompt for the second CD-ROM, insert the Optional Prompt CD-ROM. The process loads the prompts automatically.
9. If the reload includes a patch, follow the prompts on the screen and enter `y` to add a patch or press **Enter** to continue.
10. Exit and reboot the server.
11. If it is appropriate, restore the previous configuration.
Reference: CP 5704
12. Activate the configuration to enable it.
 - a. Reach the System Maintenance menu, go to the System Maintenance Additional Options menu, then select **S** to go to the Online Software Update menu.
 - b. Select (A) Activate New Software, type `activate` to confirm it, and enter `y`.
 - c. Follow the prompts to shut down the server and wait for the message waiting queue to clear. The server shuts down and resets the system, runs additional updates, resets a second time, then returns to the NuPoint Voice Configuration Main menu.

Note: If a problem occurs with the software update, select item (D) from the Online Software Update menu to deactivate the newly installed software.

- d. Check the disk status, then update redundancy and enable the primary disk if necessary.
Reference: CP 7015, CP 7019

CP 6268 Shut Down the Server

This procedure describes how to shut down the Model 70. Use this procedure before turning off the power to halt call processing in a clean and orderly fashion.

The Model 70 is a one module server. At the prompt for the number of the host or module, enter 1 or a.



WARNING!

Follow the policy of the site to warn users before shutting the system down. This process stops all call processing. If possible, perform this procedure when call traffic is low.

Procedure Steps

1. Reach the System Maintenance menu.
Reference: Menu Map 1
2. Select (S) System Shutdown, then type **shutdown**.
3. At the prompt to select a module, enter **a**. The status of each line appears as idle, active, or stopped, then updates every minute until all lines are stopped. The server stops any calls still in progress after five minutes.
4. At the prompt about the message waiting queue, enter **Y** to wait for the message waiting queue to clear or enter **N** to shut down the server immediately.
5. When all lines are off-hook, a prompt appears about the verification option. Enter **Y** to verify the server or enter **N** to skip the verification and continue the shutdown.
6. At the prompt to enable or disable modules, enter **Y** to change the server status or enter **N** to keep it the same and continue at step 8.
7. If you chose to change the server status, the Module Maintenance menu appears. To Enable the server, select (E) ENABLE a module, then enter **1** or **a**. To Disable the server, select (D) DISABLE a module, enter **1** or **a**, then type **disable**; the Maintenance From Hard Disk menu will appear.
8. When the shutdown is complete, the System Maintenance menu appears. Either reboot the server or turn off the power.

CP 6281 Add a Redundant Disk (make.redundant)

This procedure describes how to add storage redundancy by adding a disk to a server. The program to add a redundant disk is called `make.redundant` and is located on the Service diskette.

The `make.redundant` program can be run online, from the Hardware Configuration menu, or offline, from the Floppy Boot and Service diskettes. Running `make.redundant` online is recommended. Both procedures stop all call processing during the upgrade.

Before you start this procedure, check that the serial numbers on all System, Service, and Optional Feature diskettes match the serial numbers of the primary and redundant disks.

The Model 70 is a one module server. At the prompt for the number of the host or module, enter 1 or a.

Note: You can find TRs referenced in this procedure in the *Technical Reference Manual*.

Procedure Steps

Prepare the System

1. Jumper the new hard disk as slave. The primary hard disk must be configured as master. IDE hard disks are shipped configured as master.
Reference: TR 1923 and the Technical Memo for the hard disk
2. Reach the Hard Disk Utilities menu, then go to the SCSI Status menu.
Reference: Menu Map 8
3. Select (D) Display Status of all SCSI Buses and disks and check that the disk status shows as ENA, then press **Enter**.
4. Shut down the system. If you will use the offline procedure, disable the server, or if you will use the online procedure, keep the server enabled.
Reference: CP 6268

Install the Disk

5. Turn off the power and remove the server cover.
Reference: Chapter 4
6. Physically install the new disk.
Reference: Chapter 4
7. To run the program online, go to step 8. To run the program offline, go to step 14.

