HEWLETT PACKARD

HP 9000
Series 800
Computers

Owner's Guide to the HP 9000 8X7S Family

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REGULATORY NOTICES

Safety and Regulatory Information.
For your protection, this product has been tested for conformance to various national and international regulations and standards. The scope of this regulatory testing includes electrical and mechanical safety, electromagnetic emissions, immunity, acoustics and hazardous materials.

When required, approvals are obtained from third party test agencies. Approval marks appear on the product label. In addition, various regulatory bodies require some information under the headings noted below.

FCC STATEMENT (USA Only)
The United States Federal Communications Commission (in 47 CFR 15.838) has specified that the following notice be brought to the attention of users of this product.

WARNING: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested for compliance with the limits of Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference.

Operation of this equipment is a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

DOC STATEMENT (Canada Only)
This equipment does not exceed the Class A limits for radio noise emissions as set out in the Radio Interference Regulations of the Canadian Department of Communications.

GERMANY EMI (Germany Only)
This is to certify that this product meets the Radio Frequency Interference Requirements of Directive 1046/84. The German Bundespost has been notified that this equipment has been put into circulation and has been granted the right to check the product type for compliance with these requirements.

FUNKENTSTOERUNG DEUTSCHLAND (German EMI Compliance)
HERSTELLERBESCHEINIGUNG

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

Hiermit wird bescheinigt, dass dieses System in Uebereinstimmung mit den Bestimmungen von Postverfuegung 1046/84 funkentstoert ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Systems angezeigt und die Berechtigung zur Ueberpruefung de Serie auf Einhaltung des Bestimmungen eingeraeumt.

JAPAN VCCI (Japan Only)

この装置は，第一種情報装置（商工業地域において使用されるべき情報装置）で商工業地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（VCCI）基準に適合しております。

従って，住宅地域またはその隣接した地域で使用すると，ラジオ，テレビジョン受信機等に受信障害を与えることがあります。

取扱説明書に従って正しい取り扱いをして下さい。

ACOUSTICS (Germany)
Acoustic Noise (A-weighted Sound Pressure Level LpA) measured at operator's position, normal operation, to ISO7779:

HP 9000 807S, 817S, 837S:
≈45dB bis (up to) 30°-37° C, ≈47dB ueber (above) 30°-37° C

HP 9000 827S, 847S, 857S, 867S, 877S, 887S, 897S:
≈48dB bis (up to) 30°-37° C, ≈51dB ueber (above) 30°-37° C

These products comply with EMC Directive 89/336 including EN55022 class A.

UNITED KINGDOM (Only)
Pursuant to Section 22 of Telecommunications Act of 1984, this product is approved for indirect connection to Public Telecommunications systems within the United Kingdom under the General Approval number NS/G/1234/J/100003.

WARNING: UK Only!
The following notice is required by the British Approvals Board for Telecoms (EABT). Please contact your HP Sales Office if there are any questions.

"Interconnection directly, or by way of other apparatus, of ports marked with 'United Kingdom Safety Warning: Refer to users instructions' with ports marked or not so marked may produce hazardous conditions on the telecom network. Advice should be obtained from a competent engineer before such a connection is made."

To prevent an electric shock to the operator, disconnect this product from the BT network before the mains plug is removed. Do not hard-wire the BT network connection.

The United Kingdom Safety Warning applies to all ports.

BATTERY NOTICES

This product may contain a sealed Lead Acid and a Lithium battery. Replace only with the same type and part number! Recycle used battery or send to the following address for proper disposal:

Hewlett Packard Co.
Environmental Health and Safety Department
8000 Foothills Boulevard
Roseville, CA 95678
Att: Battery Disposal Coordinator

WARNING: Fire, explosion and severe burn hazard! Do not crush, disassemble, heat, incinerate or expose the battery to water.

SAFETY WARNINGS

This product has not been evaluated for connection to an "IT" power system (ac distribution system having no direct connection to earth according to IEC 950).

Locate the ac outlet near the computer! The ac power cordset is this product's main ac disconnect device and must be easily accessible at all times.

To reduce the possibility of an electric shock from the telephone network, plug the computer into the ac outlet prior to connecting to the network. Also, disconnect the network before unplugging the computer from the ac power outlet.

To reduce the risk of electric shock, ensure the front and rear bezels are installed at all times!

This product is designed to operate at the ac line voltages of 100, 120, 220, or 240 V +/- 10%. Contact your HP Sales Office if your line voltage is outside this range.

HEWLETT-PACKARD COMPANY
3000 Hanover Street
Palo Alto, California 94304 U.S.A.

The following warning applies to those products that support CD-ROM dives.

WARNING

- Use of controls, adjustments, or performing procedures other than those specified in this manual may result in hazardous invisible laser radiation exposure. None of the devices within the storage system contain customer or field-replacement parts.
- The CD-ROM drive becomes a Class 1 laser mechanism when disassembled. If the CD-ROM drive is disassembled, exposure to the invisible laser beam and hazardous invisible laser radiation could result in blindness. Do NOT disassemble the CD-ROM drive for any reason.

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name:	Hewlett-Packard
Manufacturer's Address:	Herrenberger Straße 130 7030 Böblingen, Germany 8000 Foothills Blvd. Roseville CA. 95678, U.S.A.

declares, that the product

Product Name:	PA-RISC Computer System
Model Number(s):	HP 9000 Models: 807S, 817S, 827S, 837S, 847S, 857S, 867S, 877S, 887S, and 897S

Conform to the following Product Specifications:

Safety:	EN 60950 (IEC 950)
EMC:	EN 55022 class A / CISPR-22 class A pr EN 55101-2 / IEC 801-2, 3kV CD, 8kV AD pr EN 55101-3 / IEC 801-3, 3 V/m

Böblingen H. Halverscheid 3-9-92
Hartmut Halverscheid, BMO Quality Manager date

Roseville E. Heinsen 2/9/92
Ed Heinsen, NCMO Quality Manager date

T U R V A L L I S U U S Y H T E E N V E T O

LASERTURVALLISUUS

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

HP 9000 Model 8x7S tietokoneisiin voidaan asentaa muistilaitteeksi laitteensisäinen CD-ROM-levyasema, joka on laserlaite.
Tällöin myös päälaitteena toimiva tietokone katsotaan laserlaitteeksi.

Kyseinen CD-ROM-levyasema on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalissa käytössä levyaseman suojakotelo estää lasersäteen pääsyn laitteen ulkopuolelle.

HP 9000 Model 8x7S-tietokoneet on tyyppihyväksynyt Suomessa laserturvallisuuden osalta Työsuojeluhallitus, Työsuojeluhallituksen hyväksyntänumero TSH 386/6019/91. Laitteiden turvallisuusluokka on määritetty valtioneuvoston päätöksen N:o 472/1985 ja standardin SFS-IEC 825 mukaisesti.

Tiedot CD-ROM-levyasemassa käytettävän laserdiodin säteilyominaisuuksista:

Aallonpituus 780 nm
Teho 0,4 mW
Luokan 1 laser

Contents

7. Configuring Your Network Software

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How To Proceed

How To Proceed

The HP 9000 807S, 817S, 827S, 837S, 847S, 857S, 867S, 877S, 887S, and 897S are self-contained, floor-mounted, multi-user computers that use the HP-UX operating system.

While there are hardware and performance differences between each computer, the basic hardware installation, software configuration, and system administration tasks are the same for each of these computers.

These fully integrated computers may contain a Digital Data Storage (DDS) tape drive or quarter inch tape drive (QIC), a CD-ROM drive, and integrated disk drives all mounted in a single cabinet. Figure 1-1 shows the HP 9000 807S, 817S, and 837S with the console terminal. Figure 1-2 shows the HP 9000 827S, 847S, 857S, 867S, 877S, 887S, and 897S with the console terminal.

Your computer comes standard with the HP-UX Release 8.02 or Release 9.0 operating system pre-installed.

With the exception of the HP 9000 807S, networking is standard. The installation procedures are the same for a computer with or without networking, except that you should disregard the references to networking and LAN in this manual if you did not order the networking option.

The networking option is available on the HP 9000 807S. Networking on this computer requires a minimum of 16 megabytes of main memory and 320 megabytes disk capacity.

Take the time to identify your model of computer now. Look on the front panel for the model number. It is important that you know your model number so that you can recognize that parts of this manual that apply specifically to your computer.

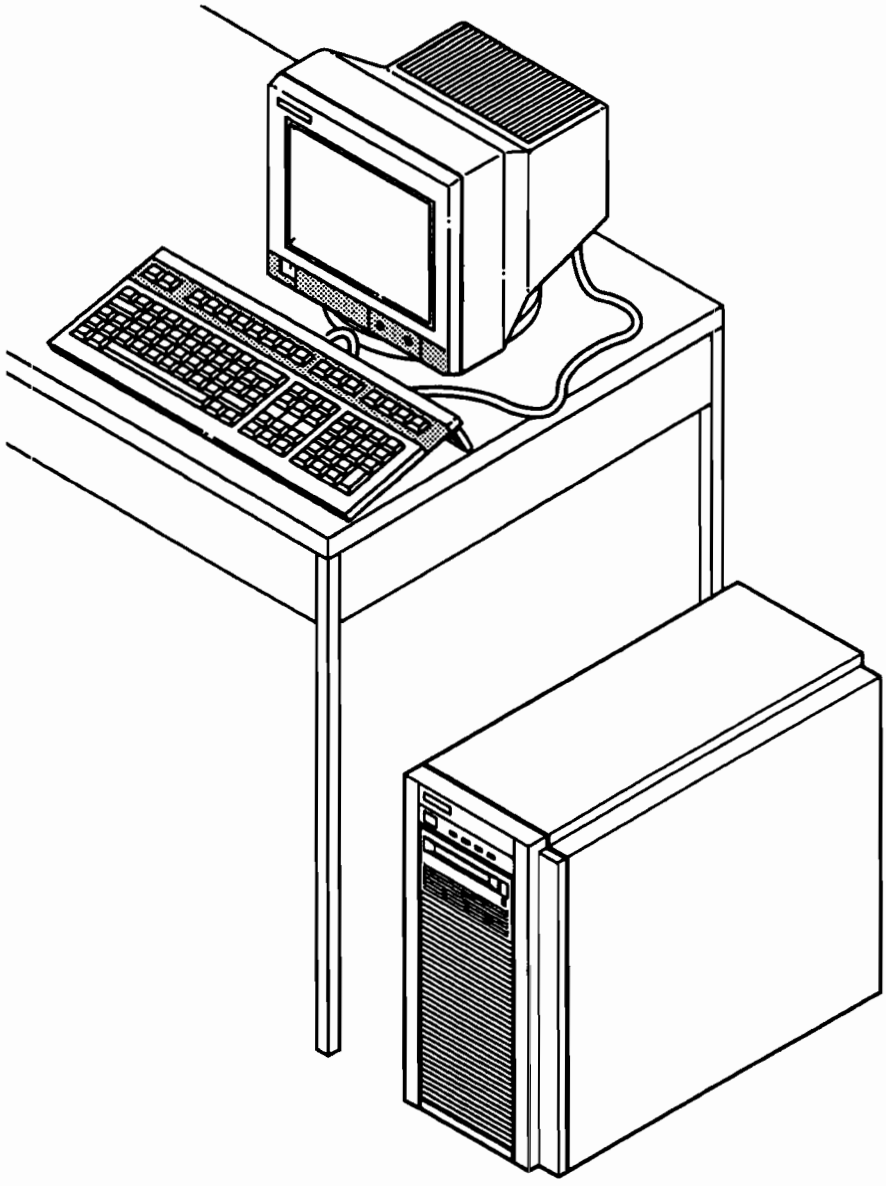


Figure 1-1. HP 9000 807S, 817S, and 837S Overview

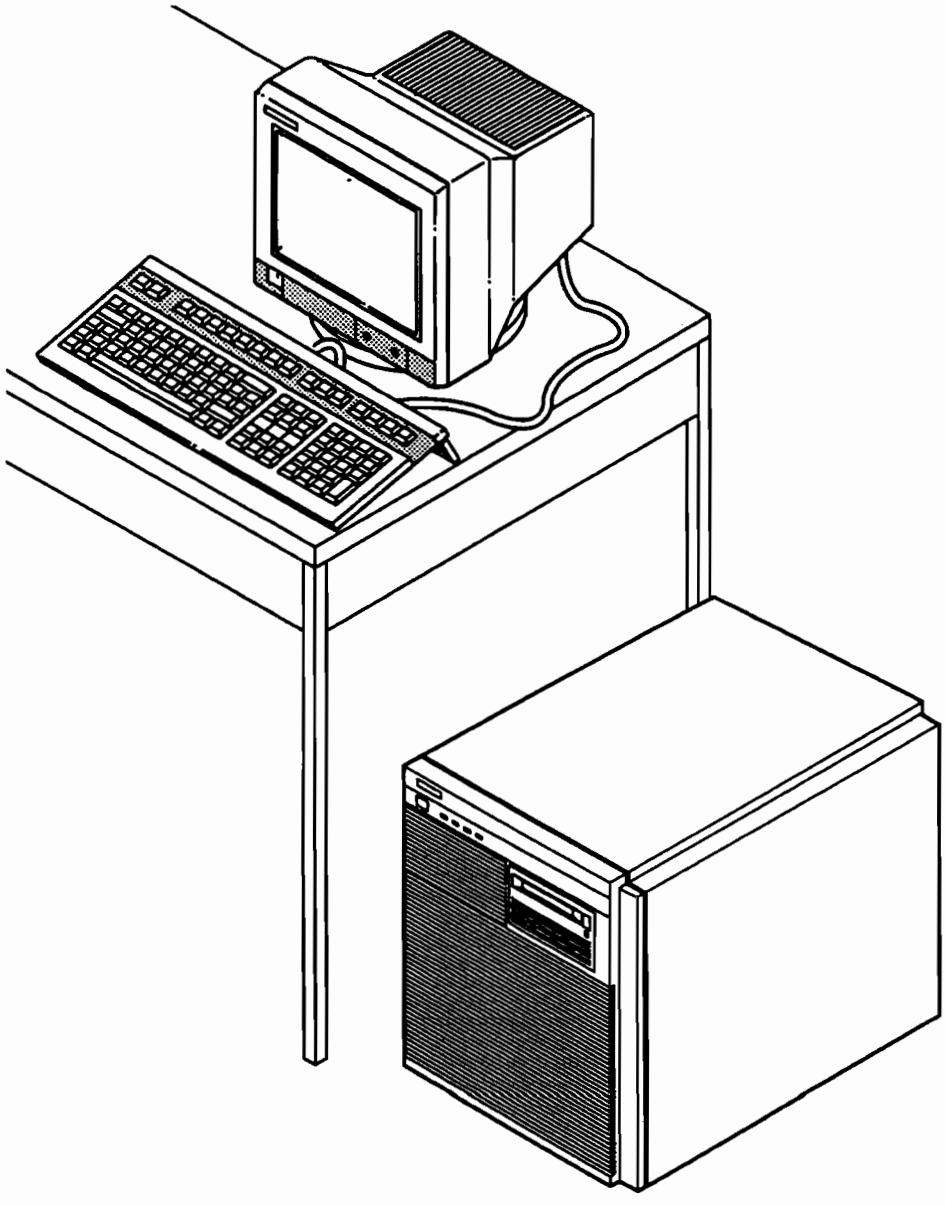


Figure 1-2. HP 9000 827S, 847S, 857S, 867S, 877S, 887S, 897S Overview

Follow these instructions, in the order presented, to:

- Install your hardware.
- Boot up your operating system.
- Add terminals and printers.
- Establish accounts for groups and individual users.
- Back up your operating system.

This manual will not repeat information found in other HP-UX manuals, but will refer you to the appropriate manuals to complete the installation and system administration tasks. You will need the System Administration Set of manuals to complete the tasks. See *Finding Information* for ordering information.

The System Administration Set includes the following manuals:

- *Installing and Updating HP-UX*
- *Installing Peripherals*
- *Solving HP-UX Problems*
- *System Administration Tasks*
- *How HP-UX Works: System Administration Concepts*
- *HP-UX Reference Manual*

You will also need one set of operating system tapes, per site, in case your pre-loaded operating system becomes corrupted and you are unable to boot up (start) your operating system. If you do not already have the System Administration Set of manuals and the operating system tapes, you can order them from Hewlett-Packard.

Available HP Support and Classes

Hewlett-Packard provides optional support directly to you using a support modem which connects your computer to HP through the telephone line. Two available support programs are: HP ResponseLine and HP TeamLine.

Hewlett-Packard's support programs provide HP customer's with help in implementing and operating HP software solutions. They deliver different levels of assistance and problem-solving, and can be customized for your needs. For more information on the support services that are available to you, contact your local HP Sales and Service Office.

Hewlett-Packard's Customer Education services provide high-quality training solutions worldwide to help you maximize the value of your investment. HP training courses enable you to enhance your problem-solving abilities, use your hardware and software capabilities fully, and eliminate trial-and-error learning.

The following courses provide the recommended training for system administrators:

HP-UX Basics I (2 days—HP 51489B)
HP-UX Systems Administration Basics (3 days—HP 50722B)
HP-UX Fundamentals (5 days—HP 51434B)
HP-UX System Administration for the HP 9000 Series 800 (5 days—HP 51482D)

As a requirement of the software support agreement, which allows access to the Response Center for telephone assistance, authorized callers must attend the appropriate training as outlined in one of the two sets of courses detailed above.

For detailed information on Hewlett-Packard's Customer Education courses and services, in the U.S. please call (800) HP-CLASS, in Canada please call (416) 678-9430, and elsewhere, please call your local Hewlett-Packard Customer Education Center.

What You Will Need

This manual will lead you step-by-step through the computer installation process. *Follow the instructions carefully and in the sequence presented.* It will take several hours to install your computer.

Table 1-1 lists the items you will need to install your computer. Gather these items when you start to unpack your computer as described in the next chapter.

The HP 9000 807S uses a multi-connector cable to provide serial data connections.

The HP 9000 817S, 827S, 837S, 847S, 857S, 867S, and 877S use a data distribution panel to provide serial data connections.

Serial data communications on the HP 9000 887S, and 897S is provided through an optional serial data card.

Models 827S, 847S, 857S, 867S, and 877S require two power cords.

Check your computer model number, and then use the following table to identify the parts for your computer.

Table 1-1. Parts List Check Off

Parts List	Check Off
This Owner's Guide.	
The computer. (Fig. 1-3, or Fig. 1-4)	
The computer power cord(s). (Fig. 1-5)	
The active distribution panel (not HP 9000 807S). (Fig. 1-6)	
The active distribution panel cable (not HP 9000 807S). (Fig. 1-7)	
The data distribution panel (optional). (Fig. 1-8)	
The Y-cable (optional. (Fig. 1-9)	
The direct distribution cable (HP 9000 807S only). Fig.1-10)	
SCSI terminator (not HP 9000 807S). (Fig. 1-11)	
LAN terminator (not HP 9000 807S). (Fig.1-12)	
The console terminal, keyboard, keyboard cable, and power cord. (Fig. 1-13)	
The console terminal data cable. (Fig. 1-14 or Fig. 1-15)	
Optional distribution panels and cables.	
Optional terminals with keyboards, keyboard cables, power cords and data cables.	
Optional printers with power cords, data cables, and paper.	
Tape for backing up the operating system (must be purchased separately).	

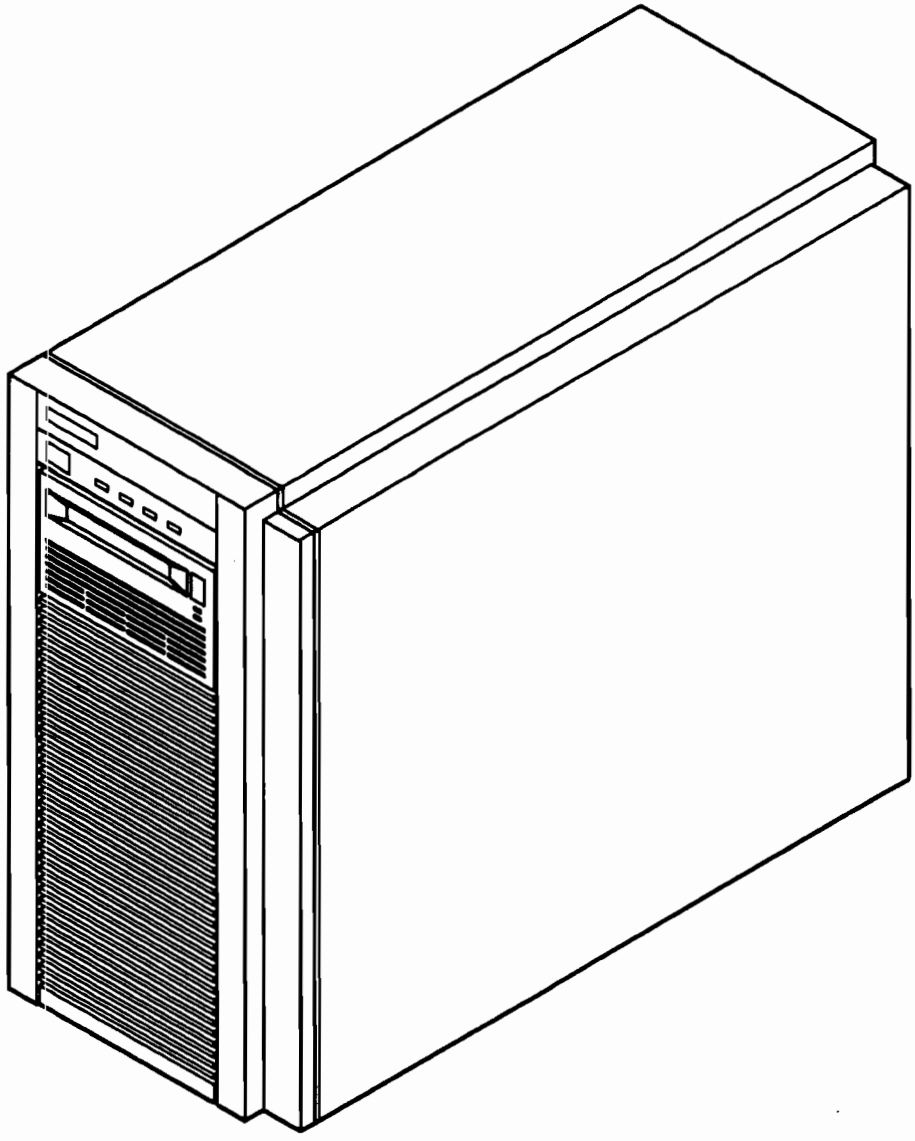


Figure 1-3. HP 9000 807S, 817S, and 837S Computer

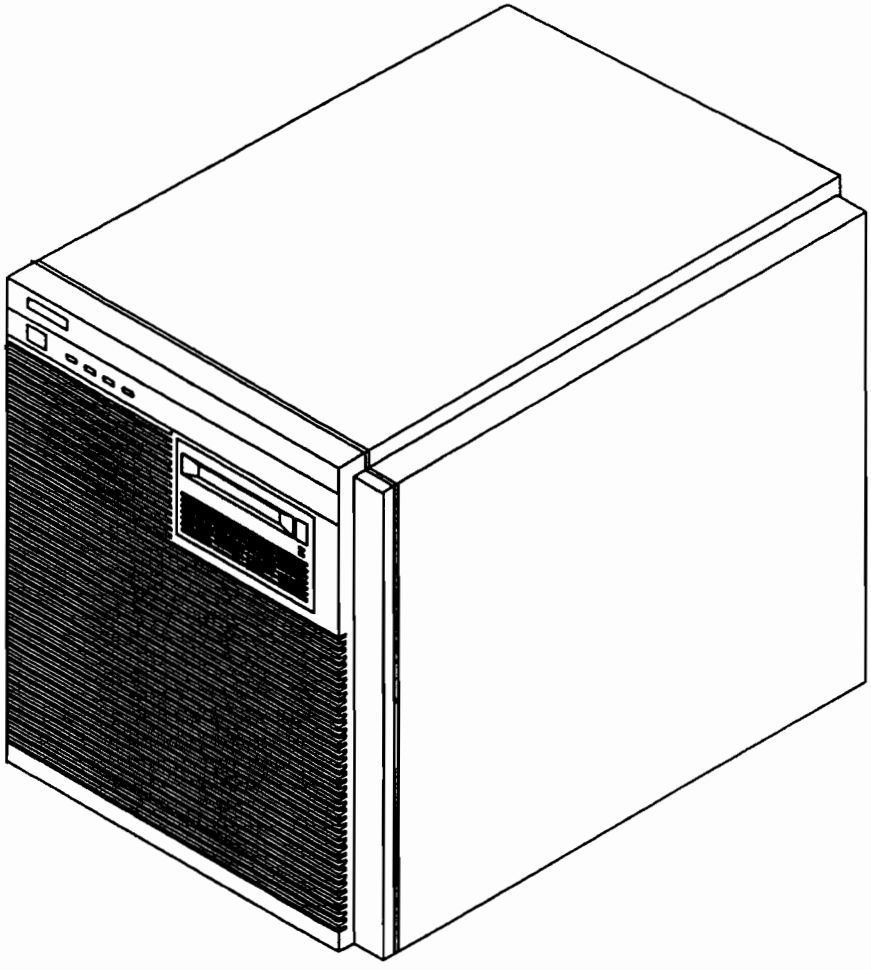


Figure 1-4. HP 9000 827S, 847S, 857S, 867S, 877S, 887S, and 897S Computer

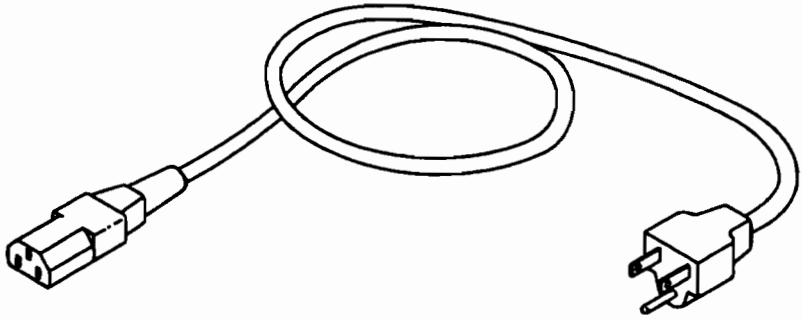


Figure 1-5. Computer Power Cord

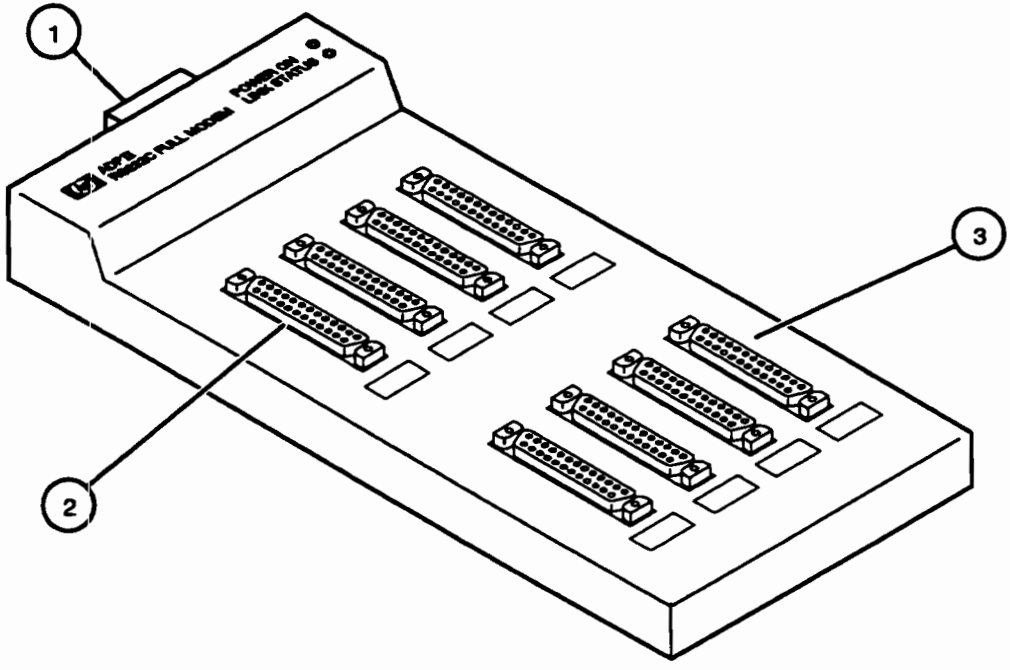


Figure 1-6. Active Distribution Panel (Not HP 9000 807S)