Run make.redundant Online

8. Turn on the power and boot from the hard disk.
9. Reach the NuPoint Voice Hardware Configuration menu, then to go the Disk Configuration menu.
Reference: Menu Map 12
10. At the Disk Configuration menu, select (M) Make a Disk Redundant.
11. At the prompt, insert the Service diskette, then press **Enter**.
12. At the prompts, enter the disk **IDs** for the Active (primary) and the Redundant (mirror-image) disks.
13. Update redundancy for the new disks.
Reference: CP 7015

Run make.redundant Offline

14. Insert the Floppy Boot diskette, turn on the power, and boot from floppy.
15. At the prompt, insert the Service diskette and press **Enter**.
16. At the prompt to select a process, enter **make.redundant**.
17. A message appears about the make redundant process, then a prompt to continue or exit appears. Enter **Y**.
18. At the prompts, enter the disk **IDs** for the Active (primary) and the Redundant (mirror-image) disks.
19. At the prompt, press **Enter** to acknowledge the end of the process.
20. Reach the System Maintenance menu, then go to the Module Maintenance menu.
Reference: Menu Map 12
21. Update the redundancy of the new disk.

Reference: CP 7015

CP 6282 Add a Disk (add.disk)

This procedure describes how to increase storage capacity by adding a primary disk to a server. The program is called add.disk and is located on the Service diskette.

The add.disk program can be accessed online, from the Hardware Configuration menu, or offline, from the Floppy Boot and Service diskettes. Running this program online is recommended. Both procedures stop all call processing during the upgrade.

Before you start, check that the serial numbers on the System, Service, and Optional Feature diskettes match the serial numbers of the primary disk and the new disk.

The Model 70 is a one module server. At the prompt for the number of the host or module, enter 1 or a.

Note: You can find TRs referenced in this procedure in the *Technical Reference Manual*.

Procedure Steps

Prepare the System

1. Jumper the new hard disk as slave. The primary hard disk must be configured as master. IDE hard disks are shipped configured as master.
Reference: TR 1923 and the Technical Memo for the hard disk
2. Reach the Hard Disk Utilities menu, then go to the SCSI Status menu.
Reference: Menu Map 8
3. Select (D) Display Status of all SCSI Buses and disks and check that the disk status shows as ENA, then press **Enter** to exit.
4. Shut down the system. If you will use the offline procedure, disable the server, or if you will use the online procedure, keep the server enabled.
Reference: CP 6268

Install the Disk

5. Turn off the power and remove the server cover.
Reference: Chapter 4
6. Physically install the new disk.
Reference: Chapter 4
7. To run the program online, go to step 8. To run the program offline, go to step 16.

Run add.diskOnline

8. Turn on the power and boot from the hard disk.
9. Reach the NuPoint Voice Hardware Configuration menu, then to go the Disk Configuration menu.
Reference: Menu Map 12
10. At the Disk Configuration menu, select (A) Add a single disk.

11. At the prompt, insert the Service diskette, then press **Enter**.
12. At the prompt, enter the disk **ID**.
13. At the prompt for the Configuration Type, enter **1**.
14. If this is a redundant disk, run the make.redundant program.
Reference: CP 6281
15. If this is an additional primary disk, increase the system hours. See chapter 3.

This completes the add.disk program from the Hardware Configuration menu.

Run add.disk Offline

16. Insert the Floppy Boot diskette, then turn on the power and boot from the floppy.
17. At the prompt, select the service option.
18. At the prompt, insert the Service diskette, then press **Enter**.
19. At the prompt to select a process, enter **add.disk**.
20. A message appears about the add.disk process, then a prompt to continue or exit appears.
Enter **Y**.
21. At the prompt, enter the disk **ID**.
22. At the prompt for the Configuration Type, enter **1**.
23. If this disk will have a redundant disk, enter **Y** at the prompt; otherwise enter **N** and continue at step 25.
24. At the prompt, enter the **ID** of the redundant disk, then press **Enter** to exit when the disk is configured.
25. At the prompt, press Enter to acknowledge the end of the process.
26. If necessary, update the redundancy of the disks.
Reference: CP 7015

CP 6283 Replace the Redundant Disk Online

This procedure describes how to replace the redundant hard disk in a Model 70. This procedure can be performed while the server is online. To replace the primary disk, use CP 6592.

The Model 70 is a one module server. At the prompt for the number of the host or module, enter 1 or a.

Check that the Service and Optional Feature diskettes contain the serial numbers for all disks in the server and the disk to be added.



CAUTION!

If the server does not have a redundant disk and has experienced total hard disk failure, contact your support representative for instructions on how to set up the hardware.



WARNING!

During this procedure, the server cannot process calls. It is recommended that you perform this procedure during periods of low call traffic.

Note: You can find TRs referenced in this procedure in the *Technical Reference Manual*.