Parts Identification

Part Number	Part Name
1	Cable Connector
2	Console Terminal Connector (MUX 0)
3	Support Modem Connector (Optional, MUX 0)

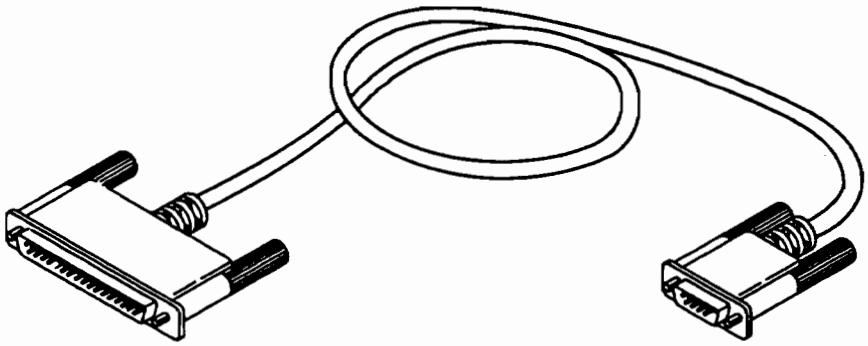


Figure 1-7. Active Distribution Panel Cable (Not HP 9000 807S)

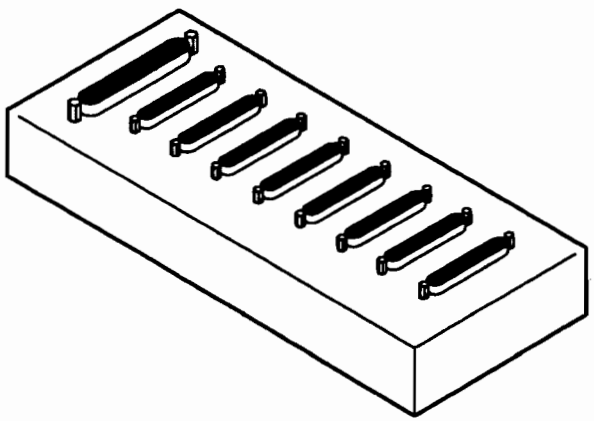


Figure 1-8. Data Distribution Panel

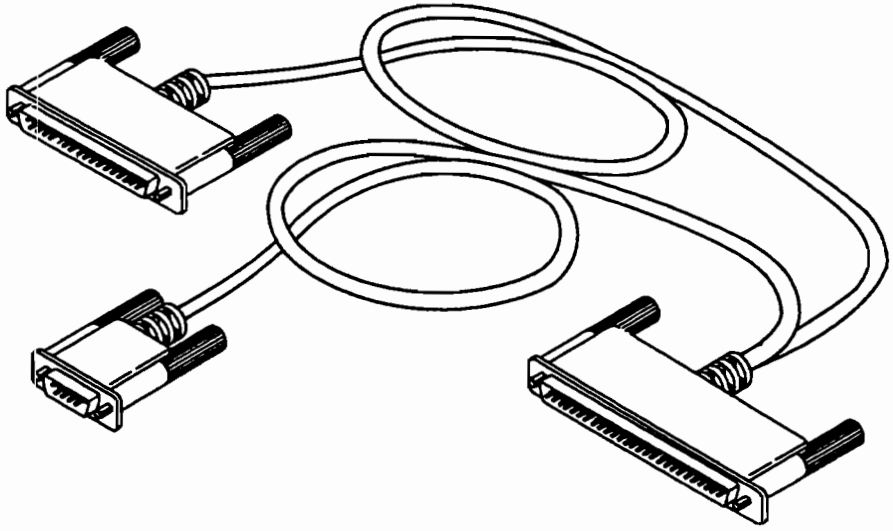


Figure 1-9. MUX Y-Cable

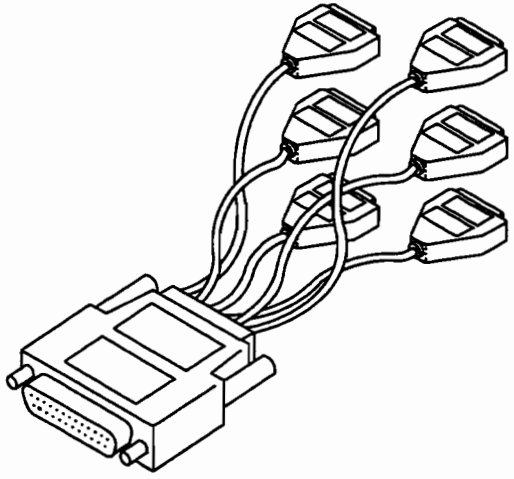


Figure 1-10. Direct Distribution Cable (HP 9000 807S Only)

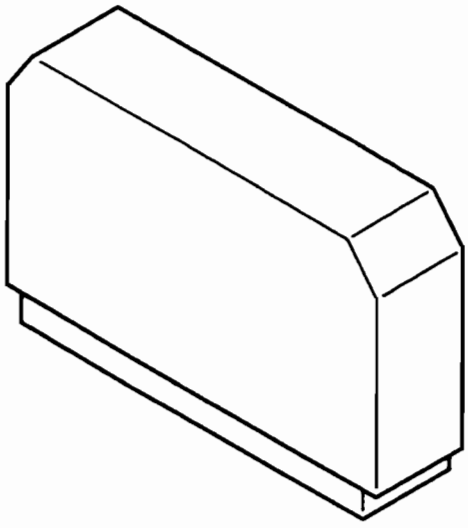


Figure 1-11. SCSI Terminator

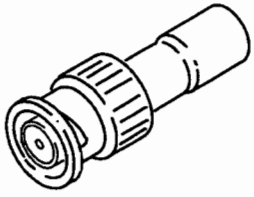


Figure 1-12. LAN Terminator

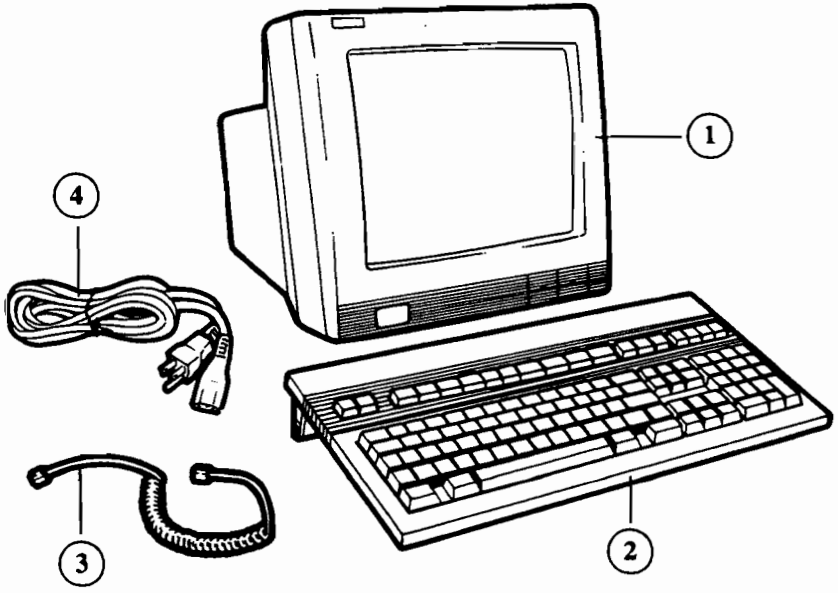


Figure 1-13. Console Terminal

Parts Identification

Part Number	Part Name
1	Monitor
2	Keyboard
3	Keyboard Cable
4	Power Cord

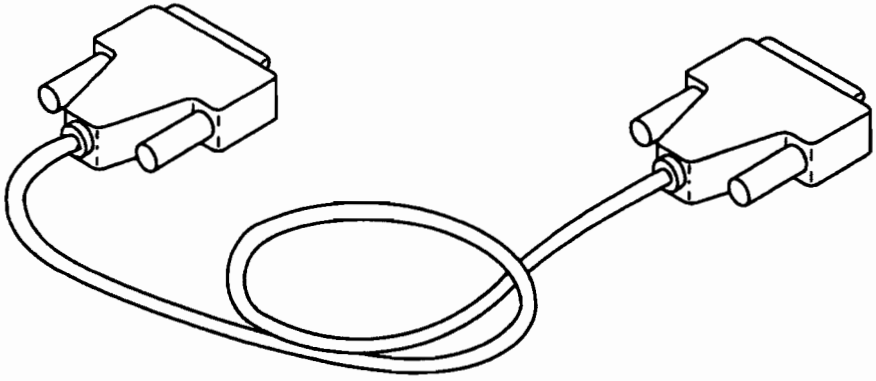


Figure 1-14. Console Terminal Data Cable (Not HP 9000 887S, 897S)

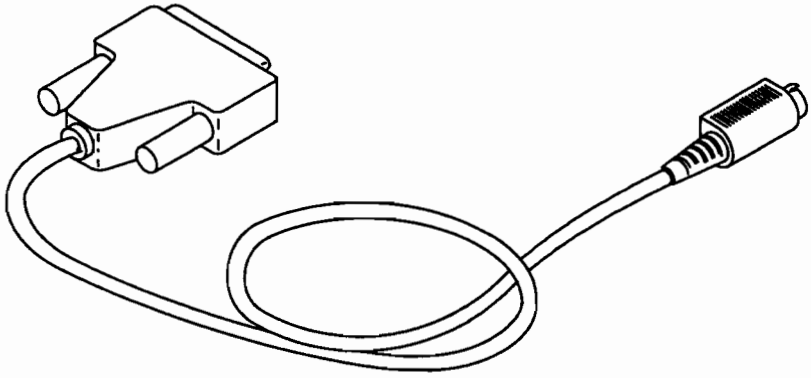


Figure 1-15. Console Terminal Data Cable (HP 9000 887S, 897S)

Installation Steps

To successfully install your computer, complete the steps listed in table 1-2, in the order presented. You will find information on each step in the chapter indicated in the table.

Table 1-2. Installation Procedures

Installation Steps to Complete	Chapter
Preparing site.	2
Unpacking computer.	2
Cabling computer.	2
Unpacking console terminal.	3
Cabling console terminal.	3
Configuring console terminal.	3
Powering up computer.	4
Setting time zone.	4
Setting time and date.	4
Selecting language.	4
Selecting work environment.	4
Loging in.	4
Setting password.	4
Connecting and configuring optional terminals.	5
Connecting and configuring optional printers.	5
Adding users and groups.	6
Configuring networking (if installed).	7
Backing up the operating system.	8

Start the installation process by following the instructions in chapter 2.

2

Setting Up the Hardware

Setting Up the Hardware

Before you begin unpacking your new computer, you will need to prepare your area for proper operation of your computer. This process is called site preparation.

Site Preparation

Site preparation might be required before you can set up your computer. The type and extent of site preparation depends on your individual needs. The three types of preparation required are: computer, peripheral, and networking.

Preparing the Computer Site

Site preparation for your computer is straightforward. If your computer is used in an office environment, no special environmental conditions must be met. Check appendix A of this manual for detailed specifications on your computer. You may contract with Hewlett-Packard to provide complete site preparation.

Your computer is a sensitive piece of electronic equipment. Be sure to read and follow the suggestions listed below for optimum performance and reliability.

Make sure that you meet the following conditions:

- DO have enough electrical outlets for all of the equipment (one for the computer, one for the console terminal, and one for each external peripheral, such as printers or additional disk drives).
- DO locate the ac outlet near the computer. The ac cordset is this product's main ac disconnect device and must be easily accessible at all times.
- DO provided a separate electrical outlet for your computer. Your computer must be the only thing connected to this outlet.
- DO allow at least 12 inches of ventilation space behind the computer.
- DO provide a storage cabinet for computer supplies (tapes, disks, printer supplies, etc.)
- DO provide dedicated telephone outlets close to the computer for possible data communication (modem) and voice communication (assistance use).

- DO make sure the computer site is well ventilated and adequate lighting is available.
- DO make sure to route peripheral cables so that they are not in traffic areas where they can cause injury or can be kicked loose.
- DO plan peripheral installation to account for length of cables involved.
- DO NOT use an extension cord, or multiple outlet power strip, to provide electrical power to the computer or computer equipment.
- DO NOT install the computer next to open windows, where the computer would be exposed to uncontrolled environmental conditions.
- DO NOT install the computer near doorways where heavy traffic is likely.
- DO NOT plug the computer, or peripherals, into outlets that are controlled by a switch.
- DO NOT plug non-office type equipment into the same outlet with the computer; this would include things such as coffee pots, heaters, fans, radios, or televisions.
- DO NOT use extension cords to supply power to the computer or peripherals.
- DO NOT use the computer cabinet as a plant stand, or as a resting place for anything.

CAUTION

If the electrical or environmental equipment (air conditioners, humidifiers, or heaters) for the office computer site stop functioning, and the temperature in the room exceeds 100° F (40° C), stop all computer applications and turn the computer off until the problem is corrected and normal operation is restored. By waiting, you may protect your data and computer.

Because your computer does not have a key-switch, it can be accidently switched off, or put in remote mode. If this is a potential problem, place your computer in a secure location.

Preparing the Peripheral Site

Peripheral devices (printers, terminals, etc.) can be located away from the computer, but only as far as the length of the cable will allow. To minimize inadvertent power or cable disconnection, locate all cables away from normal traffic patterns.

Your application might require connecting peripherals located throughout your site. This may necessitate special cabling of your facilities. Hewlett-Packard offers several services that you can purchase, to help you with the cabling of your facilities. These include HP Cable Site. Contact your local HP Sales and Service Office for more information.

Preparing the Networking Site

Your network might require special cabling and equipment. This might necessitate modification of your facilities. Hewlett-Packard offers several services, that you can purchase, to help you with networking site preparation. These include HP Network Planing and Design. Contact your local HP Sales and Service Office for more information.

Several reference manuals are available from HP Direct Marketing (Telephone 800- 538-8787) to assist with network design and installation. These manuals are:

- *LAN Cable and Accessories Installation Manual (Coax)* (HP part number 5955-7680).
- *HP SiteWire Twisted-Pair Cabling Installation Manual* (HP part number 5959-2208).
- *HP LAN Configuration Guide for IEEE 802.3 and Ethernet Networks* (HP partnumber 5090-2607).

Refer to these manuals for assistance in preparing the networking site.

Setting Up Your Computer

Two steps are required to set up your computer. These are:

- Removing your computer from the shipping box.
- Cabling your computer.

Unpacking Your HP 9000 807S, 817S, 837S

Figure 2-1 shows your HP 9000 807S, 817S, 837S in its shipping box with the top of the box opened and this manual removed.

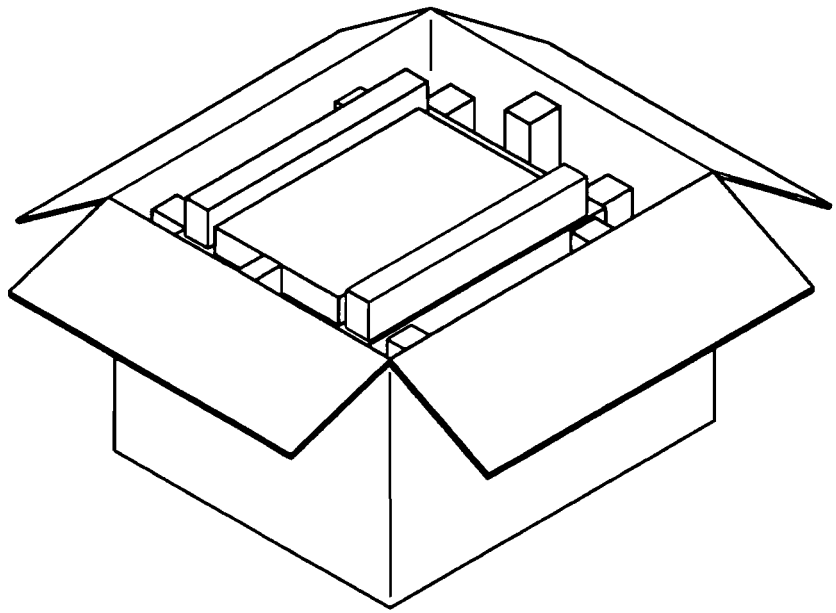


Figure 2-1. Opening the Box

Complete the following steps to continue with unpacking your computer:

CAUTION

Do not lift your computer out of the box. It is heavy! Follow the instructions as shown on the shipping box for turning the shipping box onto its side and "walking" your computer out of the box.

1. Remove the parts box as shown in figure 2-2 and identify the contents using the drawings in chapter 1.

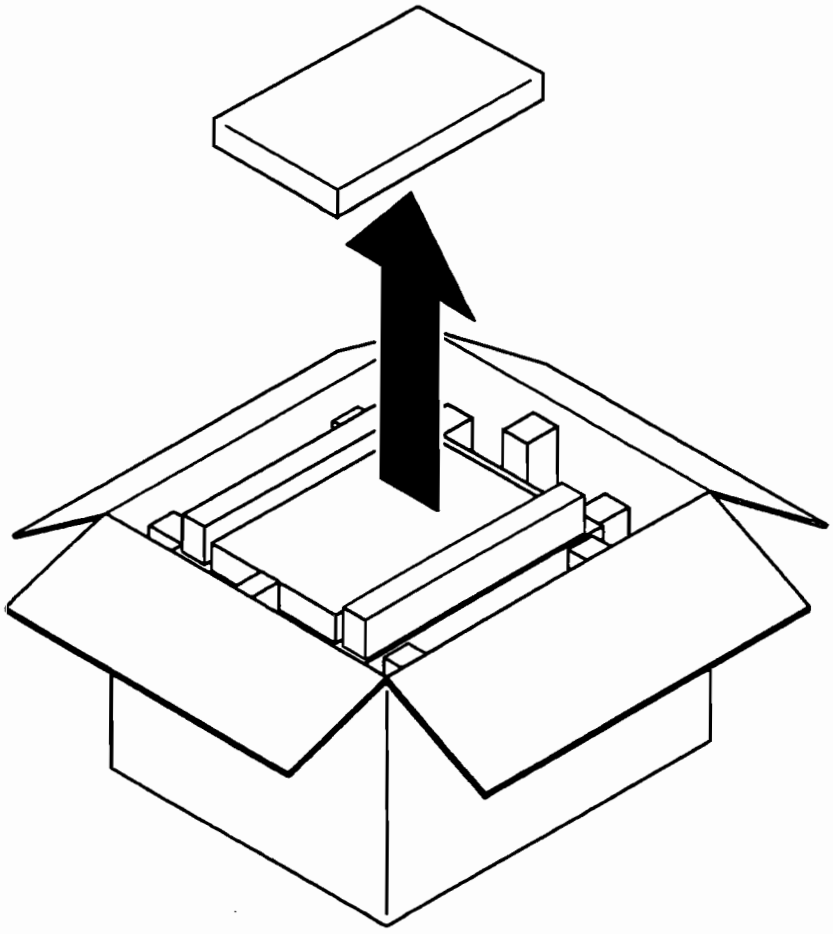


Figure 2-2. Removing the Parts Box

2. Remove the packing material as shown in figure 2-3.

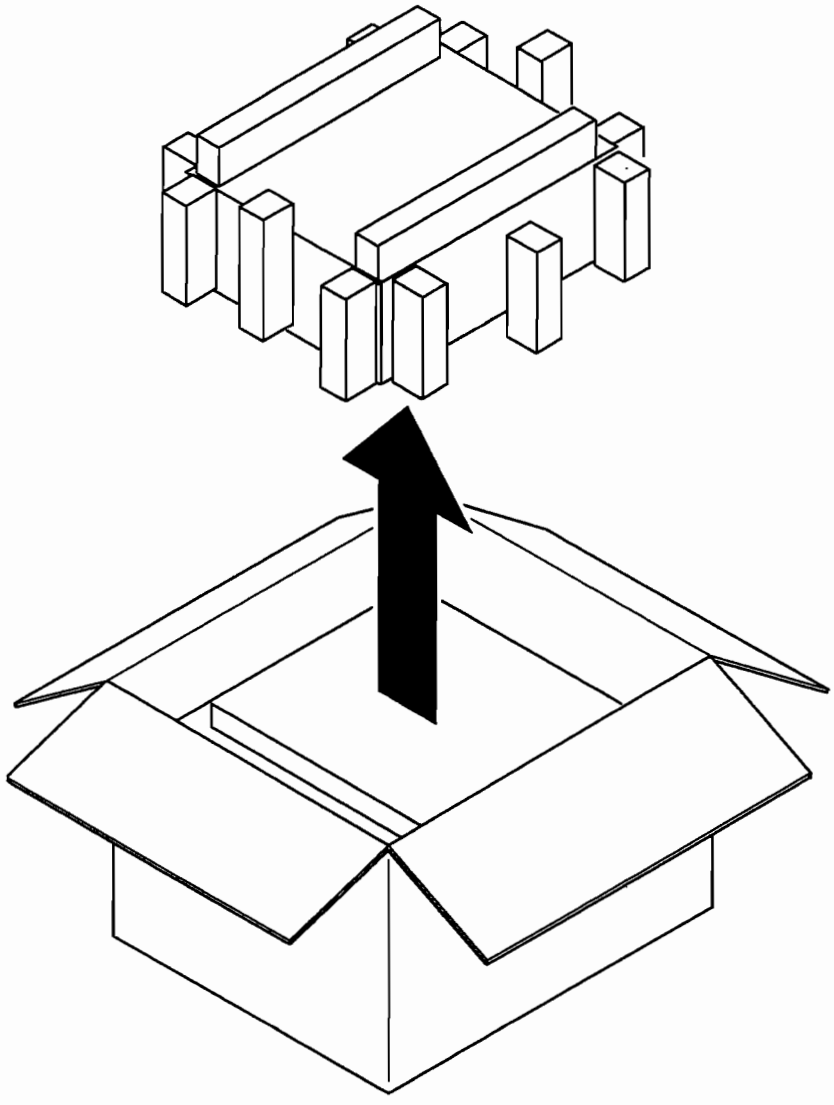


Figure 2-3. Removing Packing Material

3. Position the shipping box so that the handle on the flap is away from you.

4. Turn the shipping box on its side, as shown in figure 2-4, so that your computer is standing upright. This is done by grasping the handle on the shipping box flap and pulling the box towards yourself.

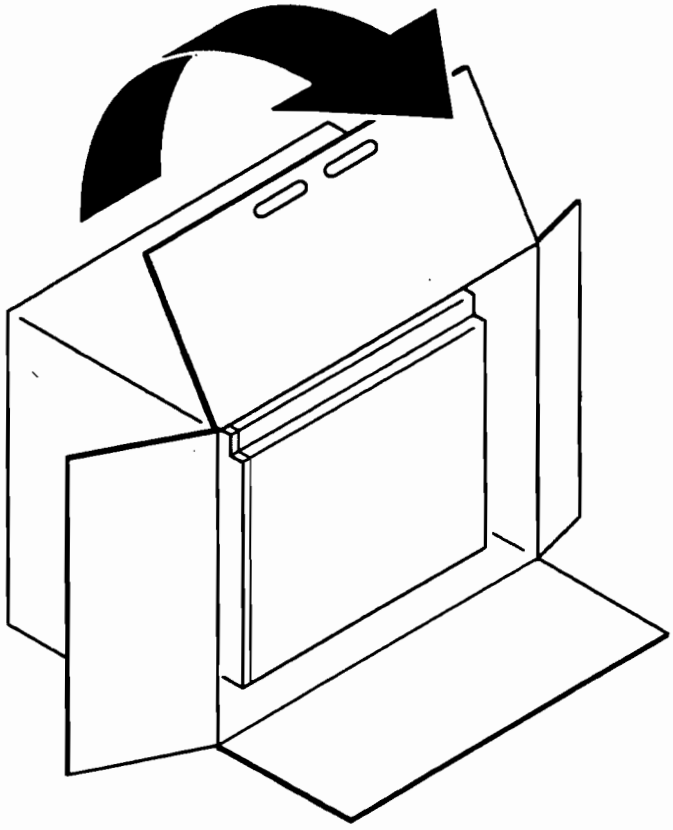


Figure 2-4. Turning Box On Its Side

5. Remove your computer from the box by pulling it from side to side as shown in figure 2-5.

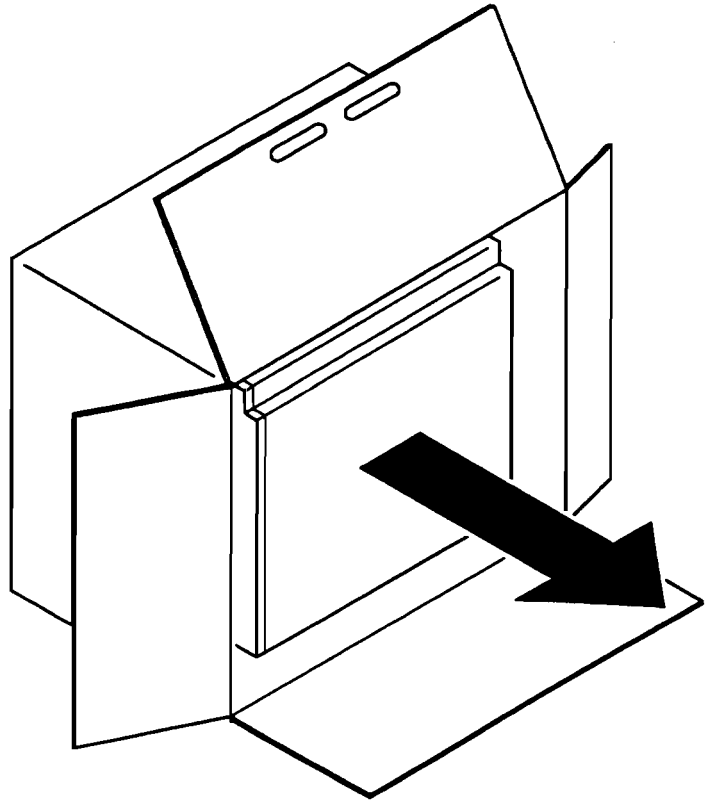


Figure 2-5. Removing Computer From Box

You can now place your computer where you want to use it by sliding it along the floor. Do not try to lift your computer.