Procedure Steps

1. Jumper the new disk as slave. The primary hard disk must be configured as master. IDE hard disks are shipped configured as master.
Reference: TR 1923 and the Technical Memo for the hard disk
2. Call your support representative to add the serial number of the new disk to the Service and Optional Feature diskettes. This can be done while the server is processing calls.
3. Reach the Hard Disk Utilities menu, then go to the SCSI Status menu.
Reference: Menu Map 8
4. Disable the disk that you are replacing.
Reference: CP 7017
5. Shut down the system.
Reference: CP 6268
6. Turn off the system power.
7. Remove the disk that you are replacing and install the new hard disk.
Reference: Chapter 4
8. Replace the server cover.
Reference: Chapter 4
9. Turn on the power.
10. Reach the NuPoint Voice Hardware Configuration menu, then go to the Disk Configuration menu.
Reference: Menu Map 12
11. At the prompt, select (S) Replace a disk of redundant pairs.
12. At the prompt, insert the Service diskette, then press **Enter**.
13. At the prompt, enter the **ID** of the disk that you replaced. The server configures the disk, then displays the serial number of the new disk.
14. Update the redundancy of the new disk.
Reference: CP 7015

CP 6284 Install a Redundant Hard Disk

This procedure describes how to install a redundant hard disk in the Model 70.

DANGER: Disconnect the system from the power source before connecting cables or components.

CAUTION: Protect the system from ESD damage while handling all components

NOTE: You can find TRs referenced in this procedure in the Technical Reference Manual.

Procedure Steps

Observe Precautions

1. Make sure you have anti-static bags. When you remove a component, place it on a nonconductive surface.
2. Wear a grounded wrist strap and attach the other end to the server to protect all components from electrostatic discharge.

CAUTION: Removing a component while the power is on can severely damage that component and other peripherals.

3. Shut down the server and turn off the power, then wait one minute for the hard disk to stop spinning.
4. Label all cables, then unplug the cables from the server.
5. Remove the chassis cover.
Reference: Chapter 4
6. Label, then unplug the data and power cables from the hard disk and floppy drive.
7. Configure the new hard disk as slave. Hard disks are shipped configured as master
Reference: The Hard Disk Information Sheets

Install the Redundant Hard Disk (Older Desktop Chassis)

8. Remove the plastic faceplate from the top slot in the front panel.
9. Remove the faceplate cover from the top slot of the drive carrier.
10. Slide the hard disk into the bay, align the mounting holes, and secure the hard disk with the 6-32 Phillips screws that held the faceplate for the drive carrier.
11. Plug in the data and power cables for the hard disks and floppy drive.
12. Install the chassis cover.
Reference: Chapter 4

Install the Redundant Hard Disk (Newer Desktop Chassis)

13. Use a screwdriver to pry the front cover away from the chassis at the sides.
14. Remove the plastic faceplate from the top slot in the front cover.
15. Remove the screws that secure the carrier to the chassis, then slide the carrier out the front of the chassis. See Figure 1.

Figure 1 Drive Carrier (Newer Desktop Chassis)

16. Slide the hard disk into the carrier.
17. Align the mounting holes and secure the hard disk. See Figure 1
18. Plug in the data and power cables.
19. Install the front cover and chassis cover.
Chapter 4

Install the Redundant Hard Disk (Tower Chassis)

20. Use a screwdriver to pry the front cover away from the chassis at the sides. The front panel is plastic and normally comes off easily. Do not force it
21. Remove the screw that secures the carrier to the chassis, then press the lever and pull the

carrier out of the front panel, into the chassis. Figure 2

Note: You may need to push the drive carrier from the front

Figure 2 Drive Carrier (Tower Chassis)

22. Slide the hard disk or floppy drive into the carrier and secure it with two screws.
23. Slide the carrier into the chassis until the lever clicks in place, align the mounting bracket, and secure it with one screw. See Figure 2.
24. Plug in the data and power cables.
25. Align the front cover, then push it to secure it in place.
26. Install the chassis cover.

CP 6592 Replace a Disk Offline (Single, Primary, or Redundant Drives)

This procedure describes how to replace a hard disk in a Model 70. This procedure must be performed while the server is offline. To replace a redundant hard disk, it is recommended that CP 6283 be used.

All data must be transferred from the existing disk to the replacement disk. To do this, configure the new hard disk as the slave disk. The conversion process transfers all information from the existing hard disk to the new hard disk. The new disk can then be configured as needed.

Check that the Service and Optional Feature diskettes contain the serial numbers for the disk(s) in the server and the replacement disk.

The Model 70 is a one-module server. At the prompt for the number of the host or module, enter 1 or a.



WARNING!

During this procedure, the server cannot process calls. If possible, perform this procedure when call traffic is low.

Note: You can find TRs referenced in this procedure in the *Technical Reference Manual*.

Procedure Steps

Prepare the Server

1. Jumper the new hard disk as slave. IDE hard disks are shipped configured as master.
Reference: TR 1923 and the Technical Memo for the hard disk
2. Verify the system online.
Reference: Chapter 2
3. Back up the server to floppy.
Reference: CP 5703
4. If you are replacing a redundant disk, disable the redundant disk.

Reference: CP 7017

5. If you are replacing a redundant disk, use the remove.disk program.
Reference: CP 2182
6. Shut down the server.
Reference: CP 6268
7. Turn off the power.
8. Remove the server cover.
Reference: Chapter 4

Note: In general, never operate the Model 70 with the cover removed. This is an exception. Proceed with caution.

9. To replace a single drive, go to step 10.
To replace a primary drive, go to step 22.
To replace a redundant drive, go to step 32.

Replace a Single Drive

10. Plug the second connector on the disk cable into the new disk.
11. Insert the Floppy Boot diskette, then turn on the power to boot from floppy.
12. At the prompt, enter **service**, then insert the Service diskette and press **Enter**.
13. At the prompt to select a process, enter **replace.disk**.
14. A message appears about the process, then a prompt to continue or exit. Enter **Y** or press **Enter**.
15. At the prompt, enter the **ID** of the disk to be replaced and the **ID** of the new disk.
16. If an error message, "MOUNT: Unable to find partition" appears, check that the cables are plugged in properly, then try the disk conversion again. If the problem occurs again, contact your Distributor.
17. When a message appears that the process is complete, turn off the power.
18. Unplug the cables from both hard disks.
19. Jumper the new hard disk from slave to master, then install the new hard disk. Prepare the old hard disk for return or repair.
Reference: Chapter 4
20. Turn on the system power.
21. Continue at step 37.

Replace a Primary Drive

22. Unplug the cables from the primary disk and remove it from the server.
Reference: Chapter 4
23. Jumper the redundant disk as master.
24. Turn on the power and boot the server.
25. Run remove.disk on the redundant disk.
Reference: CP 2182
26. Reboot the server to be sure that it boots correctly. If it fails to boot correctly, contact your customer service representative.

27. Shut down the server and turn off the power.
28. Jumper the new hard disk as slave, then install it. Prepare the old disk for return or repair.
Reference: Chapter 4
29. Run the online make.redundant procedure to make the new disk redundant.
Reference: CP 6281
30. Update the redundancy.
Reference: CP 7015
31. Continue at step 37.

Replace a Redundant Drive

32. Unplug the cables from the existing redundant disk and remove it from the server.
Reference: Chapter 4
33. Jumper the new hard disk as slave, then install it. Prepare the old disk for return and/or repair.
34. Make the new disk redundant with make.redundant.
Reference: CP 6281
35. Update the redundancy.
Reference: CP 7015
36. Continue at step 38.

Return the System To Normal Operation

37. Verify the system online.
Reference: Chapter 2
38. Re-install the server cover.
Reference: Chapter 4
39. Complete your post-implementation documentation.

CP 7004 Name the Configurations

This procedure describes how to name the two system configurations. Using descriptive names can help you remember the differences between the configurations.

Procedure Steps

1. Reach the NuPoint Voice Configuration Main menu, then go to the NuPoint Voice Active Configuration menu.
Reference: Menu Map 12
2. Select (N) Name Configurations.
3. At the prompt, enter the **number** (0 or 1) of the configuration that you want to name.
4. At the prompt, enter the **name** for the configuration.
5. Repeat steps 2 through 4 to name the other configuration.

CP 7005 View the Configuration Names

This procedure describes how to view the names of the server configurations and the date that the current configuration was activated.

Procedure Steps

1. Reach the NuPoint Voice Configuration Main menu, then go to the NuPoint Voice Active Configuration menu.
Reference: Menu Map 12
2. Select (V) View Configurations. The configuration names and activation information appears.

CP 7014 Enable the Server

This procedure describes how to enable the server for normal call processing operation. Although you can log in with a Permission Category Two to disable a disk, you must log in as the System Superuser to enable a disk.