Unpacking Your HP 9000 827S, 847S, 857S, 867S, 877S, 887S, 897S

In order to unpack your HP 9000 827S, 847S, 857S, 867S, 877S, 888S, 897S complete the following steps:

1. Cut the tape holding the top of the shipping carton to its bottom section. This tape is located about six inches up from the bottom of the shipping carton.
2. Remove the top section of the shipping carton and the top cushions.
3. Cut one end of the bottom cardboard shipping carton on both sides.
4. Gently slide the computer, with the pink foam pallet still strapped to it, off of the shipping carton and onto the floor.
5. Locate the end flap that has two vertical foam pads on it.
6. Tear a triangular section off of the foam blocks on this end of the shipping carton. These blocks are perforated to aid in tearing. These blocks will tear off to form a 30° angle to support the ramp.
7. Pull down this flap to form a ramp between the bottom of your computer and the floor.
8. Slide your computer down this ramp and clear of the shipping carton.
9. Slide your computer into the place where you want to use it.

NOTE

The unpacking instructions for the HP 9000 8X7S Family of computers applies to USA shipments. The type and layout of packing materials within Europe may differ slightly.

Connecting the Power Cord(s)

The HP 9000 807S, 817S, and 837S each has one power cord. The HP 9000 827S, 847S, 857S, 867S, 877S, 887S, and 897S each have two power cords.

The power cord is shown in figure 2-6.

1. Remove the power cord(s) from the shipping carton.
2. Plug one power cord into the jack at the bottom left of the rear of your computer. The HP 9000 827S, 847S, 857S, 867S, 877S, 887S, and 897S each has two power cords. The second power cord is plugged into the jack at the bottom center of the rear of your computer.
3. Plug the other end of the power cord(s) into an appropriate electrical outlet.
4. Do not turn on your computer at this time.

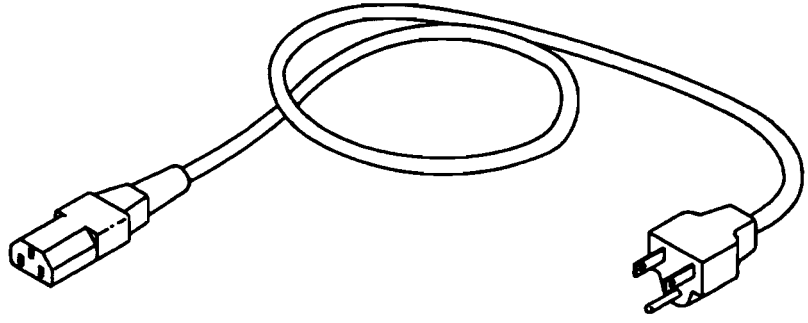


Figure 2-6. Power Cord

Attaching the Direct Distribution Cable (HP 9000 807S Only)

If you have the HP 9000 807S, the serial terminals and printers are connected to your computer through the connectors provided by the direct distribution cable.

Figure 2-7 shows the direct distribution cable. This cable provides six serial connectors, numbered 1 through 6, as identified on the connectors.

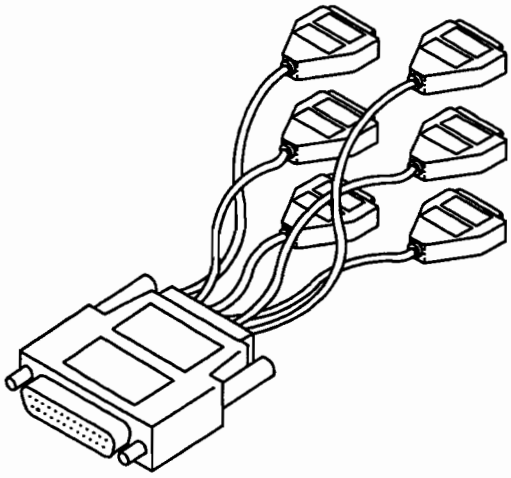


Figure 2-7. Direct Distribution Cable

Figure 2-8, number 3 shows the back of the HP 9000 807S with the connector for attaching the direct distribution cable. The connector is labeled DDC (ports 1 . . . 6). Connect the cable here and tighten the connector. You will connect optional terminals and printers to each connector at the opposite end of this cable. A modem connection is available on the back of your computer. See figure 2-8, number 4.

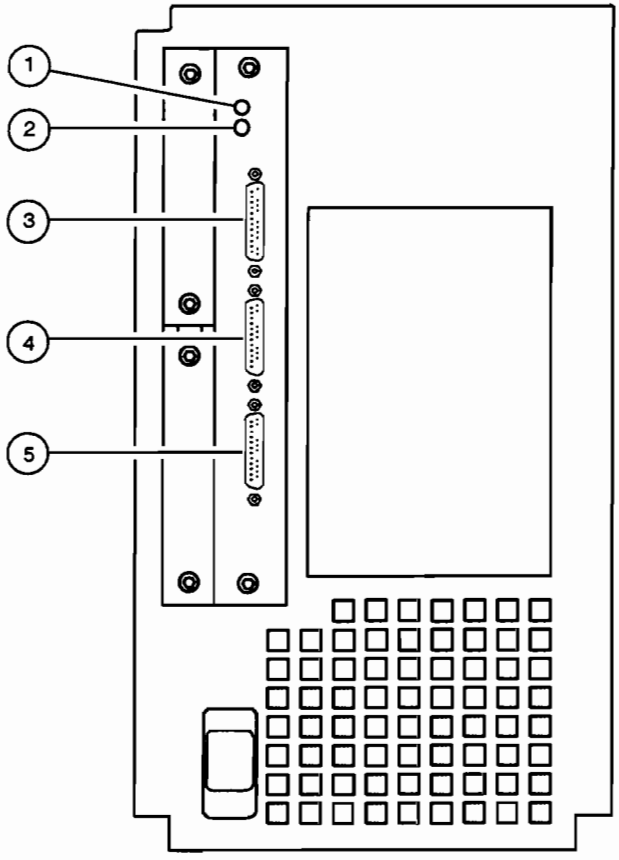


Figure 2-8. HP 9000 807S Rear Panel

Parts Identification

Part Number	Part Name
1	MUX Error Light
2	SCSI Error Light
3	Direct Distribution Cable Connector
4	Modem Connector
5	Console Terminal Connector

Attaching the Active Distribution Panels (ADP) and Data Distribution Panels (DDP)

If you have an HP 9000 817S, 827S, 837S, 847S, 857S, 867S, or 877S, the serial terminals, modems, and printers are connected to your computer through the active distribution panel (ADP) and the optional data distribution panel (DDP). The ADP can used with modems, terminals, and printers. The DDP can only be used with terminals and printers.

Figure 2-9 shows the active distribution panel (ADP). Each panel has eight serial connectors numbered 0 through 7.

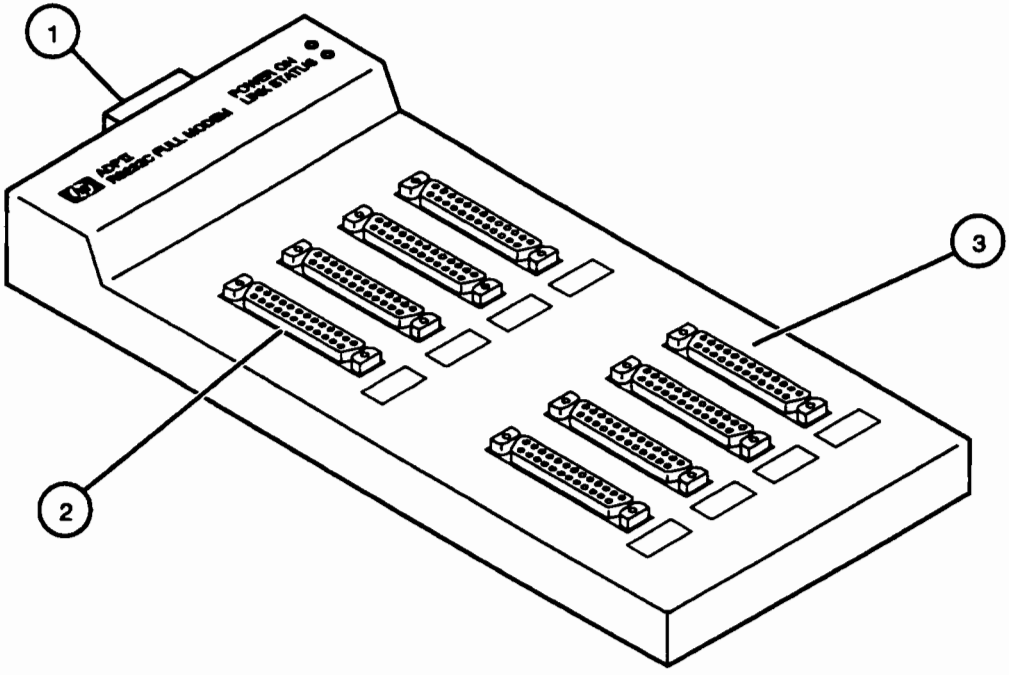


Figure 2-9. Active Distribution Panel

Parts Identification

Part Number	Part Name
1	Cable Connector
2	Console Terminal Connector (MUX 0)
3	Support Modem Connector (Optional, MUX 0)

Figure 2-10 shows the optional data distribution panel (DDP). Each panel has eight serial connectors. These are numbered 8 through 15.

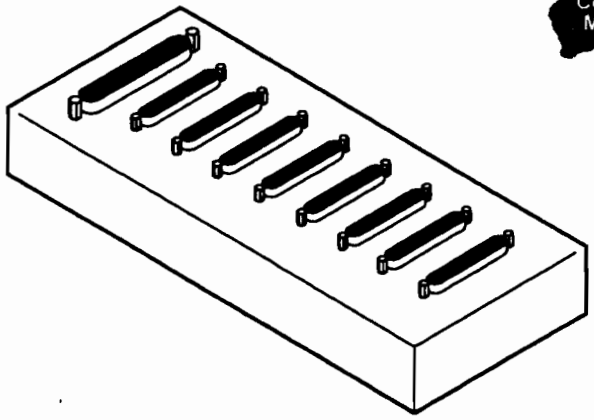


Figure 2-10. Data Distribution Panel

The active distribution panel is connected to the connector on the rear of your computer by a special cable. Figure 2-11 shows the cable to use if you do not have the optional data distribution panel. Figure 2-12 shows the cable to use if you have the optional data distribution panel.

The active distribution panel cable has connectors that are smaller than the connectors on the data cable.

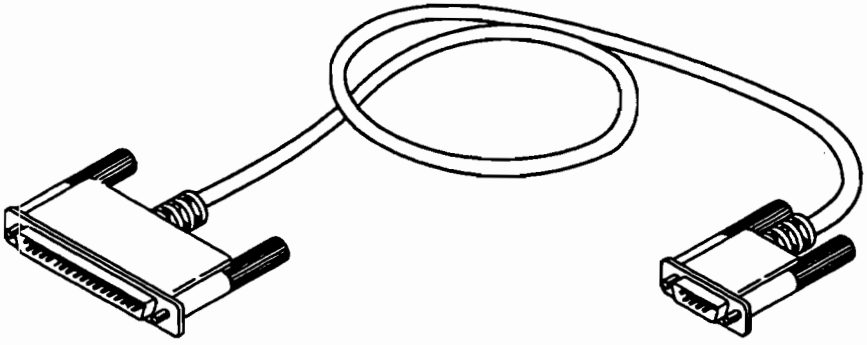


Figure 2-11. Active Distribution Panel Cable

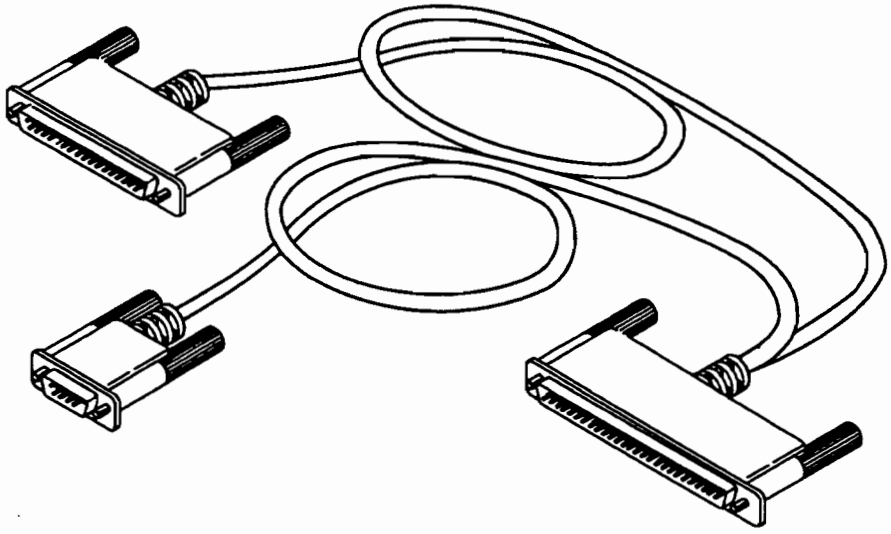


Figure 2-12. MUX Y-Cable

Figure 2-13 shows the back of the HP 9000 817S, and 837S. Number 6 shows the location of the connector where the active distribution panel cable will be connected. This connector is labeled *To ADP/DDP*.

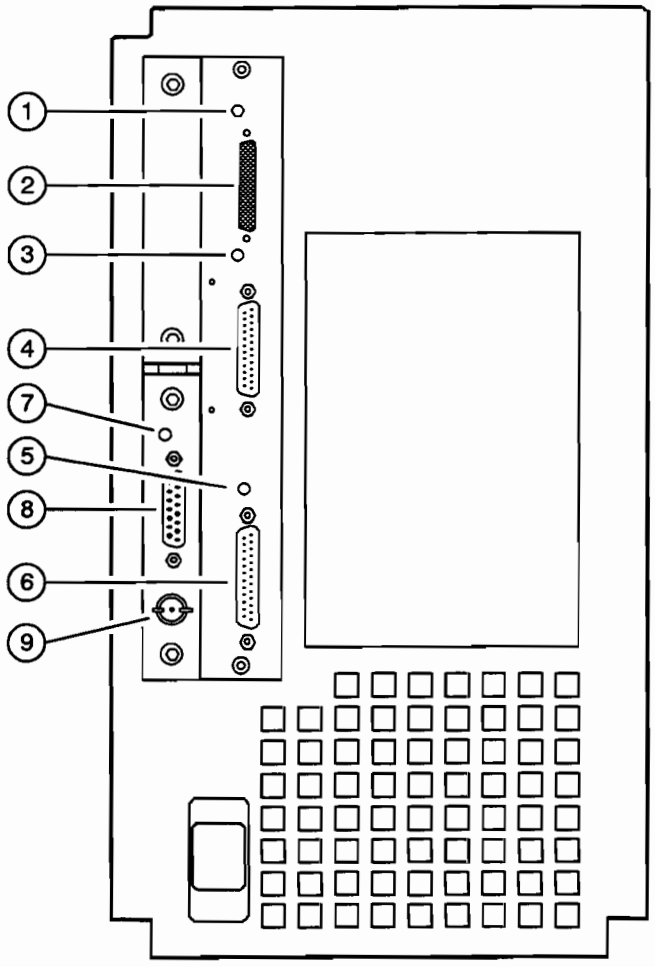


Figure 2-13. HP 9000 817S, and 837S Rear Panel

Parts Identification

Part Number	Part Name
1	SCSI Self Test Light
2	SCSI Connector
3	Term Power Light
4	Parallel Connector
5	MUX Status Light
6	Active Distribution Panel Connector
7	Xcrv/Net Fail, Self Test Fail Light
8	AUI Connector
9	LAN Connector

Figure 2-14 shows the card cage layout of the HP 9000 827S, 847S, 857S, 867S, and 877S. Number 6 shows the location of the connector where the active distribution panel cable will be connected. This connector is labeled *To ADP/DDP*.

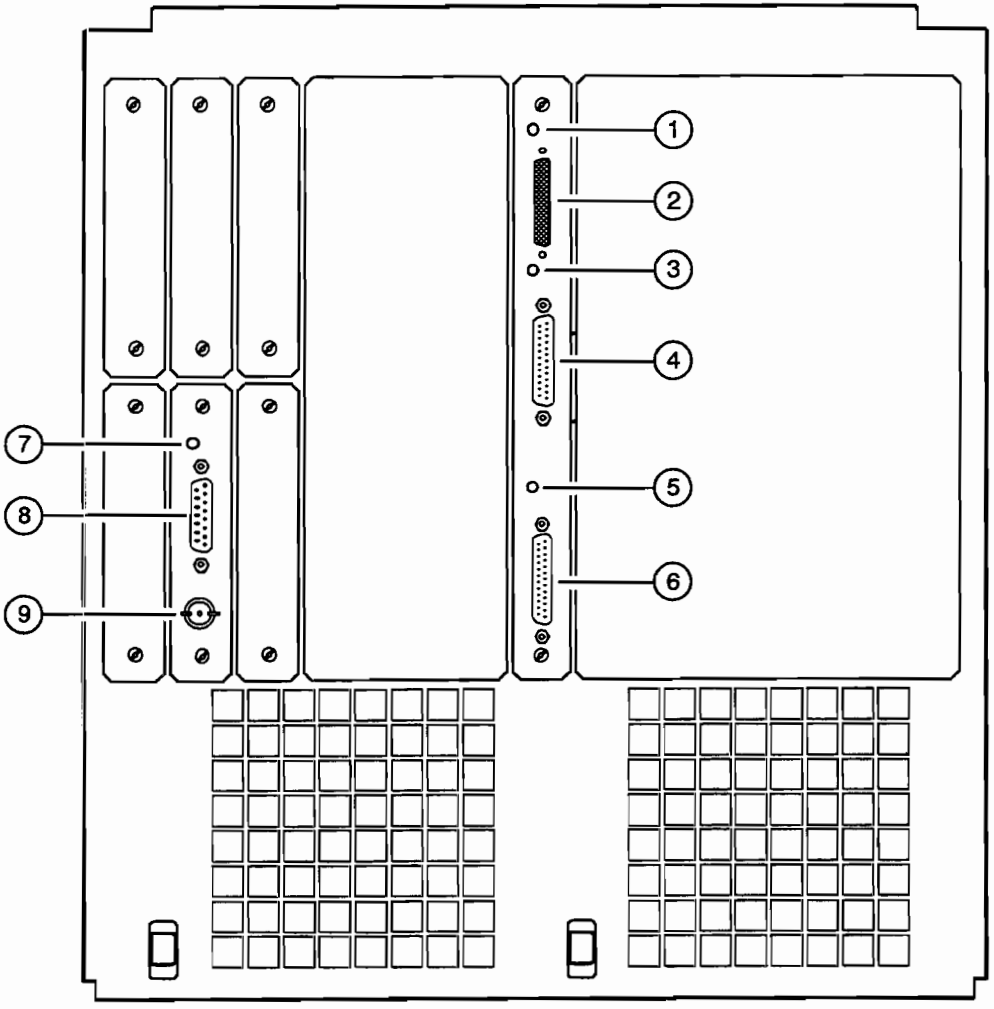


Figure 2-14. HP 9000 827S, 847S, 857S, 867S, 877S, Rear Panel

Parts Identification

Part Number	Part Name
1	SCSI Self Test Light
2	SCSI Connector
3	Term Power Light
4	Parallel Connector
5	MUX Status Light
6	Active Distribution Panel Connector
7	Xcrv/Net Fail, Self Test Fail Light
8	AUI Connector
9	LAN Connector

NOTE

The rear panel of the HP 9000 857S, and 877S are identical to the HP 9000 827S, 847S, and 867S except that the HP 9000 857S, and 877S have six additional I/O card slots.

Connect one end of the active distribution panel cable to the back of the active distribution panel (figure 2-9, number 1) and the other end to the connector on the back of your computer. This connector is labeled *To ADP/DDP*.

If you have the optional data distribution panel, connect this panel to the remaining connector on the MUX Y-cable.

You will be connecting your serial peripherals, such as terminals and printers, to the distribution panels. This will be described in chapter 5.

NOTE

The console terminal and optional support modem must be connected to the active distribution panel. This panel is identified by your operating system as MUX 0. The following section describes additional active distribution panels. These can be used to connect additional terminals and modems, but cannot be used to connect the console terminal or optional support modem.

The distribution panels can be placed near your computer.

Connecting Additional Data Distribution Panels

You may have purchased additional data distribution panels. You should connect these to the MUX cards that were installed in the rear of your computer at the factory. Any additional data distribution panels are connected to your computer in pairs using a special MUX Y-cable that permits connecting two data distribution panels to one MUX card.

1. Connect one data distribution panel cable connector to the back of each data distribution panel.
2. Connect the other end of that data distribution panel cable to an available MUX connector on the back of your computer.

NOTE

You may have purchased an option for your HP 9000 817S, 827S, 837S, 847S, 857S, 867S, or 877S which removes the connections for the data distribution panels. If you have purchased this option, your connectors look like those shown in figure 2-17. In that case, follow the installation instructions for the HP 9000 887S, and 897S.

Connecting the SCSI Terminator (Not HP 9000 807S)

A SCSI terminator has been supplied with your computer. Figure 2-15 shows this terminator. Figure 2-13, number 2, and figure 2-14 number 2 show where to connect this terminator.

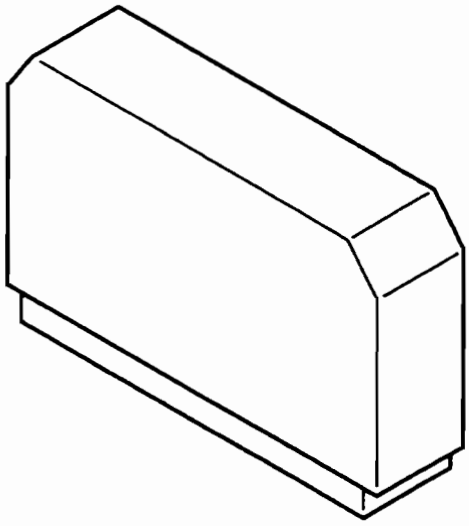


Figure 2-15. SCSI Terminator

If you do not have any external disk drives connected to your SCSI connector, you MUST connect this terminator to the SCSI connector on the back of your computer. If you have connected external disk drives to your computer, you MUST connect a terminator to the remaining SCSI connector on your last disk drive. The terminator required for your last disk drive may not be the same size as the one supplied with your computer.

Connecting the Network

If you have a network card installed in your computer, you must connect your network to your computer before you can communicate with other computers. Figure 2-16, number 9 shows the LAN card with its connector. This card is standard on the HP 9000 817S, 827S, 837S, 847S, 857S, and 877S. It is optional on the HP 9000 807S, 887S, and 897S. This card is located to the left of the card where you connected the active distribution panel.

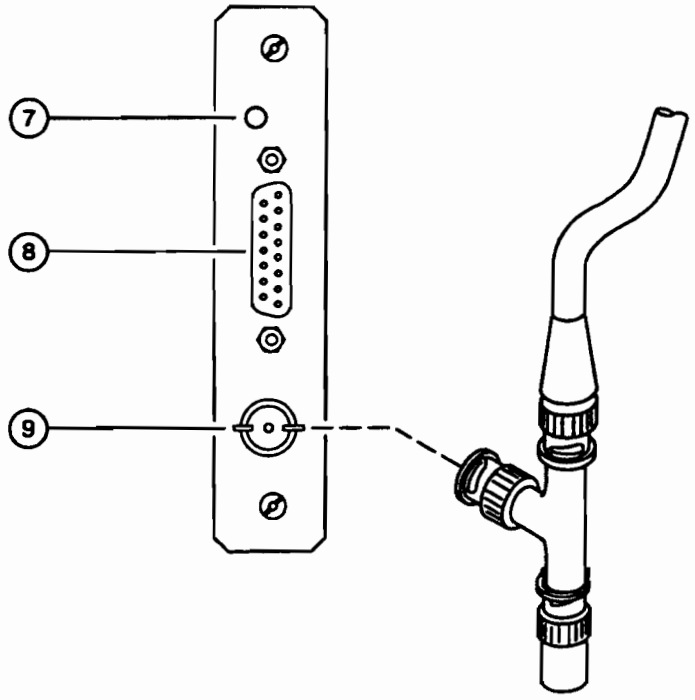


Figure 2-16. LAN Connectors

Parts Identification

Part Number	Part Name
7	Xcrv/Net Fail, Self Test Fail Light
8	AUI Connector
9	LAN Connector

Figure 2-17 shows the rear panel of the HP 9000 887S, and 897S. The LAN connector is number 8.