The Model 70 is a one module server. At the prompt for the number of the host or module, enter 1 or a.

Procedure Steps

1. Log in as Superuser and reach the System Maintenance menu, then go to the Module Maintenance menu.
Reference: Menu Map 12
2. Select (E) ENABLE a module.
3. At the prompt, enter **1** or **a**. The server resets and starts normal operation.

CP 7015 Update Disk Redundancy

This procedure describes how to update the disk redundancy. The hard disks are partitioned to hold the system software, speech, and account data. To be sure all partitions are updated, use the "Update all out of synchronization hard disks" option.

You can watch the number of the sector being updated, but the display slows the process.

Check the disk status in the SCSI Status menu to determine which disk partitions to update.

Status	Partitions to be updated
ENA	Disk is fully synchronized
OUTSYN	Software, speech, and accounts are out of sync
OUTDAT	Speech and accounts are out of sync
OUTSFW	Software is out of sync

Procedure Steps

1. Reach the Hard Disk Utilities menu, then go to the Redundancy Update menu.
Reference: Menu Map 8
2. Select one of the following update options according to the current disk status.
To update all partitions, select (A) Update all out of synchronization hard disks, then type **update** to confirm. This selection does not update ENA partitions.
To update only the software, select (Q) Update system software drives.
To update only speech and accounts, select (S) Update speech and account drives on a hard disk.
3. Reach the Hard Disk Utilities menu, then go to the SCSI Status menu.
Reference: Menu Map 8
4. Select (D) Display Status of all SCSI Buses and disks and check that the disk status shows as ENA.
5. Press **Enter** to exit. The Logfile includes a note and timestamp as each disk partition is placed back in service.

CP 7017 Shut Down a Hard Disk

This procedure describes how to shut down a hard disk, removing it from service. In order for you to perform this procedure, the server must have a redundant disk.

Procedure Steps

1. Reach the Hard Disk Utilities menu, then go to the SCSI Status menu.
Reference: Menu Map 8
2. At the prompt, select (S) Shutdown SCSI BUS or disk.
3. At the prompt, select (D) Shutdown a SCSI disk.
4. At the prompt, enter the **ID** of the disk to be shut down, then type **disable** for confirmation.
5. Reach the SCSI Status menu and select (D) Display Status of all SCSI Buses and disks.
6. Check that the disk is listed as DIS (disabled). Press **Enter** to exit the report, then **X** to exit the menu.

CP 7019 Enable a Hard Disk

The procedure describes how to enable a disk. To perform this procedure, the server must have a redundant disk.

After enabling the disk, always update the redundancy so the disk is available for use. See CP 7015.

The Model 70 models is a one module server. At the prompt for the number of the host or module, enter 1 or a.

Procedure Steps

1. Reach the Hard Disk Utilities menu, then go to the SCSI Status menu.
Reference: Menu Map 8

2. Select (E) Enable SCSI BUS or disk.
3. At the SCSI Enable menu, select (D) Enable a SCSI disk, then enter the **ID** of the disk to be enabled.
4. Reach the SCSI Status menu and select (D) Display Status of all SCSI Buses and disks.
5. Check that the disk is listed as ENA, OUTSYN, OUTDAT or OUTSFW.
6. Update redundancy.
Reference: CP 7015

CP 7022 Add or Cancel a Phonenumber Exception

This procedure describes how to set a phonenumber exception. Changes to phonenumber exceptions take effect on the next call that occurs after saving the setting. For more information about phonenumber exceptions, see TR 1925 in the *Technical Reference Manual*.

Procedure Steps

Add or Change a Phonenumber Exception

1. Reach the Phonenumber Exceptions menu.
Reference: Menu Map 10
2. Select (A) Add exception.
3. At the prompt, enter a **line triplet** (module number:line card number:port number), then press **Enter** for each triplet that the phonenumber exception will apply to. Press **Enter** again after entering the last triplet.
Reference: Menu Map 10
4. At the `command =` prompt, enter the number of the phonenumber exception.
5. At the `value =` prompt, enter the new value.
6. Repeat steps 3 through 5 to set other phonenumber exceptions for the selected line, then press **Enter**.
7. Select a new line to change or press **Enter** to finish.