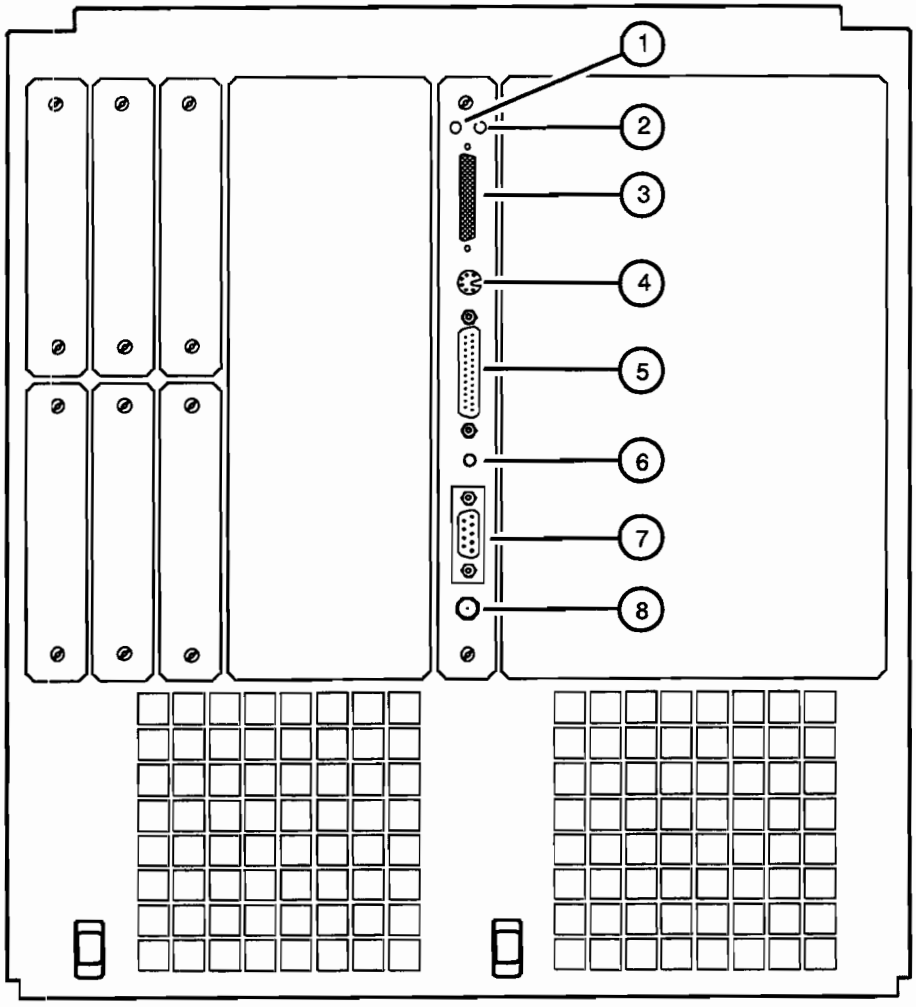


Figure 2-17. HP 9000 887S, 897S Rear Panel

Parts Identification

Part Number	Part Name
1	SCSI Self Test Light
2	Term Power Light
3	SCSI Connector
4	Console Connector
5	Support Modem Connector
6	Console/LAN Self Test Light
7	AUI Connector
8	LAN Connector

Connect your network cable to the bottom connector on this card by pushing the cable connector onto the card connector and twisting it a quarter turn clockwise.

Your LAN card comes installed from the factory with the bottom connector (the LAN connector) configured so that it will work. The top connector (AUI connector, figure 2-16, number 8, or figure 2-17, number 7) is also available. This connector can be used for networks such as ThickLAN and twisted-pair. Before you can use this connector you must change an internal jumper. Figure 2-18 shows the location of this jumper on the LAN card.

NOTE

The jumper location is different on the HP 9000 887S, and 897S.

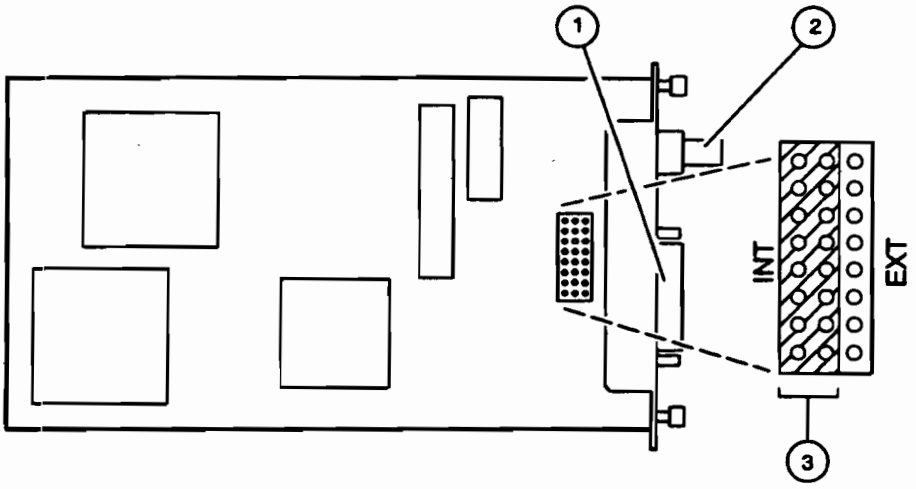


Figure 2-18. LAN Card Jumper

Parts Identification

Part Number	Part Name
1	AUI Connector
2	LAN Connector
3	Jumper Block

To change this jumper:

1. Shut down the operating system. (See chapter 9 of this manual.)
2. Turn off power to your computer, if on.
3. Remove the LAN card by lifting up on the plastic extractor levers.
4. Refer to figure 2-18, number 3, and remove the jumper from the internal (INT) side of the jumper block by pulling it vertically off of the pins.
5. Press the jumper down onto the pins on the external (EXT) side of the jumper block.
6. Replace the LAN card.

7. Power up your computer and boot the operating system.

Figure 2-19 shows the clip that is used to make the connection to the AUI connector.

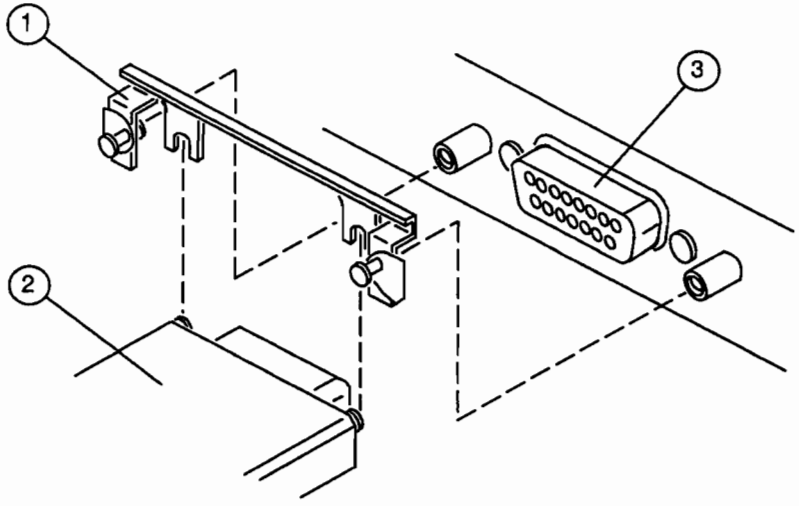


Figure 2-19. AUI Clip

Parts Identification

Part Number	Part Name
1	Clip
2	MAU Connector
3	AUI Connector

CAUTION

If you are not connecting your computer to the network at this time, be sure to connect the LAN terminator to your computer. The LAN terminator is provided with your computer and is shown in figure 2-20. Attach this terminator to your LAN card in the same way as you would connect the network cable.

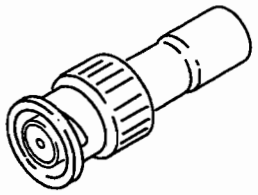


Figure 2-20. LAN Terminator

This completes setting your LAN card for use with the AUI connector.

Connecting the Available Support Modem

Figure 2-21, number 4 shows the modem connector on the HP 9000 807S. This is where you would connect the available support modem if you purchase the support contract.

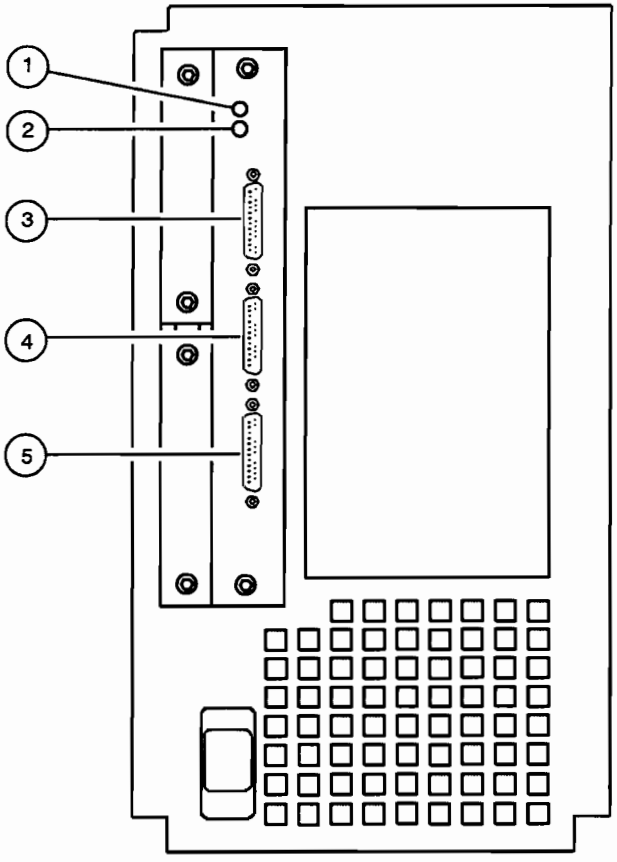


Figure 2-21. HP 9000 807S Support Modem Port

Parts Identification

Part Number	Part Name
1	MUX Error Light
2	SCSI Error Light
3	Direct Distribution Cable Connector
4	Modem Connector
5	Console Terminal Connector

Figure 2-22 shows the active distribution panel used on the HP 9000 817S, 827S, 837S, 847S, 857S, 867S, and 877S. You would connect the available support modem to connector 7 of the active distribution panel if you purchase the support contract.

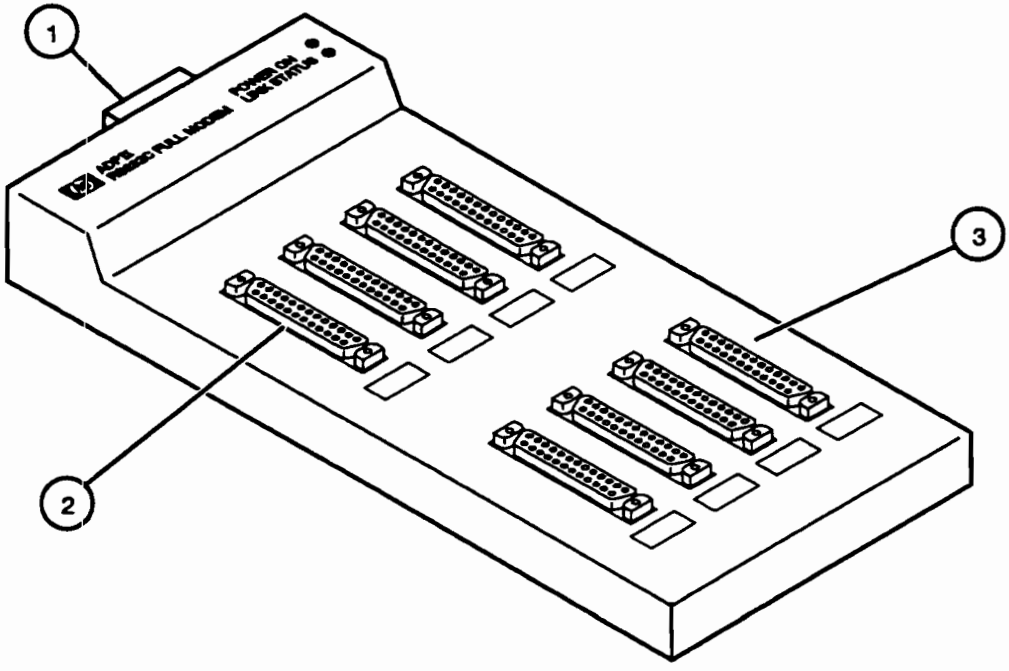


Figure 2-22. Active Distribution Panel

Parts Identification

Part Number	Part Name
1	Cable Connector
2	Console Terminal Connector (MUX 0)
3	Support Modem Connector (Optional, MUX 0)

Figure 2-23 shows the rear panel of the HP 9000 887S, and 897S. You would connect the available support modem to connector 5 is you purchase the support contract.

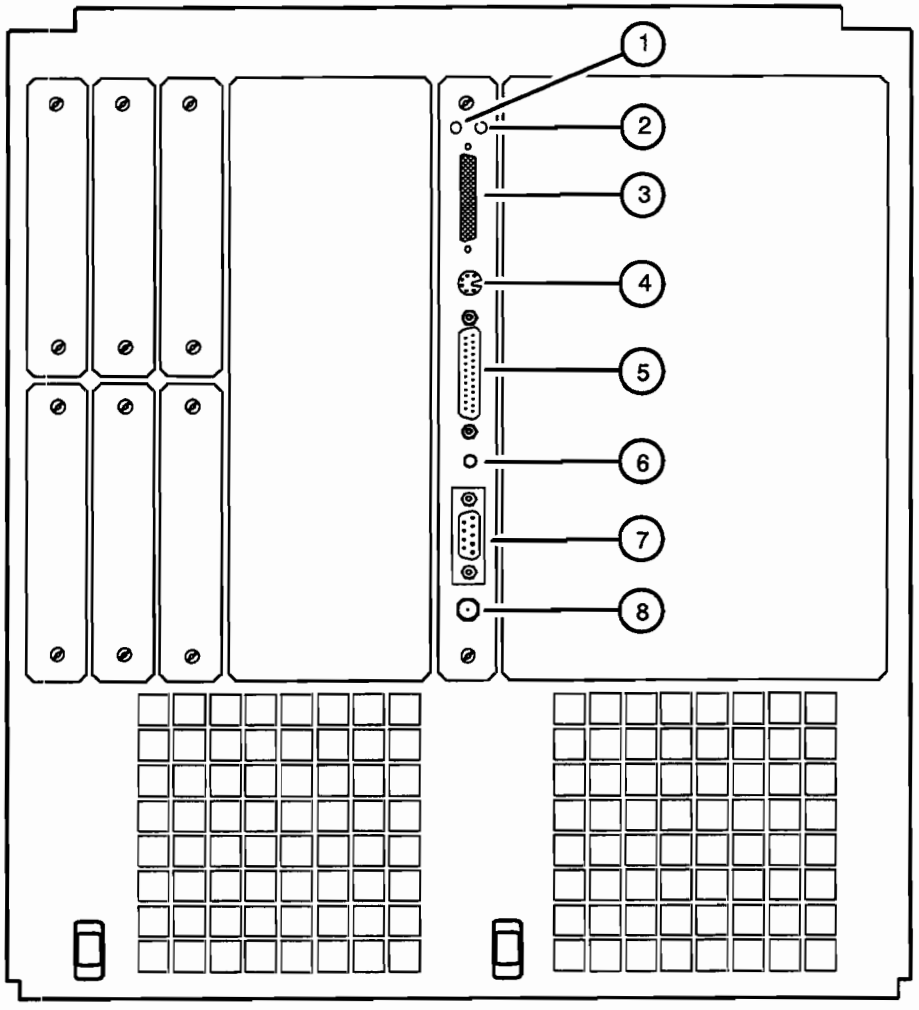


Figure 2-23. HP 9000 887S, 897S Rear Panel

Parts Identification

Part Number	Part Name
1	SCSI Self Test Light
2	Term Power Light
3	SCSI Connector
4	Console Connector
5	Support Modem Connector
6	Console/LAN Self Test Light
7	AUI Connector
8	LAN Connector

This completes the installation of the basic computer. Follow the instructions in chapter 3 to connect and configure the console terminal.

3

Connecting the Console Terminal

Connecting the Console Terminal

The console terminal is used to initialize and maintain operation of the computer. It is required for booting up the operating system, and it can also be used to add users, modify files, and perform all other system administration functions.

Several different models of HP terminals can be used for the console terminal. These instructions are limited to the installation of the HP 700/92 terminal. While the required communications parameters are the same for any terminal, only HP terminals provide the function keys (softkeys) that are necessary for certain functions, such as using SAM, the system administrator.

Figure 3-1 shows the console terminal and its four parts:

- The monitor (1).
- The keyboard (2).
- The keyboard cable (3).
- The power cord (4).

You will also need a console terminal data cable as shown in figure 3-2 or figure 3-3.

The keyboard cable connects the monitor and the keyboard.

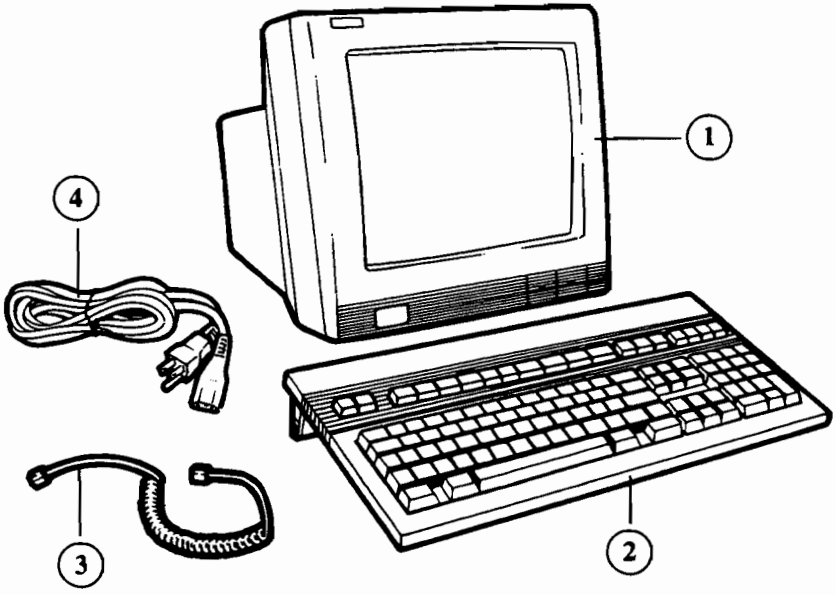


Figure 3-1. Console Terminal

Parts Identification

Part Number	Part Name
1	Monitor
2	Keyboard
3	Keyboard Cable
4	Power Cord

The HP 700/92 terminal is packed in a separate carton from your computer; this carton contains the keyboard, keyboard cable, and power cord. The console terminal data cable is in the computer carton.

Figure 3-2 shows the console terminal data cable for all models but the HP 9000 887S, and 897S. Figure 3-3 shows the console terminal data cable for the HP 9000 887S, and 897S.

The console terminal carton also contains the *User's Manual*, which you should refer to in setting up and configuring the console terminal. After the console terminal is unpacked, it is ready to connect to your computer.

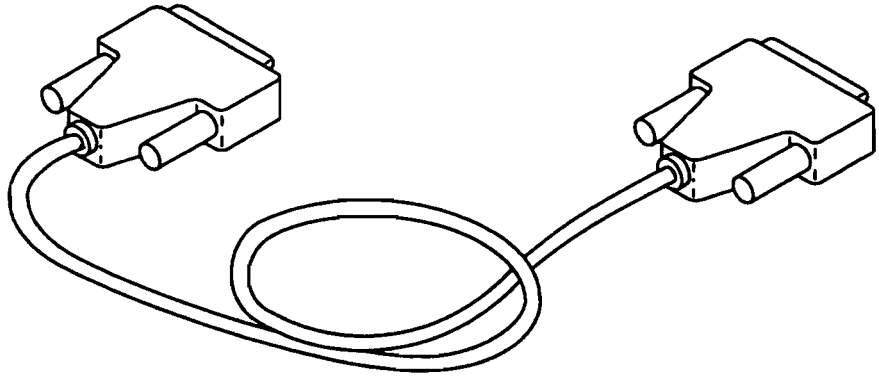


Figure 3-2. Console Terminal Data Cable (Not HP 9000 887S, 897S)

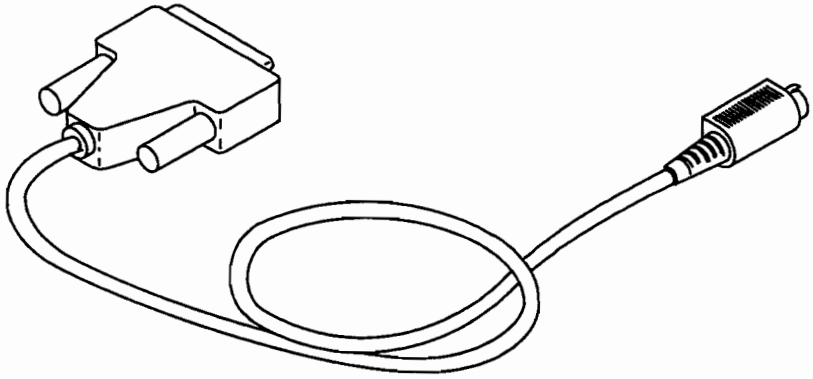


Figure 3-3. HP 9000 887S, 897S Console Terminal Data Cable

Connecting the Console Terminal

Cable the console terminal by completing the following steps:

1. Connect the keyboard cable between the keyboard and the monitor. The keyboard cable is connected to the rear center of the keyboard and to the connector on the rear of the monitor. Figure 3-4 shows the rear of the keyboard, and how to tuck the flat portion of the keyboard cable under the keyboard cable channel protector. Figure 3-5 shows the monitor rear connections. The monitor connector is number 1.
2. Connect the end of the console terminal data cable to the Datacomm connector on the back of the monitor (see figure 3-5 number 2) and tighten the console terminal data cable connector.
3. If you have the HP 9000 807S, connect the other end of the console terminal data cable to the console terminal connector at the rear of your computer. Figure 3-6, number 5, shows the location. This connector is labeled Console (port 0).
4. If you have an HP 9000 817S, 827S, 837S, 847S, 857S, 867S or 877S, connect the other end of the console terminal data cable to connector 0 of the active distribution panel. Figure 3-7, number 2 shows the active distribution panel.
5. If you have an HP 9000 887S, or 897S, connect the other end of the console terminal data cable to the console connector, number 4, figure 3-8.
6. Plug one end of the power cord into the back of the monitor (figure 3-5 number 4) and the other end into the power outlet.

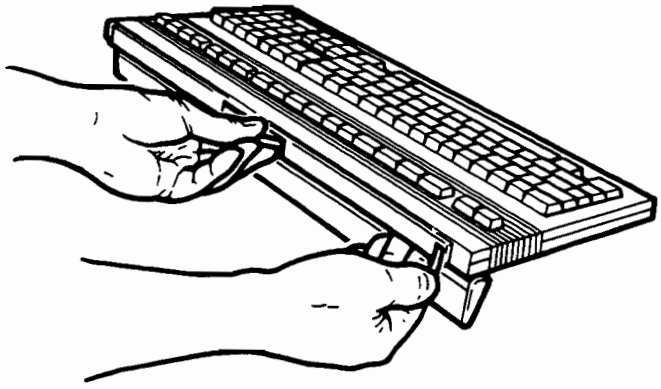
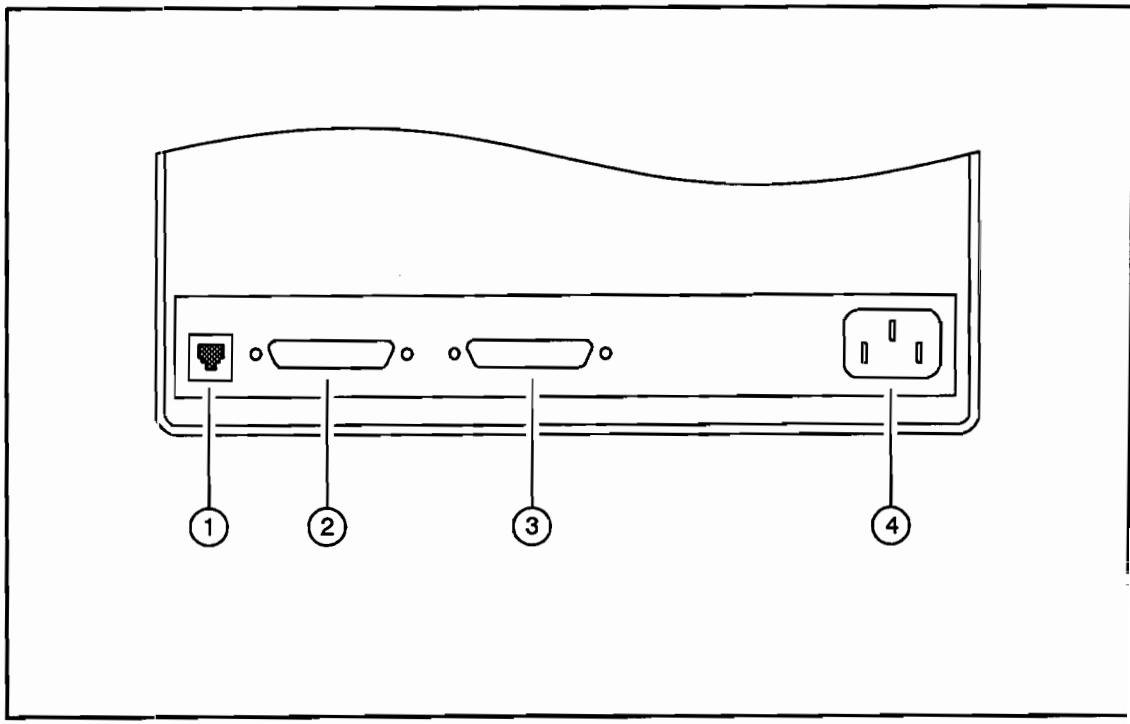


Figure 3-4. Keyboard



LG200185_120

Figure 3-5. Rear of Monitor

Parts Identification

Part Number	Part Name
1	Keyboard Connector
2	Datacomm Connector
3	Printer Connector
4	Power Connector

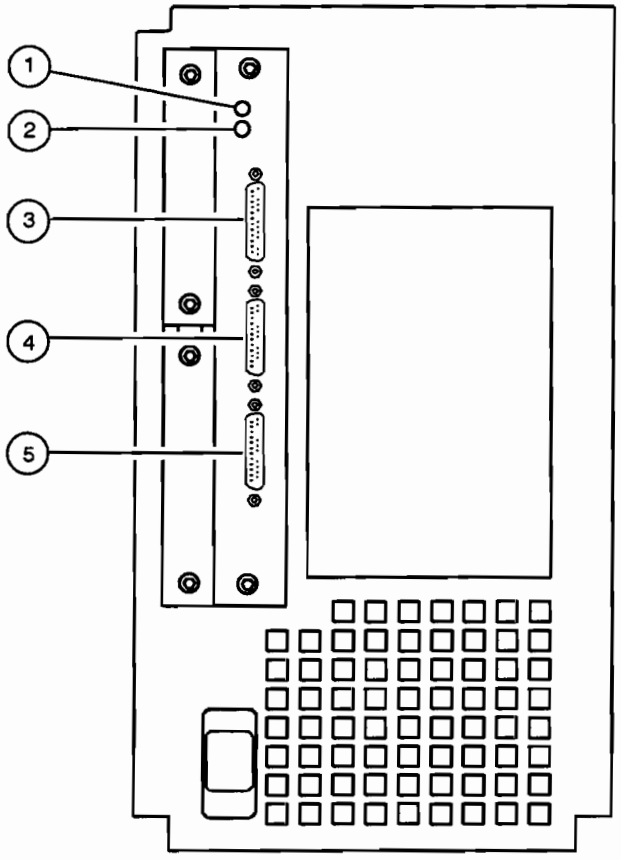


Figure 3-6. HP 9000 807S Console Terminal Connector

Parts Identification

Part Number	Part Name
1	MUX Error Light
2	SCSI Error Light
3	Direct Distribution Cable Connector
4	Modem Connector
5	Console Terminal Connector

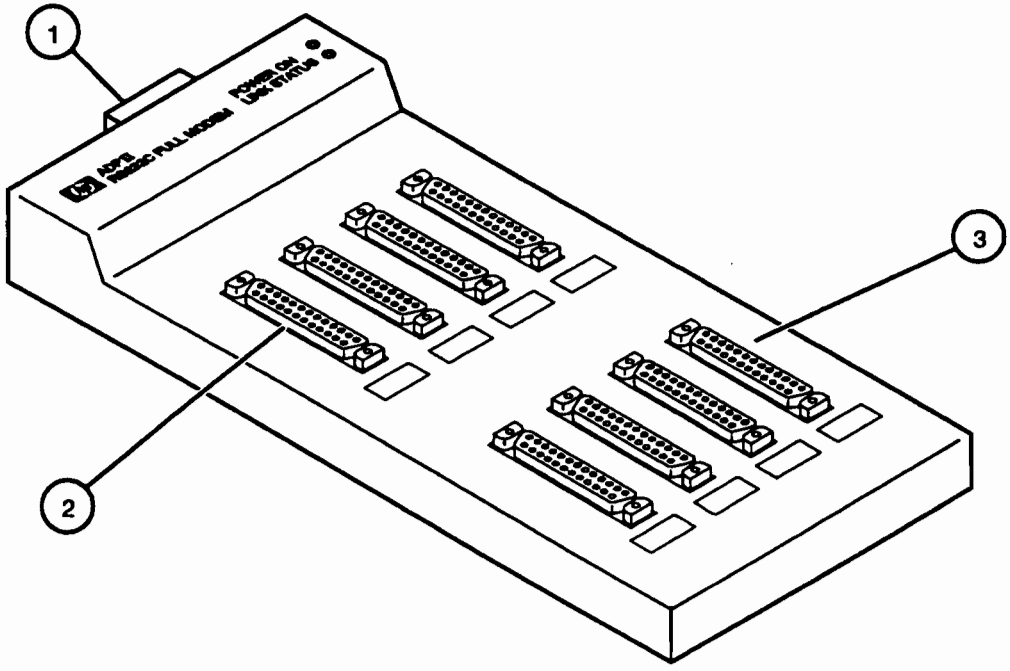


Figure 3-7. Active Distribution Panel

Parts Identification

Part Number	Part Name
1	Cable Connector
2	Console Terminal Connector (MUX 0)
3	Support Modem Connector (Optional, MUX 0)

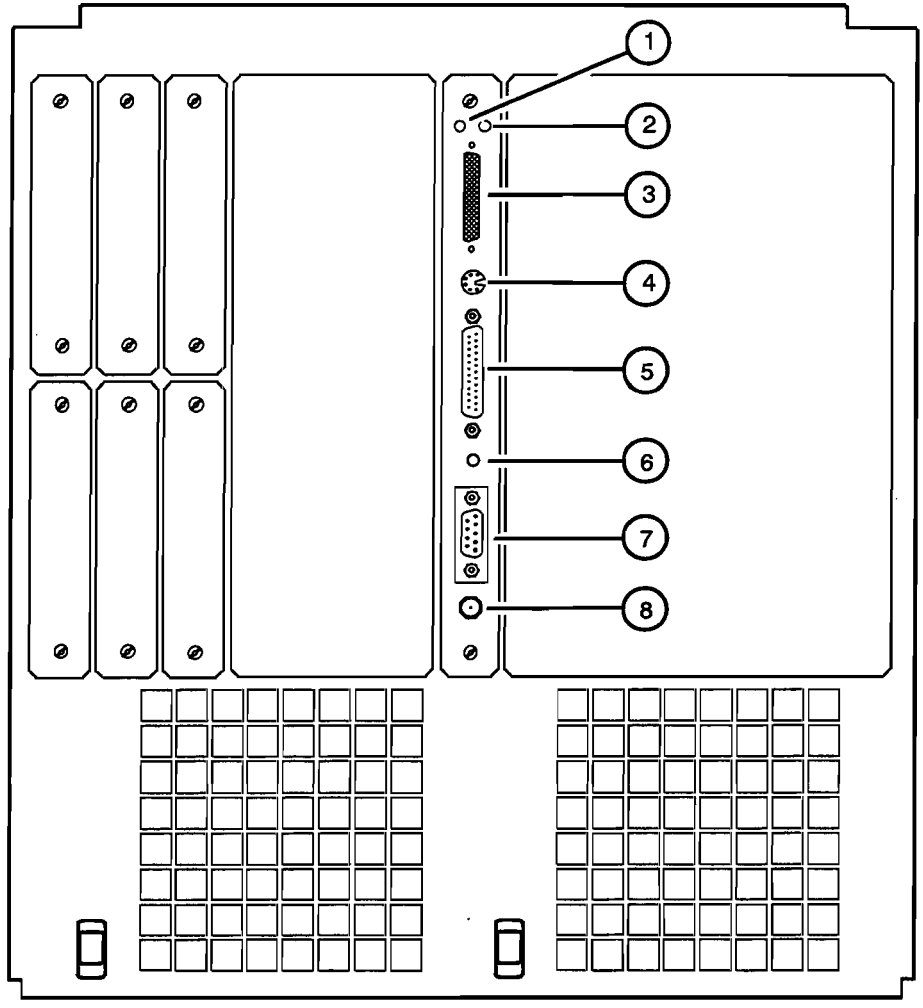


Figure 3-8. HP 9000 887S, 897S Console Terminal Connector

Parts Identification

Part Number	Part Name
1	SCSI Self Test Light
2	Term Power Light
3	SCSI Connector
4	Console Connector
5	Support Modem Connector
6	Console/LAN Self Test Light
7	AUI Connector
8	LAN Connector

This completes connecting of the console terminal.

Turning On the Console Terminal

Turn on the console terminal by pressing the ON/OFF button at the bottom left corner of the front of the monitor (figure 3-9, number 1). Adjust the Contrast control (figure 3-9, number 2) and Brightness control (figure 3-9, number 3). These two controls can be found below the bottom right corner of the front of the monitor.

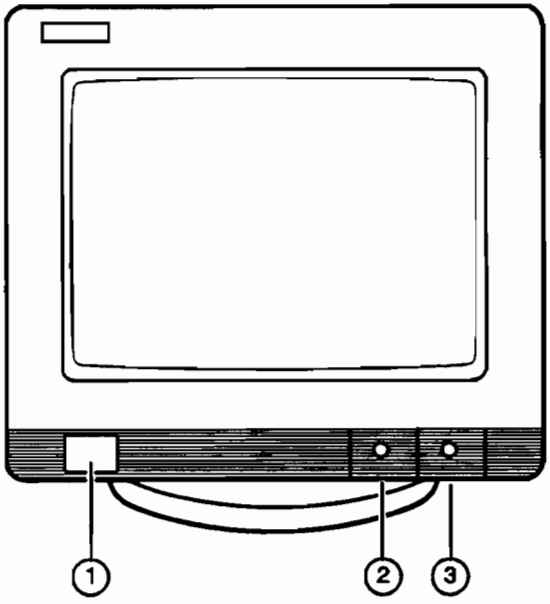


Figure 3-9. Console Terminal Controls

Parts Identification

Part Number	Part Name
1	ON/OFF Button
2	Contrast Control
3	Brightness Control

Configuring the Console Terminal

You must set the operating characteristics of the console terminal to match those required by your computer before you turn on your computer. If you are using the HP 700/92 terminal for the console terminal, the following steps outline the procedures to follow. If you are using a different terminal, follow the instructions in the user's manual for that terminal.

There are four console terminal set-up screens to check:

- Operating modes.
- Global configuration.
- Terminal configuration.
- Datacomm configuration.

The external device configuration does not have to be set unless you want to connect a printer to the console terminal.

Setting the Operating Modes

You will now ensure that the operating modes are set correctly.

Press the (User System) key at the top center of the keyboard. The bottom line of the monitor will display a menu that corresponds to the function keys on the top row of the keyboard. The function keys (F1)-(F8) are also called softkeys because their function, and name, changes as indicated by the menu on the monitor.

Press the function key (F4), that corresponds to the **modes** menu.

Eight operating modes will appear on the screen. You must check the setting of the following three operating modes:

- BLOCK MODE.
- REMOTE MODE.
- AUTO LF.

Each operating mode is enabled or disabled by pressing its corresponding function key (F1)-(F8). A mode is enabled when an asterisk (*) appears next to the mode name. A mode is disabled when the asterisk does not appear next to the mode name.

Set the three key operating modes as follows:

- BLOCK MODE—*Disabled* (no asterisk).
- REMOTE MODE—*Enabled* (asterisk).
- AUTO LF—*Disabled* (no asterisk).

Setting the Global Configuration

You will now ensure that the global configurations are set correctly.

1. Press the (User System) key at the top center of the keyboard.
2. Press function key (F8), which corresponds to the `config keys` menu.
3. Press function key (F1), which corresponds to the `global config` menu.
4. The GLOBAL CONFIGURATION screen now appears on the monitor. Press function key (F4), which corresponds to `DEFAULT VALUES`.
5. Press function key (F1) to select `SAVE CONFIGURATION`.

Setting the Terminal Configuration

You will now ensure that the terminal configurations are set correctly.

1. Press the (User System) key at the top center of the keyboard.
2. Press function key (F8), which corresponds to the `config keys` menu.

3. Press function key [F5], which corresponds to the `terminal config` menu.
4. The TERMINAL CONFIGURATION screen now appears on the monitor. Press function key [F4], which corresponds to `DEFAULT VALUES`.
5. Press function key [F1] to `SAVE CONFIGURATION`.

Setting the Datacomm Configuration

You will now ensure that the datacomm configurations are set correctly.

1. Press the [User System] key at the top center of the keyboard.
2. Press function key [F8], which corresponds to the `config keys` menu.
3. Press function key [F3], which corresponds to the `datacomm config` menu.
4. Move the highlight around the DATACOMM CONFIGURATION screen by using the [Tab] key.
5. When the desired field is highlighted, set the appropriate datacomm values by pressing function key [F2], which corresponds to `NEXT CHOICE`, until the correct values appear on the screen.

   The correct datacomm values are:

   a. BaudRate = 9600.

   b. Parity/DataBits = 0'S/7.

   c. RecvPace = Xon/Xoff.

6. Press function key [F1] to select `SAVE CONFIGURATION`.

These values are required in order for your computer to properly start up. The other datacomm values will not affect how the console terminal operates.

Completing Console Installation

This completes the console installation.

The display on the console will automatically go blank after 15 minutes of inactivity. This is to prevent burning an image into the screen. To reactivate the screen display without sending unintentional commands to the operating system, press any key that will not interact with any programs you have running. The (Shift) key is a safe key to use.

You have configured your console terminal so that it will work with your computer, but you have not yet configured your operating system to match your needs. Do this by following the instructions in chapter 4.

4

Turning On Your Computer

Turning On Your Computer

You are now ready to turn on your computer. This chapter describes how to power-up your computer and set the basic operating system information.

NOTE

This manual assumes that you have the operating system pre-installed on your internal hard disk drive. The operating system comes pre-installed as the standard configuration unless you placed a special order to delete it. If your computer does not have the operating system pre-installed on the hard disk drive, see the *Installing and Updating HP-UX* manual and appendix B of this manual for additional installation instructions.

Applying Power

Before you turn on your computer, find out:

- Your system name.
- Your internet protocol address.
- Your time zone.

You will be asked for this information during bootup. You may have a system administrator, or network administrator, who can provide this information.

If you have networking installed, the system (host) name will be used by other computers to identify your computer. If you have networking installed, the internet protocol (IP) address will be used by other computers to identify your computer. The time zone information will be used to set the internal clock.

You will be asked if you have networking installed. If you respond that you do not have networking installed, you will not be asked for the IP address.

Figure 4-1 shows a detailed view of the front of your computer. At the top are: the (ON/OFF) button and four indicator lights. Underneath, or to the side, is the tape drive.

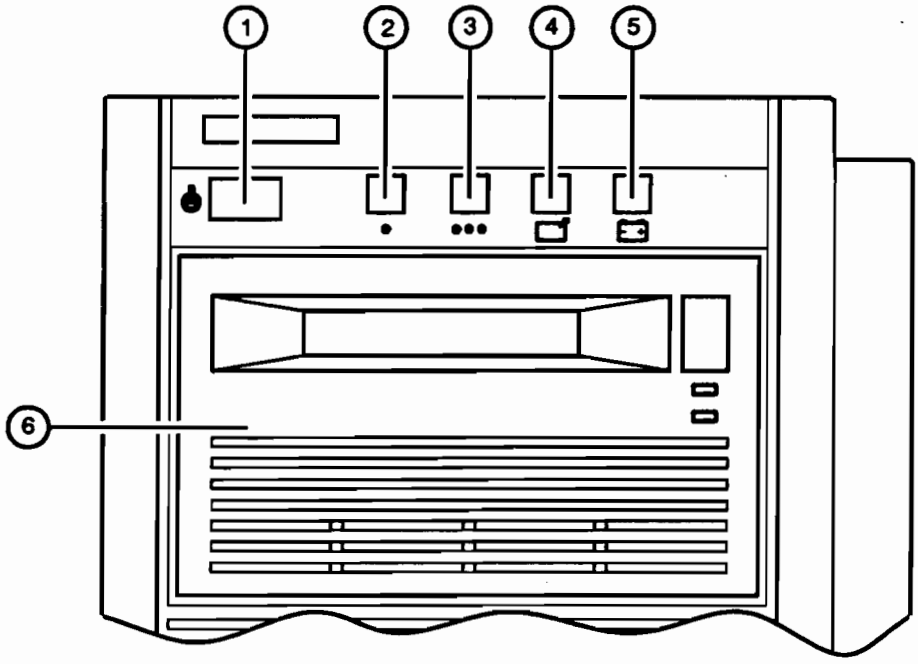


Figure 4-1. Front Panel Detail

Parts Identification

Part Number	Part Name
1	ON/OFF Button
2	Run Light
3	Fault Light
4	Remote Terminal Indicator
5	Battery Backup Indicator
6	Tape Drive

The ON/OFF button (figure 4-1, number 1) is located at the top left of the front of your computer. Next to the ON/OFF button are four indicator

lights. The left-hand light is the Run Light and the one next to it is the Fault Light (figure 4-1, numbers 2 and 3). These indicate the operating status of your computer. Remote operation is indicated by the second light from the right (figure 4-1, number 4). The right-hand light (figure 4-1, number 5) shows operation of the optional battery backup feature. Chapter 10 provides additional information of these indicator lights.

WARNING

Turning off the ON/OFF button puts the computer in standby but does not remove the electrical power. Power is still applied when this button is in the off position. To remove AC power from the computer, remove the power cord.

Turn on the console terminal. If you have not already done so, configure the console terminal as described in chapter 3.

Turn on your computer by pressing the ON/OFF button at the top left front of your computer (figure 4-1, number 1).

It will take several minutes for the operating system to boot up. The operating status lights will flash during this time.

Setting Basic Operating System Information

During operating system boot-up, you will need to provide the system name, set the time zone, and confirm the date and time. If you have indicated that you have networking installed, you will be asked to provide the IP address. This information will only be requested the first time your turn on your computer.

Setting the System (Host) Name

You will see several pages of login information scroll past the screen on the console terminal. After that, you will enter your system (host) name. This is the name other computers will use to identify your computer on a network. You may select the default name for now, but if you want to change it later, you will have to use the *Networks/Communication* menu in SAM, the system administration manager (see chapter 7).

Setting IP Address

If you responded that you have networking installed, you will now be asked to provide your IP address. This is the address other computers will use to identify your computer on a network. You may select the default address for now, but if you want to change it later, you will have to use the *Networks/Communication* menu in SAM, the system administration manager (see chapter 7).

Setting Time Zone and Confirming Date and Time

You will now be asked to select your time zone and to confirm that the current date and time is correct. Follow the instructions on the screen and set these values.

The computer will now take a few minutes to process the information that you have just provided.

Completing Boot-Up

After the operating system completes boot-up, the console terminal will display the login screen. This indicates that software boot-up was successful, and that you are ready to log in as the superuser and to set the superuser password.

If you do not receive the login screen, see chapter 11.

Selecting Your Language Environment

You may now select the language in which you want your on-line help screens and HP-UX reference (man) pages to appear. This will set the language environment of your operating system, but will not effect the language of your applications.

Select the *Configuration Menu* from the login screen. A sub-menu will appear. From this menu, select the language in which you want to work.

Selecting Your Session Type

You may now select the session type, or shell, which you want to use. Some HP-UX commands work differently depending on the shell that you are using. *How HP-UX Works: Concepts for the System Administrator* presents information on shells.

Your computer comes configured to operate in the Bourne Shell. You may select other shells by selecting the *Configuration Menu* for the login screen. From this menu select the session type (shell) that you want.

You may select the Bourne Shell, C Shell, Korn Shell, Keyshell, or TSM.

NOTE

If you computer has only 8 MB of memory, it is best to use a session type other than TSM. If more than two users select the TSM session, performance will be very slow.

NOTE

You will only see the login screen and be able to select the language environment and session type from the console terminal. These features will not appear on individual user's terminals.

Setting the Superuser Login

After the operating system has booted-up, you will see the login screen displayed on the console terminal. You now must log in as the superuser. The superuser has full system administrator privileges such as adding and removing users, and performing all system administration functions.

The standard name for the superuser login is *root*. HP-UX commands are case sensitive. They differentiate between letters typed in upper case and those typed in lower case. Be sure to type `root` in lower case.

Type `root` for *Username*.

Press (Return) after typing `root`.

Setting the Superuser Password

Next enter the password that you want as superuser. This is a security measure to ensure that other people will not see your password. The password should be at least six characters and may contain numeric (0-9) and alphabetic (a-z, A-Z) characters. Upper and lower case DOES make a difference. The password should contain at least one number. When you type the password, it will not show on the screen.

You will be asked to re-enter the password to make sure that it is correct.

NOTE

Remember and protect the password! It is your key to the system administrator superuser privileges.

After logging in, your console terminal will show the superuser prompt, which is a number sign (#). You will type commands after this prompt. After you type a command, press the Return key.

You are now ready to add peripherals and work with file system as described in chapter 5.

5

Adding Peripherals and Working With File Systems

Adding Peripherals and Working With File Systems

There are two steps required to add peripherals:

- Connecting the peripheral to your computer.
- Configuring your operating system to recognize the peripheral.

Where to Connect Peripherals

Most peripherals are connected to your computer through the serial data connectors. These peripherals include terminals, modems, and serial printers. Printers are usually connected to your computer through a parallel connector.

The HP 9000 807S provides eight serial connectors, six through the direct distribution cable (ports 1-6), one console terminal connector (port 0), and one modem connector (port 7). Figure 5-1 shows the direct distribution cable.

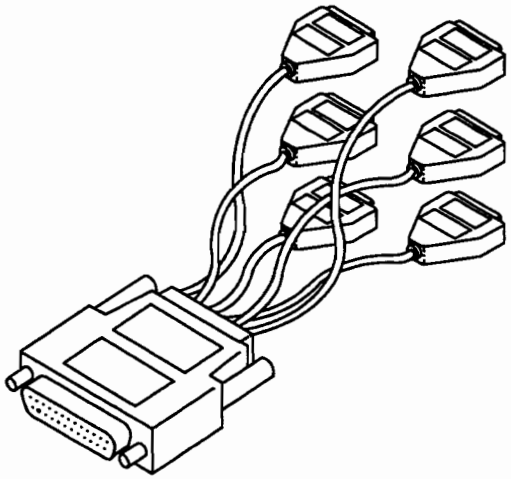


Figure 5-1. Direct Distribution Cable

With the HP 9000 817S, 827S, 837S, 847S, 857S, 867S, and 877S, serial connectors are available through the active distribution panel connected to your computer.

The connectors are numbered *port0* through *port7*.

Each connector can be used to connect a terminal, printer, modem, or other serial device.

Figure 5-2 shows the active distribution panel. You will notice that the panel has eight connectors (numbered 0 through 7) for connecting serial devices such as terminals and printers.

Connector 0, on the active distribution panel connected directly to the computer, is reserved for the console terminal. Connector 7, on this active distribution panel, is the only connector that can be used for the support modem.

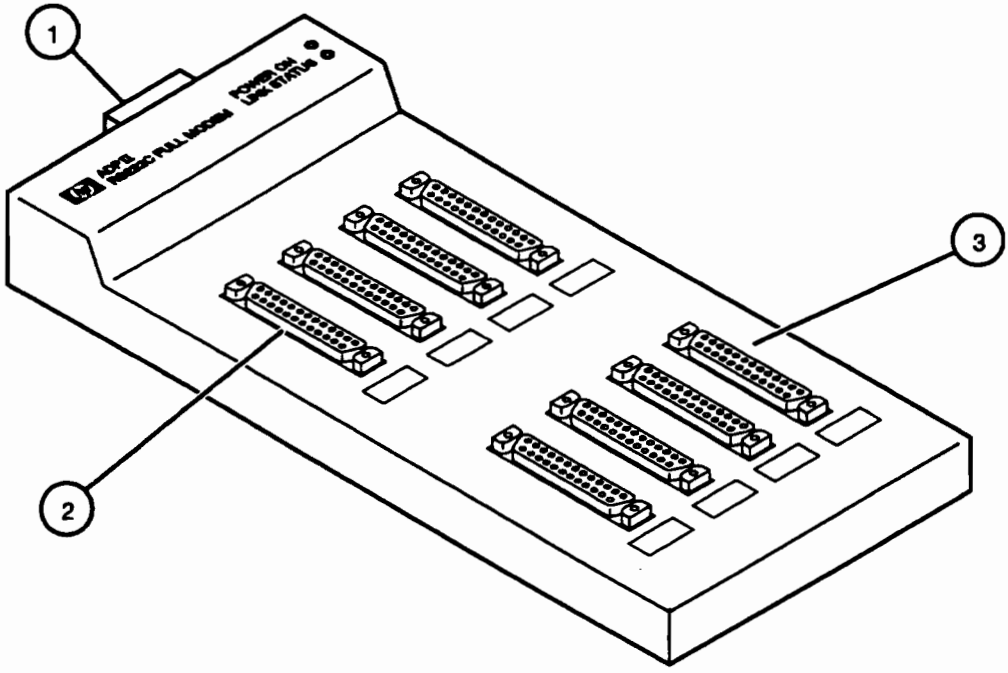


Figure 5-2. Active Distribution Panel

Parts Identification

Part Number	Part Name
1	Cable Connector
2	Console Terminal Connector (MUX 0)
3	Support Modem Connector (Optional, MUX 0)

Figure 5-3 shows the data distribution panel that has ports numbered 8 through 15. This panel can be used for any serial device other than the console terminal or the support modem.

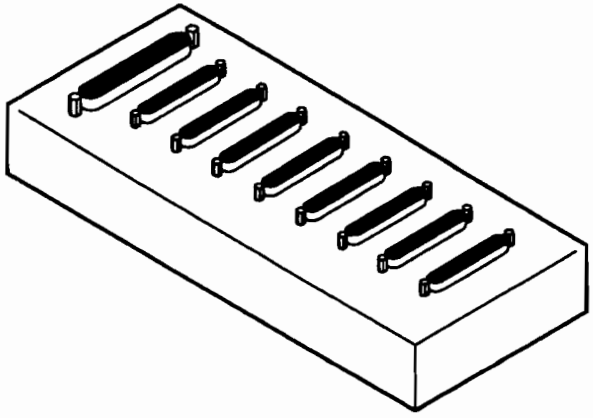


Figure 5-3. Data Distribution Panel

You will plug the serial data cable (see figure 5-4), from your terminal or printer, into one of the connectors on the distribution panel. You can connect the data cable to the distribution panel with the computer turned on.

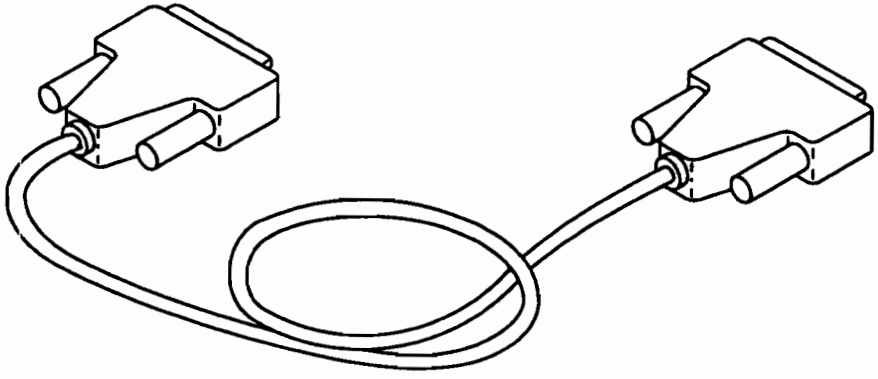


Figure 5-4. Data Cable

The HP 9000 887S, and 897S require an optional MUX card for serial data connections.

Parallel connections, such as most printers, are connected to the parallel connector on the back of your computer. See figure 2-13, 2-14, or 2-17 of this manual for the location of this connector.

Adding Terminals and Modems

To add a terminal or modem to your computer:

1. Physically connect the terminal or modem to your computer.
2. Configure the operating system to recognize the terminal or modem.

Connecting a Terminal

You connect terminals to your computer differently depending on the model of the terminal. However, you must complete the following three steps for all terminals:

- Connect the monitor and keyboard together with the appropriate cable.
- Connect the data cable from the monitor to an available connector on the active distribution panel. On the HP 9000 807S, connect the cable to one of the connectors on the direct distribution cable.
- Connect the power cord from the monitor to the power outlet.