Cancel a Phonenumber Exception

8. To return a phonenumber exception to the default value, reach the Phonenumber Exceptions menu.
Reference: Menu Map 10
9. Select (C) Cancel exception.
10. At the prompt, enter a **line triplet** (module number:line card number:port number), then press **Enter** for each triplet that the default value will apply to. Press **Enter** again after entering the last triplet.
Reference: Menu Map 10
11. At the `command to cancel =` prompt, enter the **number** of the phonenumber exception.
12. Repeat steps 10 and 11 to cancel other phonenumber exceptions for the same line, then press **Enter**.
13. Select a line to reset or press **Enter** to exit.

CP 7029 Diagnose a Disk With Server Online

This procedure describes how to run the diagnose program to check the hard disk while the system is online, processing calls.

Procedure Steps

1. Reach the System Maintenance menu, then go to the Hard Disk Utilities menu.
Reference: Menu Map 8
2. Select (D) Diagnose a disk, then enter **a** to test both disks in the server, or enter the **ID** to test a single disk.
3. To diagnose the disk, select from the following tests:
 - Controller test
 - Sequential test
 - Random Seek test
 - Spiral Seek test
4. If any test fails, contact your support representative.

CP 7030 Diagnose a Disk With Server Offline

This procedure describes how to run the hard disk diagnostic program offline from the Maintenance From Hard Disk menu.

The server must be shut down and disabled. Refer to CP 6268.



WARNING!

To run this version of the diagnose program, the server must be removed from normal operation. If possible, perform this procedure when call traffic is low.

If possible, run the online version of this program so that call processing is not stopped. See CP 7029.

Procedure Steps

1. Boot the server to the Maintenance From Hard Drive menu, then enter **Y** to run the offline maintenance.
2. At the prompt, select **diagnose**, then enter **a** to test all disks in the server or enter the **ID** to test a single disk.
3. To diagnose the disk, select from the following tests:
 - Controller test
 - Sequential test
 - Random Seek test
 - Spiral Seek test

4. If any test fails, contact your support representative.
5. If all tests pass, enable the server. At the prompt, enter **host.status**, then select (E) ENABLE a module and enter **a**. The server resets and returns to normal operation.

List of Procedures		
Procedure Number	Chapter Number	Title
CP 2182	5	Remove a Disk (remove.disk)
CP 5303	5	Recover a Lost Console Passcode
CP 5304	5	View or Edit History File
CP 5313	5	View Hard Disk Operational Parameters
CP 5314	5	Change Server Status From Hard Disk
	3	Install Optional Feature
CP 5412	5	Back Up a Class of Service
CP 5413	5	Restore a Class of Service
CP 5414	5	Set the System Time and Date
CP 5415	5	Set the Site Name, Banner, and Code
CP 5701	5	Verify the Server Offline
CP 5703	5	Back Up to Floppy
CP 5704	5	Restore the System (system.restore)
CP 6267	5	Reload the Software (system.reload)
CP 6268	5	Shut Down the Server
	2	Install a Modem
CP 6281	5	Add a Redundant Disk (make.redundant)
CP 6282	5	Add a Disk (add.disk)
CP 6283	5	Replace the Redundant Disk Online
CP 6284	5	Install a Redundant Hard Disk
	2	Install a Model 70
CP 6592	5	Replace a Disk Offline (Single, Primary, or Redundant Drives)
	2	Verify the System Online
CP 7004	5	Name the Configurations
CP 7005	5	View the Configuration Names
CP 7014	5	Enable the Server
CP 7015	5	Update Disk Redundancy
CP 7017	5	Shut Down a Hard Disk
CP 7019	5	Enable a Hard Disk
	3	Increase the Server Hours
CP 7022	5	Add or Cancel a Phonenumber Exception
	3	Activate New Software
CP 7029	5	Diagnose a Disk With Server Online
CP 7030	5	Diagnose a Disk With Server Offline
	3	Activate New Software
	2	Check Installation Quality
	2	Connect the Telephone Lines
	3	Increase the Server Hours
	3	Install the CD-ROM Drive (for update)
	2	Install the CD-ROM Drive (new systems)
	2	Install the Console
	2	Install a Model 70

2	Install a Model 70
2	Install a Modem
3	Install Optional Feature Software
2	Install a Printer
3	Install a Software Patch
3	Install an RSD
3	Update the Prompts
4	Remove/Install a Line Card
4	Remove/Install Hard Disk
4	Remove/Install Floppy Drive
4	Remove/Install Server Cover
2	Test Basic Telephony Functions
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2	Verify the System Online