You must set the default operating parameters on each terminal to match the requirements of your computer before you can use it. Chapter 3 describes the steps in configuring a HP 700/92 terminal. See the section "Configuring the Console Terminal" for instructions. For a different model terminal, see its user's manual.

Configuring the Operating System for a Terminal or Modem

Your computer is running on either HP-UX Release 8.02 or HP-UX Release 9.0. Before you can configure your terminal, you must determine which

release of HP-UX you are using. If you don't know your software release, type the following command:

```
uname -r
```

Your computer will return either 8.02 or 9.0. If you see 8.02 displayed on your terminal, go to "HP-UX Release 8.02 Terminals and Modems". If you see 9.0 displayed on your terminal, go to "HP-UX Release 9.0 Terminals and Modems".

HP-UX 8.02 Terminals and Modems

If you have HP-UX Release 8.02, and after connecting the terminal to your computer, use SAM to add your terminal to the operating system. For additional information, see the *Installing Peripherals* and *System Administration Tasks* manuals.

To assist you with system administration tasks, HP-UX provides a system administration manager utility called SAM. SAM is a menu-driven tool designed to help you perform many operations such as adding users or peripherals to your computer.

SAM is executed by typing **sam** (in lower case) at the superuser prompt. Information on SAM is available by moving the arrow keys to **How to Use SAM** on the opening screen and pressing the Return key.

- You can move the cursor by using the arrow keys, or by pressing the Tab key.
- To execute a SAM command, press the Return key, the Space Bar, or one of the function keys, depending on where you are in the program.
- Help on any task is available by pressing function key F1.
- You can exit SAM by pressing function key F8, which returns you to the previous screen, until you have completely backed out of the program. The program will then ask if you really want to quit. Type *y* to quit.

While in SAM:

1. Move the cursor to **Peripheral Devices** and press the Return key.
2. Move the cursor to **Add a Terminal or Modem** and press the Return key.

A list of the MUX cards installed in you computer will appear. Select the one to which you have attached the terminal. The first MUX is listed as *mux0*.

The configuration screen will again appear. Complete the screen as follows, pressing the (Return) key after each step:

1. Mark `Usage` with an *x* before `terminal`. This is the default.
2. Enter the number (0 through 7) that corresponds to the connector you are using.
3. Enter the speed (baud rate) of your terminal. A speed of 9600 baud is the most common, and is the default.

Press function key (F4) `Perform Task` to complete adding the terminal.

Repeat the above procedures to add additional terminals, and then exit SAM.

Modems can be easily added to the active distribution panel, or for the HP 9000 807S, port 7, using SAM. Follow the procedures for adding terminals, and mark `modem` rather than `terminal` under `Usage` on the first screen under `Add a Terminal or Modem`. This configures the operating system for a modem, but you may still have to change settings on your modem and make changes to your application programs before you can use the modem.

See chapter 6 for information on adding new users and groups to your computer.

HP-UX 9.0 Terminals and Modems

If you have HP-UX Release 9.0, make sure that the terminal or modem is physically connected to a port on your computer's serial interface before continuing.

Use SAM, the System Administration Manager, to configure your terminals and modems. Start SAM by typing *sam* (in lower case) at the superuser prompt. Pressing (Ctrl)-(k) gives you help information about SAM.

Choosing items from the "Help" menu gives you information about:

- the current functional area.
- keyboard navigation within SAM.
- using the SAM help system.
- displaying the release of SAM you are currently running.

Activating the (Help) button when it is available gives you information about the attributes and tasks you can perform from the currently displayed screen.

Pressing the (f1) key gives you context-sensitive information for the field at the location of the cursor. Exit SAM by activating the (Exit SAM) button from the SAM main screen. If you have performed tasks that require the generation of a new kernel, SAM will prompt you to regenerate the kernel and reboot the system.

To configure HP-UX for a new terminal:

1. Log on as `root`.
2. Type `sam`.
3. Highlight `Peripheral Devices->` and activate (Open).
4. Highlight `Terminals and Modems->` and activate (Open).
5. At the "Terminals and Modems" screen, use (F4) to go to the menu bar.
6. Use the arrow and (Return) keys to select the "Actions" menu.
7. Choose `Add Terminal...`.
8. In the "Add Terminal" screen, set or select the following parameters. You can press (F1) for additional information about these fields.
   a. The hardware path to the serial interface to be used by this terminal, or press (Return) for a list of possible choices.
   b. The port number to be used by this terminal.
   c. The speed (baud rate) to be used by this terminal. The most common rate is 9600.
   d. Whether or not this will be a UUCP connection.

   When you finish setting the parameters, activate (OK).
9. You will receive a series of messages indicating the progress of the task.

   When you receive the message `Task completed`, activate (OK).
10. Exit SAM by returning to the "System Administration Manager" screen and activating (Exit SAM).

To configure HP-UX for a new modem:

1. Log on as `root`.
2. Type `sam`.

3. Highlight `Peripheral Devices->` and activate [Open].
4. Highlight `Terminals and Modems->` and activate [Open].
5. At the "Terminals and Modems" screen, press [F4] to go to the menu bar.
6. Use the arrow and [Return] keys to select the "Actions" menu.
7. Chose `Add Modem...`.
8. In the "Add Modem" screen, set or select the following parameters:
   a. The hardware path to the serial interface to be used by this modem.
   b. The port number to be used by this modem.
   c. The speed (baud rate) to be used by this modem.
   d. Whether of not this modem will be used for calling out from your system.
   e. Whether or not this modem will receive incoming calls.
   f. Whether of not this is a CCITT (Internation protocol) modem.
   g. Whether or not this will be a UUCP connection. If you specify that this will be a UUCP connection, a list of modem types will appear from which to select.

   When you finish setting the parameters, activate [OK].
9. You will receive a series of messages indicating the progress of the task.

   When you receive the message `Task completed`, activate [OK].
10. Exit SAM by returning to the "System Administration Manager" screen and activating [Exit SAM].

Adding Printers

To add a printer to your computer:

- Physically connect the printer to the computer.
- Configure the operating system to recognize the printer.

You connect printers to your computer differently depending on the model of your printer. Refer to the instruction manual for your printer. You must complete the following steps for all models:

- Connect the data cable from the printer to a connector on the distribution cable or data distribution panel for a serial printer, or directly to the computer for a parallel printer.
- Connect the power cord from the printer to the power outlet.
- Load paper into the printer.
- Turn on the printer.
- Put the printer on-line.

Configuring the Operating System for a Printer

Your computer is running on either HP-UX Release 8.02 or HP-UX Release 9.0. Before you can configure your printer, you must determine which release of HP-UX you are using. If you don't know your software release, type the following command:

```
uname -r
```

Your computer will return either 8.02 or 9.0. If you see 8.02 displayed on your terminal, go to "HP-UX Release 8.02 Printers and Modems". If you see 9.0 displayed on your terminal, go to "HP-UX Release 9.0 Printers and Modems".

HP-UX 8.02 Printers

If you have HP-UX Release 8,02, and after connecting the printer to your computer, use SAM to add your printer to the operating system. If additional information is needed, see the *Installing Peripherals* and the *System Administration Tasks manuals*.

To assist you with system administration tasks, HP-UX provides a system administration manager utility called SAM. SAM is a menu-driven tool designed to help you perform many operations such as adding users or peripherals to your computer.

SAM is executed by typing **sam** (in lower case) at the superuser prompt. Information on SAM is available by moving the arrow keys to **How to Use SAM** on the opening screen and pressing the Return key.

- You can move the cursor by using the arrow keys, or by pressing the Tab key.
- To execute a SAM command, press the Return key, the Space Bar, or one of the function keys, depending on where you are in the program.
- Help on any task is available by pressing function key F1.
- You can exit SAM by pressing function key F8, which takes you to the previous menu, until you have completely backed out of the program. The program will then ask if you really want to quit. Type *y* to quit.

While in SAM:

1. Move the cursor to **Peripheral Devices** and press the Return key.
2. Move the cursor to **Printers and Plotters** and press the Return key.
3. Move the cursor to **Add a Local Printer and Plotter** (one not connected to a network) and press the Return key.
4. Move the cursor to **Add a Serial (RS-232) Printer** and press the Return key.

NOTE

SAM does not support parallel printers on HP-UX Release 8.02. For information on adding parallel printers, see "Adding Other Peripherals" and the end of this chapter.

A list of MUX cards installed in your computer will appear. Select the MUX card to which your printer is connected. The first MUX card is identified as *mux0*.

The configuration screen will again appear. Complete the screen as follows, pressing the (Return) key after each step:

1. Enter a name for the printer. You should use a name which can be easily identified by the users. The name must be one word long.
2. Enter the number (0 through 7) that corresponds to the connector you are using on the active distribution panel or direct distribution cable (0 through 5).
3. Select a printer model, or interface, from the list that appears when the function key (f1) `Help` is pressed while the cursor is on `Printer model/interface`. Press the down arrow key [▼] to see additional selections. To select the printer model, move the highlight to the selection that matches the one you are installing and press (Return).

   If your printer model is not listed, select one of the interfaces from the top of the list. `HPGL1` should be selected for a graphics printer, and `PCL` should be selected for a text printer. If you don't know which interface option is best for your printer, select one and see if it works correctly when the printer test, which is part of this installation process, is run. If needed, try another interface option until you find the one that works best with your printer.
4. Set the printer priority level. The default printer should have the highest priority (7).
5. Indicate if this printer is the default printer. The default printer is the one used when the line printer command is given and no printer name is provided.

6. You can supply a name for the printer class. This is optional.

Press function key (F4) `Perform Task` to complete adding the printer.

Run the printer test as indicated by following the instructions on the console terminal. A successful test will print the word *root*, and a brief test message on the page.

Repeat the above procedures to add additional printers, and then exit SAM.

HP-UX 9.0 Printers

If you have HP-UX Release 9.0, use SAM, the System Administration Manager, to configure your printer. Start SAM by typing *sam* (in lower case) at the superuser prompt. Pressing (Ctrl)-(k) gives you help information about SAM.

Choosing items from the "Help" menu gives you information about:

- the current functional area.
- keyboard navigation within SAM.
- using the SAM help system.
- displaying the release of SAM you are currently running.

Activating the (Help) button when it is available gives you information about the attributes and tasks you can perform from the currently displayed screen.

Pressing the (f1) key gives you context-sensitive information for the field at the location of the cursor.

Exit SAM by activating the (Exit SAM) button from the SAM main screen.

If you have performed tasks that require the generation of a new kernel, SAM will prompt you to regenerate the kernel and reboot the system.

To add a local printer:

1. Physically connect the printer(s) to your system. Refer to the instructions shipped with your printer. Some printers have to be set for serial or parallel operation. If you need additional configuration information, refer to the *Installing Peripherals* manual.
2. Gather the following information:
   a. The name you are giving to this printer or plotter. Printer names can be up to 14 characters in length, and the characters must be from the set (A-Z, a-z, 0-9). The underscore (_) character is allowed in printer names.

b. The name of the device file that the printer or plotter will use. SAM creates the device file for you. SAM uses the default device file named `lp_`*printer-name*. You can override the default device file name by specifying your device file name when filling in the printer information.

c. The model script from the `/usr/spool/lp/model` directory, for example, `laserjetIIISi` for the HP LaserJet IIISi.

d. The print request priority for this printer. The default is zero (0).

e. The class to which the printer/plotter will be added (optional). Printer class names can be up to 14 characters in length, and the characters must be from the set (A-Z, a-z, 0-9). The underscore (_) character is allowed in printer class names.

In addition decide whether or not to make this printer your system's default printer.

3. Type `sam`.
4. Highlight `Peripheral Devices` and activate the [Open] button.
5. Highlight `Printers and Plotters` and activate the [Open] button.
6. Highlight `Printers/Plotters` and activate the [Open] button.
7. Choose `Add Local Printer/Plotter >` and then the menu item associated with the printer interface type from the "Actions" menu.

NOTE

The printer driver must be part of the kernel to add the printer. If the printer driver is not currently configured into the kernel, SAM prompts you to add the driver(s) and reboot the system.

8. Highlight the interface to which you connected the printer, fill in any additional information (port number or bus address), and activate the [OK] button.

If there is not any I/O cards listed, activate the (Diagnose Missing Card) button and follow the instructions provided on the screens.

9. Fill in the add a local printer dialog box fields, choose from the menu button values, and select check box values by pressing the (Return) key.

   Activating the (Help) button, or pressing (Ctrl)-(k), gives you information about the attributes and tasks you can perform from the currently displayed screen.

   Pressing the (f1) key gives you context-sensitive information for the object field at the location of the cursor.

10. Activate the (OK) button.

Adding Other Peripherals

The procedure for adding additional peripherals to your computer is different for each peripheral. Follow the instructions which come with each new peripheral. For assistance, refer to the following manuals:

- *System Administration Tasks* (especially chapter 5 and appendix A.)
- *How HP-UX Works: Concepts for the System Administrator* (especially chapter 12.)
- *Installing Peripherals* (especially chapters 3, 4, 5, 6, 7, and appendix A.)
- *Solving HP-UX Problems* (especially chapter 8.)
- *HP-UX Reference* (Information on commands.)

These manuals are part of the System Administration Set. See *Finding Information* for ordering information.

Working with the File System

At a later time, you may need to make changes or additions to your file system. Before you do this, study the manuals listed below and carefully analyze your computer system, and your present and future needs.

HP-UX Release 9.0 supports the Logical Volume Manager, which provides you with great flexibility is disk space management.

For assistance, refer to the following manuals:

- *System Administration Tasks* (especially chapters 6, 7, 8, and appendix B.)
- *How HP-UX Works: Concepts for the System Administrator* (especially chapters 7, 8, and 9.)
- *Solving HP-UX Problems* (especially chapters 6, and 7.)
- *Installing and Updating HP-UX* (especially chapter 7.)
- *HP-UX Reference* (Information on commands.)

These manuals are part of the System Administration Set. See *Finding Information* for ordering information.

Chapter 6 provides instructions on adding users and groups.

6

Adding Users and Groups.

Adding Users and Groups.

Before people can be given access to the computer, they must be identified to the operating system as users. When a user log in to the computer, the user will be in a specific home directory. You will assign this home directory when the user is first added to the computer. Users are organized into groups along with other users who have similar requirements for operating system resources, or who regularly share programs or files.

Determining Your Release of the Operating System

Your computer is running on either HP-UX Release 8.02 or HP-UX Release 9.0. Before you can add users or groups, you must determine which release of HP-UX you are using. If you don't know your software release, type the following command:

```
uname -r
```

Your computer will return either 8.02 or 9.0. If you see 8.02 displayed on your terminal, go to "HP-UX Release 8.02 Users and Groups". If you see 9.0 displayed on your terminal, go to "HP-UX Release 9.0 Users and Groups".

To assist you with system administration tasks, HP-UX provides a system administration manager called SAM. SAM is a menu-driven tool designed to help you perform many operations, such as adding users or groups to your computer.

SAM is executed by typing *sam* (in lower case) at the superuser prompt. Information on SAM is available by moving the cursor, using the arrow keys, to **How to Use SAM** on the opening screen and pressing the Return key.

- You can move the cursor by using the arrow keys, or by pressing the Tab key.
- To execute a SAM command press the Return key, the Space Bar, or one of the function keys depending on where you are in the program.
- Help on any task is available by pressing function key F1.
- You can exit SAM by pressing function key F8 until you have completely backed out of the program. The program will then ask if you really want to quit. Press *y* to quit.

Adding Users

Use SAM to assist in adding users to the computer:

1. Move the cursor to **Users** and press the Return key.
2. Select **Add a New User Account to the System** and press the Return key.

Complete the screen as follows, pressing the Return key after each step:

1. Type in the login name of the user. All names are limited to a single word.

2. Type the group name of the user. If you identify a group for the user at this time, you do not have to add the user to a group later using the `Groups` feature of SAM.
3. Type in the user's home directory. You can use the default home directory that is: */users/*, or type in a different directory name.
4. Type in the name of the user's start-up program. You can use the default start-up program */bin/sh*, or type in a different start-up program.
5. The optional user information may be completed, or ignored.
6. Go to `Specify Additional Information for This User?`, using the arrow keys, and type *y*.
7. You do not have to change the User Identity number given on the screen.
8. If your user will be using the optional X-Windows program, enter *y* for `Login with X11 windows?`.
9. If you want your user to use TSM, the Terminal Session Manager, as the work area, enter *y* for `Login with TSM?`.

Press function key (F4), `Perform Task`, and SAM will add the new user.

SAM will now ask you to enter the user password. Type in the password. All passwords should be at least six characters long and should contain at least one number.

You will be asked to re-enter the password to make sure that it is correct.

Repeat these steps if you wish to add more users.

You can also use SAM to remove a user account from your computer, view or modify a user's account information, or reactivate a user account. When you have completed adding users, you can exit SAM.

Adding Groups

It is good practice to organize the users of a multi-user computer into groups. This not only makes system administration much easier, but allows for the

allocation and accounting of resources and the ability of group members to more easily share files and to be assigned common levels of access to the computer. A group is simply a list of users who share common computer resources. A group may include the members of a department, or a project.

Use SAM to assist in adding groups to the computer:

1. Move the cursor to `Groups` and press the (Return) key.
2. Select `Add a New Group to the System` and press the (Return) key.

Complete the screen as follows:

1. Type in the group name and the login names of the users to be included in the group. All names are limited to a single word.
2. Press the function key (F4), `Perform Task`, and SAM will add the new group.

Repeat these steps if you want to add more groups.

You can also use SAM to remove a group from the computer, or to view or modify group membership. When you have completed adding groups, you can exit SAM.

Chapter 7 describes how to configure your network software.

Use SAM, the System Administration Manager, to add users and groups. Start SAM by typing *sam* (in lower case) at the superuser prompt. Pressing Ctrl-k gives you help information about SAM.

Choosing items from the "Help" menu gives you information about:

- the current functional area.
- keyboard navigation within SAM.
- using the SAM help system.
- displaying the release of SAM you are currently running.

Activating the Help button when it is available gives you information about the attributes and tasks you can perform from the currently displayed screen.

Pressing the f1 key gives you context-sensitive information for the field at the location of the cursor.

Exit SAM by activating the Exit SAM button from the SAM main screen.

If you have performed tasks that require the generation of a new kernel, SAM will prompt you to regenerate the kernel and reboot the system.

Adding Users

To add a user to your system:

1. Ensure that you have superuser capabilities.
2. Type **sam**.
3. Highlight **Users and Groups->** and activate the Open button.
4. Highlight **Users** and activate the Open button.
5. Choose **Add ...** from the "Actions" menu.

6. Fill in the "Add a User Account" screen fields and activate the (Apply) button.
7. After reading the messages, activate the (OK) button.

To return to the functional area list or functional subarea, choose `Exit` from the "List" menu.

Removing a User

To remove a user from your system using SAM:

1. Ensure that you have superuser capabilities.
2. Type `sam`.
3. Highlight `Users and Groups->` and activate the (Open) button.
4. Highlight `Users` and activate the (Open) button.
5. Choose `Remove ...` from the "Actions" menu.
6. Select the check box which describe the action you want to perform, and activate the (OK) button.
7. After reading the messages activate the (OK) button.

To return to the functional area list or functional subarea choose `Exit` from the "List" menu.

Displaying/Modifying a User's Account Information

To display or modify a user's account information:

1. Ensure that you have superuser capabilities.

2. Type `sam`.
3. Highlight **Users and Groups->** and activate the [Open] button.
4. Highlight **Users** and activate the [Open] button.
5. Highlight the user in the object list.
6. Choose **Modify...** from the "Actions" menu.
7. To view the user's information activate the [Cancel] button after gathering the information you need.

   To modify the user's information fill in the new information in the "Modify a User" screen and activate the [OK] button. After reading the messages activate the [OK] button. The following user information can be modified:

   a. login name (*user_name*)
   b. password
   c. user identification number (*user_ID*)
   d. primary group identification number (*group_ID*)
   e. comment
   f. login directory
   g. start up program

To return to the functional area list or functional subarea choose **Exit** from the "List" menu.

Adding a Group

1. Ensure that you have superuser capabilities.
2. Type `sam`.
3. Highlight **Users and Groups->** and activate the [Open] button.
4. Highlight **Groups** and activate the [Open] button.

5. Choose **Add...** from the "Actions" menu.
6. Fill in the new group name and optionally highlight the users to be members of the newly created group.
7. Activate the (OK) button if this is the only group you are adding. Otherwise, activate the (Apply) and subsequent (OK) buttons to return to the "Add a Group" screen.

To return to the functional area list or functional subarea choose **Exit** from the "List" menu.

Removing a Group

To remove a group:

1. Ensure that you have superuser capabilities.
2. Type **sam**.
3. Highlight **Users and Groups->** and activate the (Open) button.
4. Highlight **Groups** and activate the (Open) button.
5. Choose **Remove ...** from the "Actions" menu.

   You can assign the group's files or another group if desired. Otherwise, SAM will reassign the group's files to the primary group of each of the file's owner.
6. After reading the messages activate the (OK) button.

To return to the functional area list or functional subarea choose **Exit** from the "List" menu.

Chapter 7 describes how to configure your network software.

7

Configuring Your Network Software

Configuring Your Network Software

Configuring your network consists of entering information about the following network software:

- LAN (Local Area Network).
- ARPA (Advanced Research Project Agency).
- NFS (Network File System).

If you have purchased the optional X.25 networking product, see the two included X.25 manuals for information on configuring this product.

Determining Your Release of the Operating System

Your computer is running on either HP-UX Release 8.02 or HP-UX Release 9.0. Before you can configure your networking software, you must determine which release of HP-UX you are using. If you don't know your software release, type the following command:

```
uname -r
```

Your computer will return either 8.02 or 9.0. If you see 8.02 displayed on your terminal, go to "HP-UX Release 8.02 Network Configuration". If you see 9.0 displayed on your terminal, go to "HP-UX Release 9.0 Network Configuration".

You enter the configuration information using SAM (System Administration Manager), a tool that automates the configuration process. You must log in as the superuser (*root*) to use SAM.

For additional information on these networking products, order the following manuals:

- *Installing and Administering LAN/9000* (part number 98194-60526).
- *Installing and Administering ARPA Services* (part number B1014-90007).
- *Installing and Administering NFS Services* (part number B1013-90009).

The following is an overview of the steps required to configure your network software:

- *Complete the configuration worksheets shown on the following pages.* This step is very important. Don't continue until you've gathered all the information you need to be successful configuring your network. If there is a network administrator in your company, check with that person for help in completing the worksheets.
- *Configure your computer's LAN card and "subnetwork" information* (Configuring LAN/9000 software).
- *Configure your computer to communicate with other computers* (Configuring ARPA Services software). The computer you use (called the "local host" computer) can send information to, and receive information from, other computers (called "remote host"). Set this up by configuring ARPA.
- *Configure your computer to transfer files between computers* (Configuring NFS software). This step may not apply to you; check with your network administrator. If necessary for your needs, you may configure your local computer to access files on remote computers as if they were on your local computer, and give remote computers access to your local files.
- *Reboot the operating system.* Rebooting the operating system will change the files to reflect the configuration changes you've made.

NOTE

Before starting the configuration process, complete the configuration worksheets on the following pages. You can get this information from your network administrator.

Table 7-1. Local, Remote, and Gateway Worksheet (HP-UX Release 8.02)

Category of Information	SAM Screen To Use	Type of Information	Your Configuration Information
Local Host Computer	Note: This information is requested when starting the computer	IP Address	
		Hostname	
	View/Modify a LAN Card's Configuration	Is this LAN card to be placed on a subnetwork?	[] yes [] no
		Subnet Mask	
Remote Host Computer	Add/Modify Connectivity Information Remote System	Remote Hostname	
		Remote Host IP Address	
Gateway Computer	Specify the Default Gateway	Default Gateway Hostname	
		Default Gateway IP Address	

Table 7-2. NFS Client and Server Worksheet (HP-UX 8.02)

Category of Information	SAM Screen To Use	Type of Information	Your Configuration Information
NFS Client	Allow This System to Access Remote File Systems via NFS	Will you allow this computer to access remote file systems using NFS (become an NFS client)?	[] yes [] no
	Add (Mount) an NFS File System	Remote System Name	
		Remote Mount Directory	
		Local Mount Directory	
		When would you like the directory mounted?	[] now [] on boot
		Write Protection	[] read [] read/write
		Set user ID execution allowed?	[] yes [] no
NFS Server	Allow Remote Systems to Access Local File Systems via NFS	Will you allow remote computers to access local file systems using NFS (become an NFS server)?	[] yes [] no
	View/Modify Which Systems Can Access Local File Systems	Which remote computers can access your file system?	
	View/Modify RPC Services' Security	Which RPC (Remote Procedure Call) services should have additional network security?	
		Which remote computers may have access to these RPC services?	

How To Use the System Administration Manager

Use SAM, the system administration manager, to configure your network software. Start SAM by typing *sam* (in lower case) at the superuser prompt. Information on SAM is available by moving the cursor, using the arrow keys, to `How to Use SAM` on the opening screen and pressing the (Return) key. The SAM main menu is shown below.

- Move the cursor by using the arrow keys, or by pressing the (Tab) key.
- To execute a SAM command, press the (Return) key, the (Space Bar), or one of the function keys depending on where you are in the program.
- If you get to a screen where you don't want to be, press the (f8) `Exit Task` or `Previous Menu` key to back out.
- If you type something into a screen but decide to exit before making the change, press `Exit Task`. SAM will ask if you want to exit the screen and cancel changes.
- After you press (Perform Task), a flashing `working` sign will appear at the bottom of the screen. Wait until that stops flashing before pressing another key.
- Get help on any task by pressing function key (F1).
- Exit SAM by pressing function key (F8) until you have completely backed out of the program. The program will then ask if you really want to quit. Press *y* to quit.

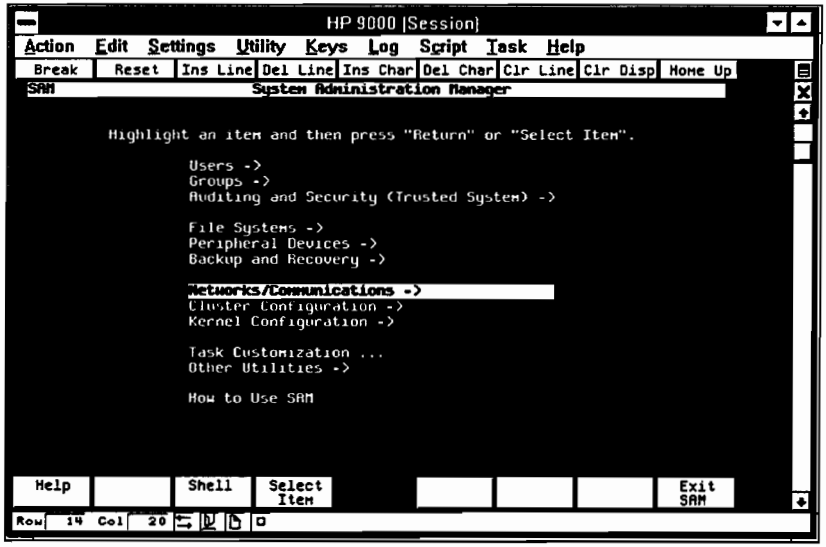


Figure 7-1. System Administration Manager Main Menu

Identifying LAN Card and Subnetwork Information (Configuring LAN/9000)

The first step in configuring your network is to define LAN card and subnetwork information.

The LAN hardware card is already installed on your computer as *lan0*. The LAN/9000 software has also been preinstalled. LAN/9000 provides network connections for the ARPA and NFS network services you'll configure later in this chapter.

When you started your computer (in chapter 4, *Turning on Your Computer*), you were asked to enter the computer's IP address and node name (host name). The operating system should already be aware of that information (see *Setting Basic Operating System Information* earlier in this manual).

If you are connecting this LAN card to a subnetwork, you need to enter the "subnet mask," an address that allows you to communicate with computers on other LANs.

NOTE

Check with your network administrator to see if you need to perform this task. If not, skip to the next section, *Communicating with Other Computers*.

In order to define your subnetwork mask, do the following:

1. At the main menu, select the `Networks/Communications` menu item.
2. Select the `LAN Hardware and Software` menu item.
3. Select the `View/Modify a LAN Card's Configuration` menu item.
4. Press the `Choices` softkey. You'll see a "Choices" screen with one or more LAN card codes. With the arrow keys, select *lan0* and press (Return). The `View/Modify` screen will return, with additional fields.
5. Fill in the form using the information in the *Local Host Computer* section of the configuration worksheet. View the help screens for information about filling in the form.
6. Press the `Perform Task` softkey.
7. Press the `Exit Task`, `Previous Menu` or `Main Menu` softkeys when you are finished.

By performing the steps above, you have selected the card number (lan0) and identified which subnetwork this card is connected to. After completing this task, continue to *Communicating with Other Computers*.

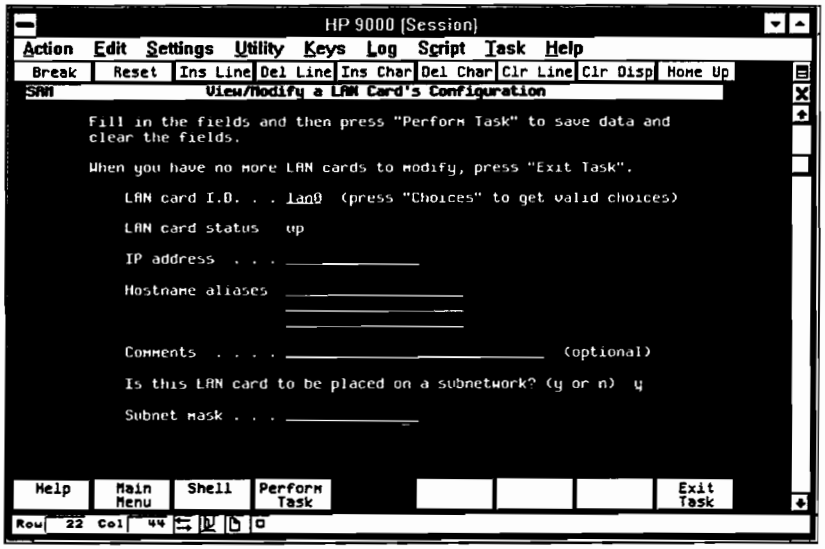


Figure 7-2. View/Modify a LAN Card's Configuration

Communicating with Other Computers (Configuring ARPA)

- Adding information about other computers.
- Specifying the default gateway.

The next step in configuring your network is to tell your computer about other computers you wish to communicate with. ARPA Services lets your computer communicate on a LAN with other computers. When you configure ARPA, you identify the "remote" computers with which your computer will communicate.

Adding Information About Other Computers

1. At the main menu, select the `Networks/Communications` menu item.
2. Select the `LAN Hardware and Software` menu item.
3. Select the `ARPA Services Configuration` menu item.
4. Select the `Add/Modify Connectivity Information About a Remote Syste` menu item.
5. Fill in the form using the information in the *Remote Host Computer* section of the configuration worksheet. View the help screens for information about filling in the form.
6. Press the `Perform Task` softkey.
7. Repeat steps 5 and 6 to add information about more computers.
8. Press the `Exit Task`, `Previous Menu`, and `Main Menu` softkeys when you are finished.

By performing the steps above, you have identified another computer or computers you want to communicate with. This might include a "corporate" computer you wish to share data with, or other computers in your building.

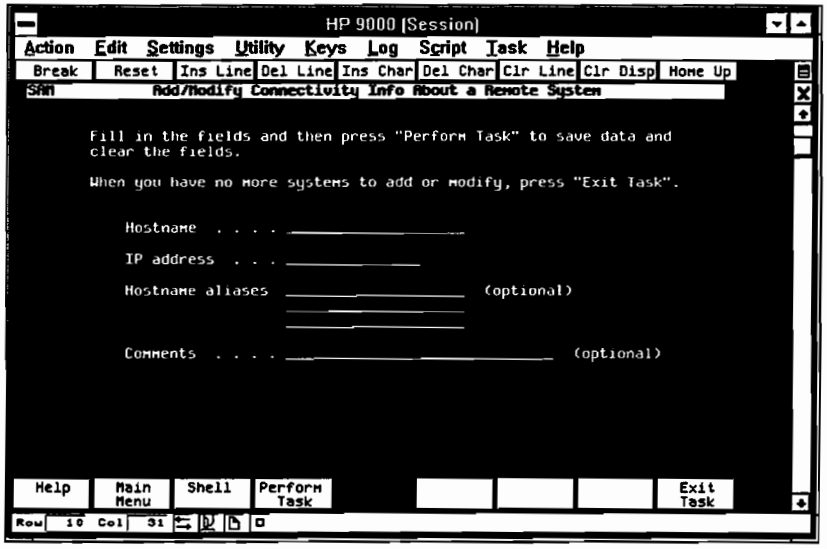


Figure 7-3. Add/Modify Connectivity Information About a Remote System

Specifying the Default Gateway

1. At the main menu, select the **Networks/Communications** menu item.
2. Select the **LAN Hardware and Software** menu item.
3. Select the **ARPA Services Configuration** menu item.
4. Select **Specify the Default Gateway** .
5. Fill in the form using the information from the *Gateway Computer* section of the configuration worksheet. View the help screens for information about filling in the form.
6. Press **Perform Task** .
7. Press the **Exit Task** , **Previous Menu** , and **Main Menu** softkeys when you are finished.

By performing the steps above, you have set up the default gateway. A gateway connects two or more networks together and routes information among the networks to which it is connected. The information about the gateway computer must already have been added in a previous step.

If there is just one gateway you use to reach all computers on other parts of the network, use the `Specify the Default Gateway` form in SAM to avoid having to enter the same gateway information every time SAM prompts you for it.

NOTE

The next step in configuring your network software is to configure NFS; however, you may not need to perform this step. Check with your network administrator. If you don't wish to configure NFS, skip to the section, *Rebooting Your Computer*. Once you've completed that section, you're done configuring your network.

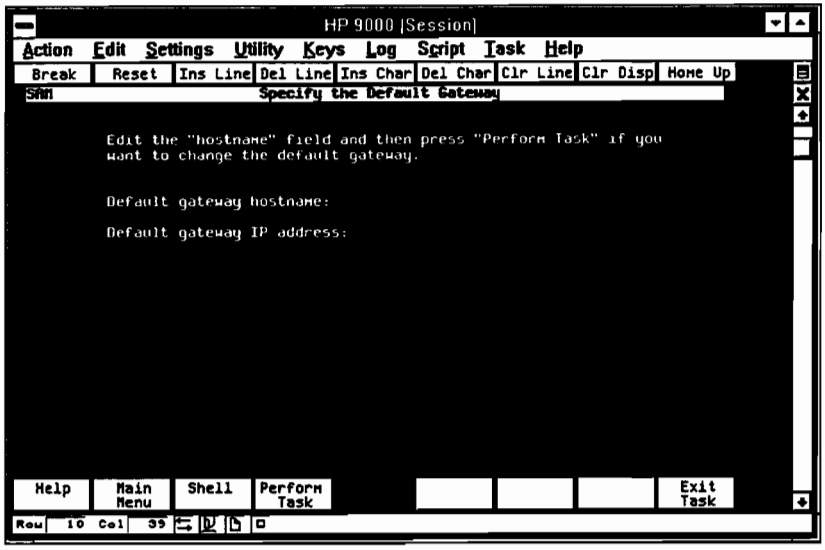


Figure 7-4. Specify the Default Gateway

Transferring Files Between Computers (Configuring NFS)

NOTE

Configuring NFS will allow you to access file systems on remote computers and remote computers to access file systems on your local computer. Check with your network administrator to see if you need this capability. If not, skip this section and continue with the section on *Rebooting Your Computer*. Once you've completed that section, you're done configuring your network.

- Allowing this computer access to remote file systems via NFS.
- Adding (mounting) an NFS file system.
- Allowing remote computers access to local file systems via NFS.
- Viewing or modifying which remote computers can access local file systems.
- Viewing or modifying remote procedure call (RPC) services' security.

This section will help you configure your computer to be able to transfer files between your computer and other computers. This is called "creating an NFS client and server."

When you access files on a remote computer, your local computer is called the "client" and the remote computer which supplies the files is called the "server." When a remote computer accesses files on your local computer, the remote computer is the "client" and the local computer is the "server." In this way, your local computer can be defined as both a client and a server at the same time.

By identifying your local computer as a client, you are telling the operating system that you wish to have access to files on remote computers. By identifying your local computer as a server, you are telling the operating system that you wish to make files on your computer available to remote computers.

Go to the SAM NFS Configuration menu using the following steps. The remaining configuration tasks will begin from that menu.

1. At the main menu, select the **Networks/Communications** menu item.
2. Select the **LAN Hardware and Software** menu item.

   NFS is not supported over the X.25 link product, so do not choose the X.25 selection.
3. Select **NFS (Network File System) Configuration**.

Now you are ready to create an NFS client and an NFS server by configuring local and remote access to files.

Allowing Your Computer Access to Remote File Systems via NFS

1. From the **NFS Configuration** menu, select the **Allow This System to Access Remote File Systems via NFS** menu item.

   If the NFS configuration menu reads **Prevent This Computer from Accessing Remote File Systems via NFS**, then your operating system is already set up to be a client. Skip to the next task you wish to perform.
2. Answer "y" (yes) to the question in the pop-up screen to allow your computer to be an NFS client. Press the space bar to continue to the next task.

By answering "yes" to the question above, you have allowed access to remote computers from your computer. Go to the next section to identify the specific remote file systems you wish to access.

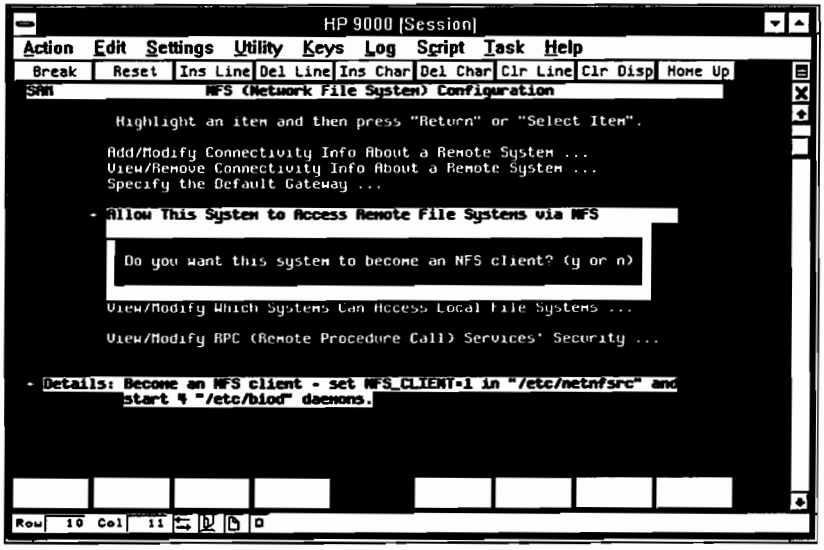


Figure 7-5. Allow This Computer to Access Remote File Systems via NFS

Adding (Mounting) an NFS File System

1. From the `NFS Configuration` menu, select the `Add (Mount) an NFS File System` menu item.
2. Fill in the form using the information in the *NFS Client* section of the configuration worksheet. View the help screens for information about filling in the form.
3. Press `Perform Task` to add your information, then `Exit Task` to get back to the `NFS Configuration` menu.

By performing these steps, you have identified which file systems you wish to access on remote computers.

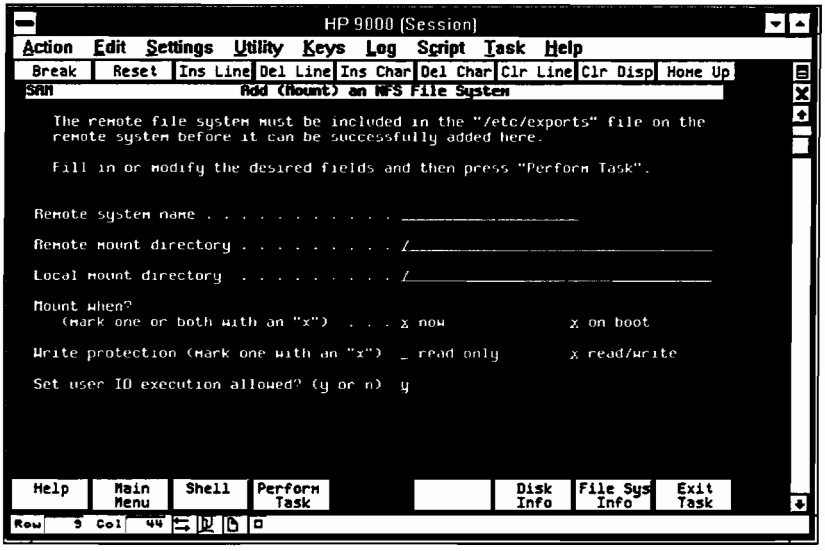


Figure 7-6. Add (Mount) an NFS File System

Allowing Remote Computers Access to Your File System via NFS

1. From the **NFS Configuration** menu, select the **Allow Remote Systems to Access Local File Systems via NFS** menu item.

   If the NFS configuration menu reads **Prevent Remote Computers from Accessing Local File Systems via NF** then your computer is already set up to be a server. Skip to the next task you wish to perform.

2. Answer "y" (yes) to the question in the pop-up screen to allow your computer to be an NFS server.

By answering "yes" to the above question, you have identified which local file systems may be accessed by remote computers.

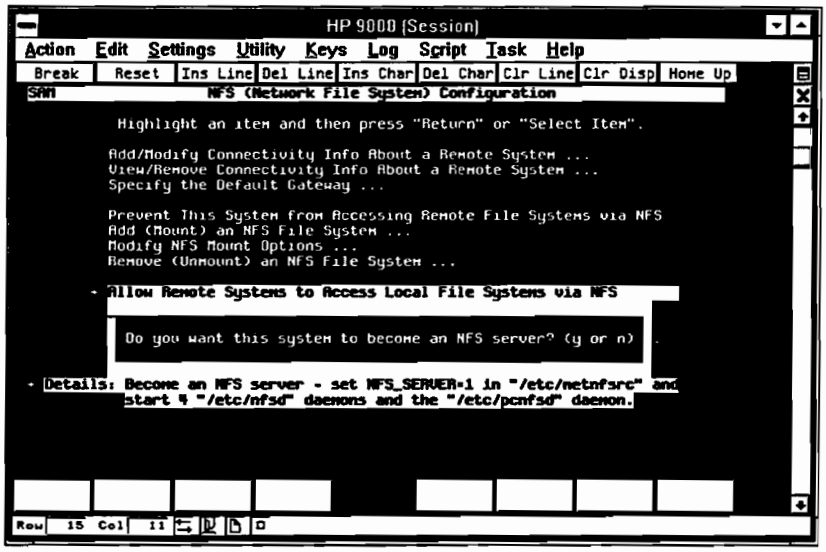


Figure 7-7. Allow Remote Systems to Access Local File Systems via NFS

Viewing or Modifying Which Computers Can Access Your File System

1. From the `NFS Configuration` } menu, select `View/Modify Which Systems Can Access Local File Systems`.

   A screen appears that tells you which remote computers, if any, are currently allowed to access local file systems. This is a "for your information" screen. Press the space bar to continue.

2. Fill in the form using the information in the *NFS Server* section of the configuration worksheet. View the help screens for information about filling in the form.

3. Press `Perform Task`.

By performing the steps above, you have identified which remote computers may access local file systems.

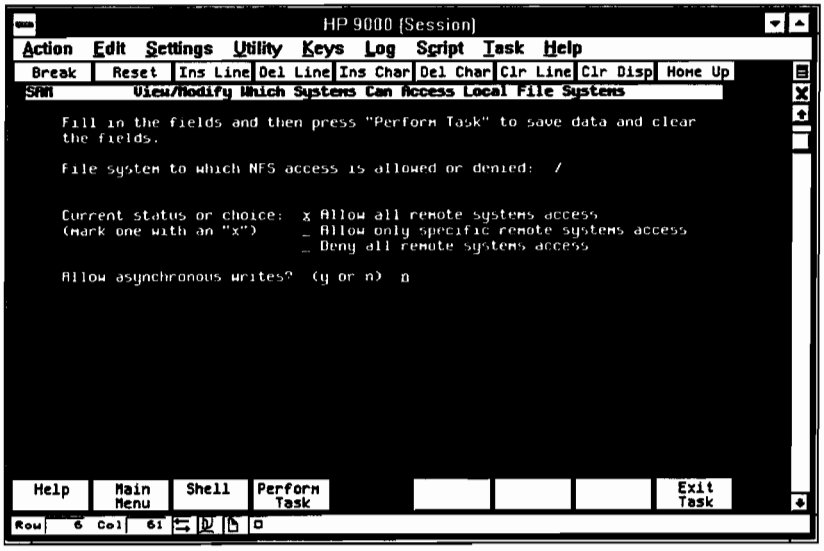


Figure 7-8. View/Modify Which Systems Can Access Local File Systems

Viewing or Modifying Remote Procedure Call (RPC) Service Security

1. From the `NFS Configuration` menu, select `View/Modify RPC (Remote Procedure Call) Services' Security`.
2. Select the `Choices` function key for a list of RPC services. Use the arrow keys to highlight your choice, then press (Return).
3. Fill in the form using the information from the *NFS Server* section of the configuration worksheet. View the help screens for information about filling in the form.
4. Press `Perform Task`.
5. Press `Exit Task`, `Previous Menu`, or `Main Menu` when you are finished.

By performing the steps above, you have identified which RPC services may be accessed by remote computers, and which remote computers may access them.

This completes the NFS configuration portion. To implement the changes into the operating system, go to the "Rebooting Your Computer" section.

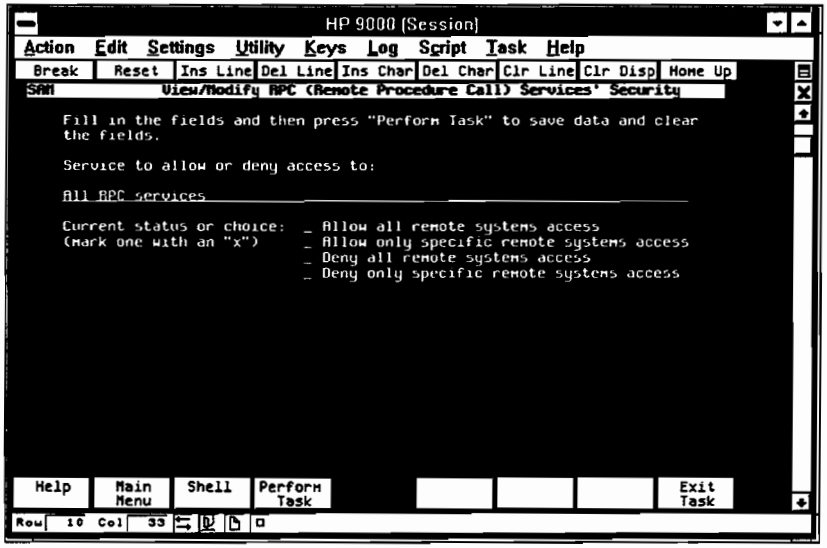


Figure 7-9. View/Modify RPC (Remote Procedure Call) Services' Security

Rebooting Your Computer

After you've configured LAN, ARPA, or NFS, you need to reboot the computer to change the software configuration. A message appears to let you know that a kernel regeneration and reboot are necessary. When this happens:

1. Finish all your NFS configuration tasks.
2. Press **Main Menu** and **Exit SAM** to exit SAM.
3. When the kernel regeneration and reboot message appears, select kernel regeneration.
4. When the kernel regeneration is complete and the reboot message appears, reboot your computer.

Rebooting completes configuring your network.

CAUTION

Before rebooting, be sure no one is logged onto your computer. If you *do not* reboot the operating system when you exit SAM, NFS Services will not run with the configurations you just made.

After rebooting you have completed configuring your networking software.

Chapter 8 describes how to back up your operating system.

You enter the configuration information using SAM (System Administration Manager), a tool that automates the configuration process. You must log in as the super-user (*root*) to use SAM.

For additional information on these networking products, order the following manuals:

- *Installing and Administering LAN/9000* (part number 98194-60530).
- *Administering ARPA Services* (part number B1014-90008).
- *Installing and Administering NFS Services* (part number B1013-90009).

The following is an overview of the steps required to configure your network software:

- *Complete the configuration worksheets shown on the following pages.* This step is very important. Don't continue until you've gathered all the information you need to be successful configuring your network. If there is a network administrator in your company, check with that person for help in completing the worksheets.
- *Configure your computer's LAN card and "subnetwork" information* (Configuring LAN/9000 software).
- *Configure your computer to communicate with other computers* (Configuring ARPA Services software). The computer you use (called the "local host" computer) can send information to, and receive information from, other computers (called "remote host" computers). Set this up by configuring system-to-system connectivity.
- *Configure your computer to transfer files between computers* (Configuring NFS software). This step may not apply to you; check with your network administrator. If necessary for your needs, you may configure your local computer to access files on remote computers as if they were on your local computer, and give remote computers access to your local files.
- *Reboot the operating system.* Rebooting the operating system will put into effect all the configuration changes you have made.

NOTE

Before starting the configuration process, complete the configuration worksheets on the following pages. You can get this information from your network administrator.

Table 7-3. Local, Remote, and Gateway Worksheet

Category of Information	SAM Window To Use	Type of Information	Your Configuration Information
Local Host Computer	Note: This information is requested when starting the computer	Internet (IP) Address	
		Host name	
	Configure LAN Card	Configure subnetwork mask	[] yes [] no
		Subnet Mask	
Remote Host Computer	Add Internet Connectivity	Remote System Name (Host name)	
		Remote Internet (IP) Address	
Gateway Computer	Specify Default Gateway	Default Gateway Name (Host name)	
		Default Gateway Internet (IP) Address	

Table 7-4. NFS Client and Server Worksheet

Category of Information	SAM Window To Use	Type of Information	Your Configuration Information
NFS Client: Mount Remote File Systems	Add Remote Directory	Remote System Name	
		Remote Directory Name	
		Local Directory Name	
		When To Mount	[] now [] on boot
		Write Protection	[] read only [] read/write
		Set user ID execution	[] yes [] no
NFS Server: Export Local File Systems	Add File System to Export	Local Directory Name	
		Choose option for the unknown userid	[] Use uid 'nobody' [] Disable anonymous access [] Specify uid
		Allow Asynchronous Writes	[] Yes [] No
		Specify [systems for] Read-Only Access	
		Specify [systems for] Read-Write Access	
		Specify [systems for] Root User Access	
RPC Services' Security	View/Modify Internet Services	System Permission	
		System and/or Network with access to RPC services	

How To Use the System Administration Manager

Use SAM, the System Administration Manager, to configure your network software. Start SAM by typing *sam* (in lower case) at the superuser prompt. Pressing Ctrl-k gives you help information about SAM.

Choosing items from the "Help" menu gives you information about:

- the current functional area.
- keyboard navigation within SAM.
- using the SAM help system.
- displaying the release of SAM you are currently running.

Activating the Help button, when available, gives you information about the attributes and tasks you can perform from the currently displayed screen.

Pressing the f1 key gives you context-sensitive information for the field at the location of the cursor.

Exit SAM by activating the Exit SAM button from the SAM main screen.

If you have performed tasks that require the generation of a new kernel, SAM will prompt you to regenerate the kernel and reboot the system.

Identifying LAN Card and Subnetwork Information (Configuring LAN/9000)

The first step in configuring your network is to define LAN card and subnetwork information.

The LAN hardware card is already installed on your computer as *lan0*. The LAN/9000 software has also been preinstalled. LAN/9000 provides network connections for the ARPA and NFS network services you will configure later in this chapter.

If you are connecting this LAN card to a subnetwork, you need to enter the "subnet mask," an address that allows you to communicate with computers on other LANs.

NOTE

Check with your network administrator to see if you need to perform this task. If not, skip to the next section, *Communicating with Other Computers*.

To configure your subnetwork mask, do the following:

1. At the SAM main window, highlight **Networking/Communications** and activate the [Open] button.
2. Highlight **Network Card Configuration** and activate the [Open] button.
3. Highlight your LAN card, *lan0*, from the object list.
4. Choose **Configure** from the "Actions" menu. SAM displays the "Configure LAN Card" window.
5. Fill in the fields using the information in the *Local Host Computer* section of the configuration worksheet. Use the SAM help system for information about filling in the fields.
6. Activate the [OK] button to perform the task and return to the object list. SAM updates the list to include the subnet mask you configured for your LAN card. Make sure the status of your LAN card is **Enabled**.
7. Choose **Exit** from the "List" menu when you are finished.

By performing the steps above, you have identified which subnetwork your LAN card (lan0) is connected to. After completing this task, continue to *Communicating with Other Computers*.

Communicating with Other Computers (Configuring ARPA)

The next step in configuring your network is to tell your computer about other computers you wish to communicate with. ARPA Services lets your computer communicate on a LAN with other computers. When you configure ARPA, you identify the "remote" computers with which your computer will communicate.

To add information about other computers, including the default gateway, do the following:

1. At the "Networking/Communications" functional subarea menu, highlight **System-to-System Connectivity** and activate the Open button.
2. Highlight **Internet Connectivity** and activate the Open button. SAM displays an object list with the IP addresses and remote system names that are already configured.
3. Choose **Add** from the "Actions" menu. SAM displays the "Add Internet Connectivity" window.
4. Fill in the fields using the information in the *Remote Host Computer* section of the configuration worksheet. Use the SAM help system for information about filling in the fields.
5. SAM determines if a gateway is required for this remote host computer. If a gateway is not required, you cannot enter any gateway information. Skip to the next step. If a gateway is required, SAM gives you options for specifying the required gateway.
   a. Choose **Specify and use default gateway**. SAM displays the "Specify Default Gateway" window.
   b. Fill in the fields using the information in the *Gateway Computer* section of the configuration worksheet. Use the SAM help system for information about filling in the fields.
   c. Activate the OK button to perform the task and return to "Add Internet Connectivity" window. SAM displays the gateway name and internet (IP) address you specified as the default gateway.

6. Activate the [OK] button to perform the task and return to the object list. SAM updates the list to include the remote computer system you configured.
7. Repeat steps 3 through 6 to add information about more computers.
8. Choose `Exit` from the "List" menu and then activate the [Previous Level] button until you return to the SAM main window.

By performing the steps above, you have identified another computer or computers you want to communicate with. This might include a "corporate" computer you wish to share data with, or other computers in your building. You have also set up the default gateway (if required). A gateway connects two or more networks together and routes information among the networks to which it is connected.

NOTE

The next step in configuring your network software is to configure NFS; however, you may not need to perform this step. Check with your network administrator. If you don't wish to configure NFS, skip to the section, *Rebooting Your Computer*. Once you've completed that section, you're done configuring your network.

Transferring Files Between Computers (Configuring NFS)

NOTE

Configuring NFS will allow you to access file systems on remote computers and remote computers to access file systems on your local computer. Check with your network administrator to see if you need this capability. If not, skip this section and continue with the section on *Rebooting Your Computer*. Once you've completed that section, you're done configuring your network.

- Allowing this computer access to remote file systems via NFS (mounting a remote file system).
- Allowing remote computers access to local file systems via NFS (exporting a local file system).
- Viewing or modifying remote procedure call (RPC) services' security.

This section will help you configure your computer to be able to transfer files between your computer and other computers. This is called "creating an NFS client and server."

When you access files on a remote computer, your local computer is called the "client" and the remote computer, which supplies the files, is called the "server." When a remote computer accesses files on your local computer, the remote computer is the "client" and the local computer is the "server." In this way, your local computer can be defined as both a client and a server at the same time.

By identifying your local computer as a client, you are telling the operating system that you wish to have access to files on remote computers. By identifying your local computer as a server, you are telling the operating system that you wish to make files on your computer available to remote computers.

NOTE

NFS is not supported over the X.25 link product.

Allowing Your Computer Access to Remote File Systems via NFS (Mounting a Remote File System)

1. At the SAM main window, highlight **Networking/Communications** and activate the Open button.
2. Highlight **Networked File Systems (NFS)** and activate the Open button.
3. Highlight **Remote File Systems Mounted** and activate the Open button.
4. Choose **Add Remote Directory** from the "Actions" menu. SAM displays the "Add Remote Directory" window.
5. Fill in the fields using the information in the *NFS Client: Mount Remote File Systems* section of the configuration worksheet. Use the SAM help system for information about filling in the fields.
6. Activate the OK button to perform the task and return to the object list. SAM updates the list to include the remote systems and directories you configured.
7. Repeat steps 4 through 6 to add more remote file systems that you wish to access.
8. If SAM displays the "NFS Client" status as **Disabled**, choose **Enable NFS Client** from the "Actions" menu.
9. Go to the next section, *Allowing Remote Computers Access to Your File System via NFS (Exporting a Local File System).*

By performing these steps, you have identified which file systems you wish to access on remote computers.

Allowing Remote Computers Access to Your File System via NFS (Exporting a Local File System)

1. Choose **Local File Systems Exported** from the "List" menu.

   If you have exited the object list, highlight **Local File Systems Exported** at the "Networked File Systems (NFS)" window, and then activate the Open button.
2. Choose **Add** from the "Actions" menu. SAM displays the "Add File System to Export" window.
3. Fill in the fields using the information in the *NFS Server: Export Local File Systems* section of the configuration worksheet. Use the SAM help system for information about filling in the fields.

4. Activate the OK button to perform the task and return to the object list. SAM updates the list to include the local directory or directories you configured.
5. Repeat steps 2 through 4 to add more remote file systems that you wish to access.
6. If SAM displays the "NFS Server" status as `Disabled`, choose **Enable NFS Server** from the "Actions" menu.
7. Choose **Exit** from the "List" menu and then activate the Previous Level button when you are finished.

By performing these steps, you have identified which local file systems may be accessed by remote computers.

Viewing or Modifying Remote Procedure Call (RPC) Service Security

1. At the "Networking/Communications" functional subarea menu, highlight **Security** and activate the Open button.
2. Highlight **Internet Service** and activate the Open button. SAM displays an object list with the services and security access for your computer system.
3. Highlight the "nfs-rpc" service you want to view or modify and choose **View** or **Modify** from the "Actions" menu.
   a. If you choose **View**, SAM displays the "View Internet Service Security" window. You cannot modify any of the fields. Activate the OK button when you are finished.
   b. If you choose **Modify**, SAM displays the "Modify Internet Security" window. Fill in the fields using the information in the *RPC Services' Security* section of the configuration worksheet. Use the SAM help system for information about filling in the fields. Activate the OK button to modify the security for this RPC service.
4. Choose **Exit** from the "List" menu when you are finished viewing or modifying RPC services' security.

By performing the steps above, you have identified which RPC services may be accessed by remote computers, and which remote computers may access them.

This completes the NFS configuration portion. To implement the changes into the operating system, go to the "Rebooting Your Computer" section.

Rebooting Your Computer

CAUTION

Before rebooting, be sure no one is logged onto your computer. If you *do not* reboot the operating system when you exit SAM, NFS Services will not run with the configurations you just made.

After you've configured LAN, ARPA, or NFS, you need to reboot the computer to make those changes effective. A message appears to let you know that a kernel regeneration and reboot are necessary. When this happens:

1. Finish all your NFS configuration tasks.
2. Activate the (Exit SAM) button to exit SAM.
3. When the kernel regeneration and reboot message appears, choose kernel regeneration.
4. When the kernel regeneration is complete and the reboot message appears, reboot your computer.

After rebooting, you've completed configuring your network.

Chapter 8 describes how to back up your operating system.

8

Backing Up the Operating System

Backing Up the Operating System

You have put a lot of time and effort into installing and customizing your operating system. This work can easily be lost by a hardware failure, a operating system crash, or if you accidentally remove or corrupt a file. It is critically important that you do a full backup of all files before the computer is first put on line, and that you establish and maintain a periodic backup schedule.

It is essential that you purchase one set of HP-UX operating system tapes per site. You will not be able to boot up your computer from your backup tape. This backup tape, however, will allow you to restore the customization that you have done, such as restoring the users you have added.

Backing up all of your files will take about one and one-half hour.

Load a blank tape into the tape drive. Figure 8-1 shows the DDS tape drive and the optional CD-ROM drive, while figure 8-2 shows the quarter-inch tape drive.

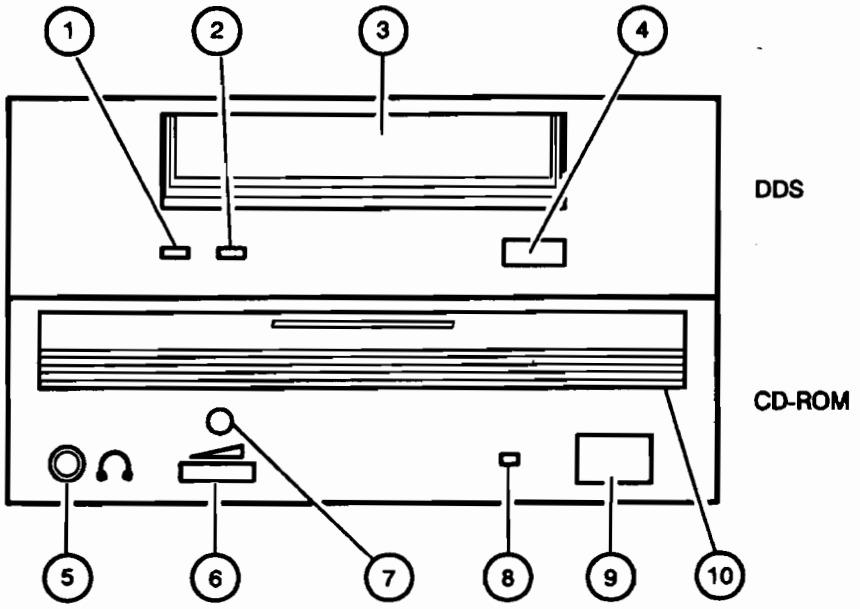


Figure 8-1. DDS Tape Drive and CD-ROM Drive

Parts Identification

Part Number	Part Name
1	Cassette Light
2	Drive Light
3	Cassette Slot
4	Unload Button
5	Headphone Jack
6	Volume Control
7	Emergency Eject Hole
8	Busy Indicator
9	Eject Button
10	CD Slot

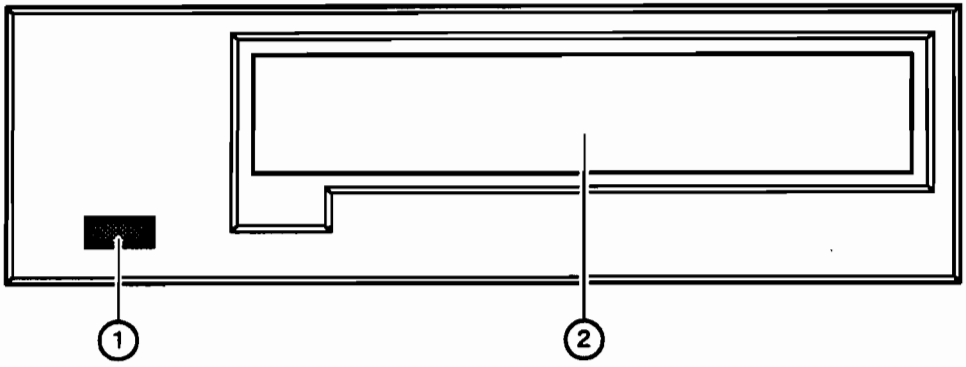


Figure 8-2. Quarter-Inch Tape Drive

Parts Identification

Part Number	Part Name
1	Drive Activity Light
2	Tape Slot

Determining Your Release of the Operating System

Your computer is running on either HP-UX Release 8.02 or HP-UX Release 9.0. Before you can back up your software, you must determine which release of HP-UX you are using. If you don't know your software release, type the following command:

```
uname -r
```

Your computer will return either 8.02 or 9.0. If you see 8.02 displayed on your terminal, go to "HP-UX Release 8.02 Backup". If you see 9.0 displayed on your terminal, go to "HP-UX Release 9.0 Backup".

HP-UX 8.02 Backup

SAM provides a utility for you to back up and recover your files. Use SAM, the system administration manager, to back up your operating system. Start SAM by typing *sam* (in lower case) at the superuser prompt. Information on SAM is available by moving the cursor , using the arrow keys, to **How to Use SAM** on the opening screen and pressing the (Return) key.

- Move the cursor by using the arrow keys, or by pressing the (Tab) key.
- To execute a SAM command, press the (Return) key, the (Space Bar), or one of the function keys depending on where you are in the program.
- If you get to a screen where you don't want to be, press the (f8) **Exit Task** or **Previous Menu** key to back out.
- If you type something into a screen but decide to exit before making the change, press **Exit Task**. SAM will ask if you want to exit the screen and cancel changes.
- After you press (Perform Task), a flashing **working** sign will appear at the bottom of the screen. Wait until that stops flashing before pressing another key.
- Get help on any task by pressing function key (F1).
- Exit SAM by pressing function key (F8) until you have completely backed out of the program. The program will then ask if you really want to quit. Press *y* to quit.

Perform the following steps:

- Type **sam**.
- Select **Backup and Recovery**.
- Select **Backup Files Interactively**.
- In the table provided, under "Files to be Included", a / will appear at the beginning of the first line. This indicates that all files will be included.
- Go down to the **Device File** line and press the function key (F1) which selects **Help**.

- Several device file names will be listed. Press the function key (F4), which selects **Select Item** to select the first device file name: **/dev/rmt/0h**.
- Press function key (F4) which selects **Perform Task**.
- After your files are backed up, exit SAM.

HP-UX 9.0 Backup

You can use SAM to back up your system. Determine the device file for the device on which to create your backup. All configured HP-UX devices have a *device file* associated with them which tells HP-UX the hardware address of the device and which driver to use when communicating with the device. For more information about device files and drivers, see the *How HP-UX Works: Concepts for the System Administrator* manual or the *Installing Peripherals* manual.

Use SAM, the System Administration Manager, to back up your operating system. Start SAM by typing *sam* (in lower case) at the superuser prompt. Pressing Ctrl-k gives you help information about SAM.

Choosing items from the "Help" menu gives you information about:

- the current functional area.
- keyboard navigation within SAM.
- using the SAM help system.
- displaying the release of SAM you are currently running.

Activating the Help button, when available, gives you information about the attributes and tasks you can perform from the currently displayed screen.

Pressing the f1 key gives you context-sensitive information for the field at the location of the cursor.

Exit SAM by activating the Exit SAM button from the SAM main screen.

If you have performed tasks that require the generation of a new kernel, SAM will prompt you to regenerate the kernel and reboot the system.

To back up your system:

1. Type **sam**.
2. Highlight **Backup and Recovery** and activate the Open button.
3. Highlight **Backup Devices** and activate the Open button.
4. Highlight the backup device from the object list.
5. Choose **Backup Files Interactively** from the "Actions" menu.

6. Activate [Select Backup Scope].
7. Choose `Entire System`.
8. Activate the [OK] button.
9. Activate the [OK] button to begin the backup process.

   Confirmation messages will appear. Activate the [OK] button to proceed in each case. If you created an index log, the information displayed will appear in the index log.

Chapter 9 describes how to end your work session.

9

Ending Your Work Session

Ending Your Work Session

When you are finished working on your computer, DO NOT turn your computer off. You computer is a multi-user system, and other people may be using it. If you turn it off, you will deny them access to the computer, and may cause them to lose some of their work.

If you have to turn off your computer, see *System Administration Tasks* for information on shutting down your computer.

When you are finished working on your computer, end your work session by following these steps:

1. Exit your application software.
2. Type **exit** to return to the login prompt. If you have several work sessions (shells) opened, you may have to type **exit** several times before you return to the login prompt.

This leaves you at the login prompt, and the computer is ready for the next user to log in.

This completes the tasks needed to get your computer up and running. If you have problems, see the next chapter.

10

Checking If Your Computer Is Working Properly

Checking If Your Computer Is Working Properly

It is important that you verify proper operation of your computer. Proper boot up of the operating system does not indicate that all of the hardware is working properly. Only by checking the lights and displays can you be confident that your computer is working properly.

Most of the lights and displays are on the front of the cabinet, but to check some of the lights, you will have to look at the back of the cabinet. You will not be exposed to any safety hazards, such as high voltages, when you check these lights.

Front Panel

The front panel, mounted at the top of the front of the cabinet, contains the following displays:

- Run Light. See figure 10-1, number 2.
- Fault Light. See figure 10-1, number 3.
- Remote Console. See figure 10-1, number 4.
- Battery Backup. See figure 10-1, number 5.

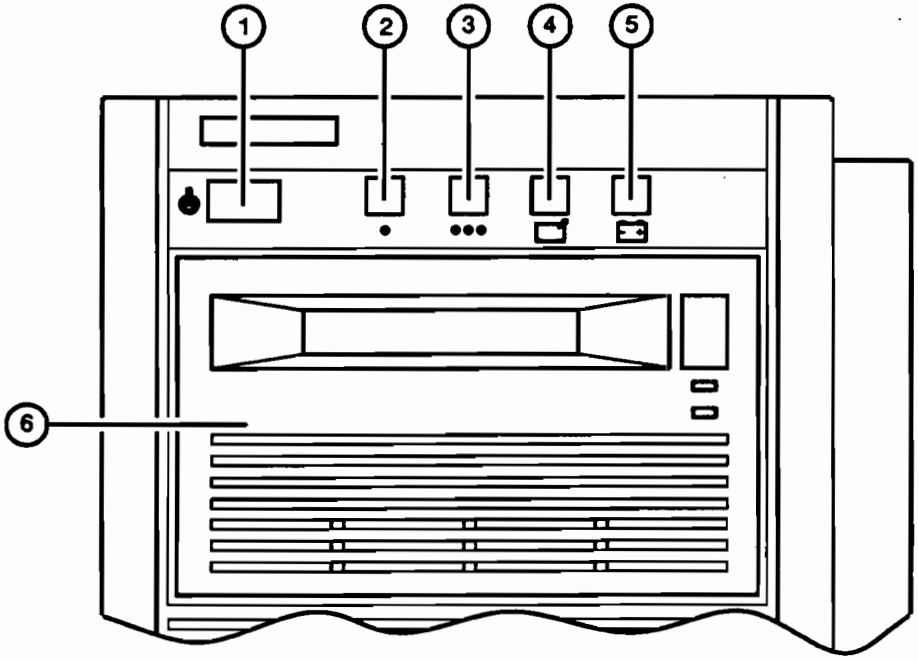


Figure 10-1. Front Panel Detail

Parts Identification

Part Number	Part Name
1	ON/OFF Button
2	Run Light
3	Fault Light
4	Remote Terminal Indicator
5	Battery Backup Indicator
6	Tape Drive

Operating State

The operating status of your computer is indicated by two lights on the extreme left of the control panel. The *Run* light is green, and the *Fault* light is orange. Table 10-1 gives the status for each combination of lights.

Table 10-1. Operating State Lights

Run Light	Fault Light	Operating Status
Off	Off	The computer is shut down and power is off.
Off	On	The computer is in a fault state and halted.
On	Off	This is the normal run state for the computer.
On	On	The computer is in the test, or warning mode.

Normal operation is indicated when the *Run* light is lit and the *Fault* light is not lit.

Remote Console

The remote console light will be on when the remote console has been enabled. This light should typically be off. The remote console is used by Hewlett-Packard to provide support for your computer. It is connected to your computer through telephone lines connected to the support modem connected to your modem connector. If you have purchased a support contract, you will receive information on using this feature.

It is possible to accidently place your computer in the remote mode. If this occurs, type *CO* to re-enter the console mode. While in the console mode, you may type *DS* to disable display of the system status line, or *ES* to enable display of the system status line.

Battery Backup

The battery backup light will be on when the AC power has failed and the computer is in battery backup mode. If this light is on and any other lights are also on, the batteries are being charges. This light should normally be off.

DDS Tape Drive

The DDS tape drive is located on the front of your computer. Figure 10-2 shows the DDS tape drive and the optional CD-ROM drive. Identification of the parts is provided in the table following the picture.

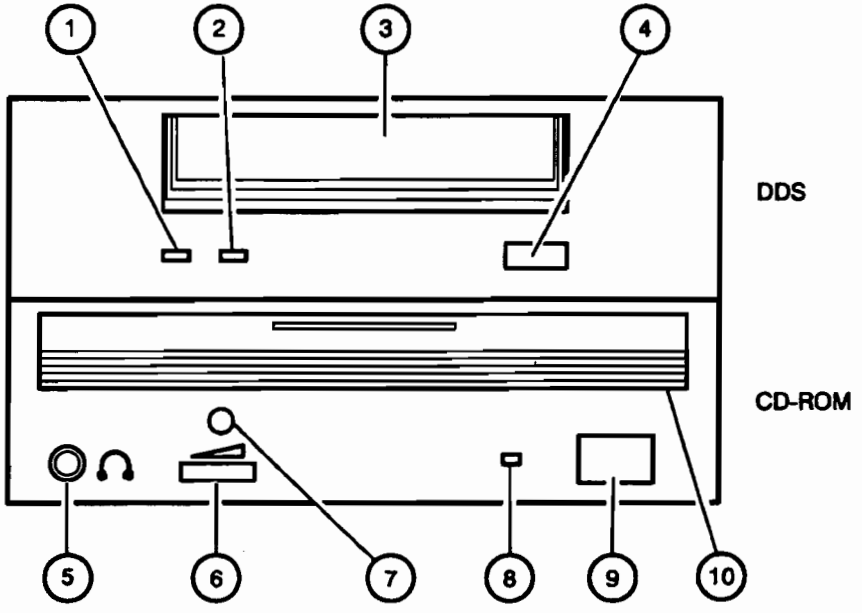


Figure 10-2. DDS Tape Drive and CD-ROM Drive

Parts Identification

Part Number	Part Name
1	Cassette Light
2	Drive Light
3	Cassette Slot
4	Unload Button
5	Headphone Jack
6	Volume Control
7	Emergency Eject Hole
8	Busy Indicator
9	Eject Button
10	CD Slot

There are two indicator lights on the front of the DDS tape drive. The left light is the cassette light, and it indicates the status of the DDS tape cassette. The right light is the drive light, and it indicates the status of the DDS tape drive. Each light is capable of displaying two colors: yellow or green. Table 10-2 shows the combination of the DDS tape drive's status lights for operation with no DDS tape loaded.

Table 10-2. Tape Drive: No Cassette

Cassette Light (Left)	Drive Light (Right)	Condition
Off	Off	No cassette loaded or power off.
Off	Pulsing Green	No power or no cassette.
Flash Yellow	Flash Yellow	Self test in progress.
Steady Green	Flash Green	No cassette, SCSI activity.

Table 10-3 shows the combination of the DDS tape drive's status lights for operation with a write-enabled.

Table 10-3. DDS Tape Drive: Tape Write-Enabled

Cassette Light (Left)	Drive Light (Right)	Condition
Steady Green	Steady Green	Cassette is loading and online.
Steady Green	Pulse Green	Cassette is loaded and SCSI activity.
Pulse Green	Pulse Green	Loading, unloading, or ejecting.
Steady Green	Off	Drive offline.

Table 10-4 shows the combination of the DDS tape drive's status lights indicating write-protected.

Table 10-4. DDS Tape Drive: Write-Protected

Cassette Light (Left)	Drive Light (Right)	Condition
Steady Yellow	Steady Green	Cassette is loaded and online.
Steady Yellow	Flash Green	Cassette is loaded and SCSI activity.
Steady Yellow	Off	Drive offline.

Table 10-5 shows the combination of the DDS tape drive's status lights indication error states.

Table 10-5. DDS Tape Drive: Error States

Cassette Light (Left)	Drive Light(Right)	Condition
Steady Green	Pulse Green/Yellow	Caution (Media Warning).
Steady Yellow	Steady Yellow	Condensation detected, or no termination resistors.
Pulse Yellow	Steady Yellow	Fault (Diagnostic Failure).

NOTE

Do not try to insert a DDS tape while the drive is conducting the self test. If you try to insert a DDS tape at that time, the self test will fail and the drive will not operate.

If the error states lights indicate a caution, it means that the DDS tape drive is having to correct an excessive number of errors when using the cassette. This can mean that the tape heads need cleaning, or that the DDS tape is nearing the end of its useful life.

When you see a caution signal, first clean the DDS tape heads. If the signal occurs again, you should copy the data from the DDS tape onto a new DDS tape as follows:

1. Copy the data from the DDS tape onto the hard disk.
2. Copy the data from the hard disk onto a new DDS tape.
3. Discard the old DDS tape.

Handling and Storing Cassettes

Environmental conditions can affect the reliability of data stored on cassette tapes. It is recommended that you use only cassettes marketed by Hewlett-Packard, which meet high standards.

To ensure data integrity for your cassettes, follow these guidelines:

- Do not touch the DDS tape, nor attempt to clean the tape path or tape guides inside the cassette.
- Do not leave cassette tapes in excessively dry or humid conditions.
- Do not leave cassette tapes in direct sunlight or in places where magnetic fields are present (for example, under telephones or near transformers).

- Do not drop cassettes, nor handle them roughly.
- Do not stick more than one label onto cassettes; extra labels could cause the cassettes to jam in the DDS tape drive.
- Store cassettes in their plastic cases when not in use.
- Always store the cassettes in a clean environment.
- Do not use cassettes when the caution signal is displayed by the cassette (upper) light, located on the front panel. The light shows a repeating pattern of: green for 4.5 seconds, then off for 0.5 seconds. If the light pattern appears, it means that the tape heads need cleaning or that the DDS tape is nearing the end of its useful life.

NOTE

Insert the DDS tape with the arrow on the tape pointing towards the drive.

Temperature Considerations

The cassettes should only be used at temperatures between 5°C (40°F) and 40°C (113°F). You can, however, store them at temperatures down to -40°C (-40°F).

If you expose cassettes to temperatures outside the operating limits, stabilize them before you use them. To do this, leave the cassettes in the operating temperature for a minimum of two hours.

To avoid temperature problems, observe these guidelines:

- Ensure that the DDS tape drive is located where the temperature is relatively stable, for example, away from open windows, fans, heaters, and doors.

- Avoid leaving cassettes in severe temperature conditions, for example in a car standing in bright sunlight.
- Avoid transferring data (reading from, and writing to, cassettes) when the temperature is changing by more than 10°C per hour.

High Humidity

If the humidity rises too high, both front panel indicators will show a steady yellow. The DDS tape drive will not perform any operations until the humidity has dropped to within specifications.

CAUTION

To prevent damage, do not insert a cassette into the DDS tape drive for two hours after moving the computer from a cold to a warm environment. This applies if the temperature change is greater than 10°C (18°F).

Moving the computer from a cold to a warm environment causes condensation to develop within the DDS tape drive. This causes the DDS tape to stick to the drive's head, which can create permanent damage to both the DDS tape and the tape drive.

DDS Tape Length

Hewlett-Packard offers two lengths of DDS tapes. The 60M tape (HP part number 92283A) has a red label, and can be used in both the full height and half height DDS tape drives. The 60M tape has a 1.3Gbyte capacity. The 90M tape (HP part number 92283B) has a yellow label, and can be used only in the half height DDS tape drive. The 90M tape has a 2Gbyte capacity.

DDS Tape Drive Operation and Tape Head Cleaning

The DDS tape head requires cleaning every 25 hours of use. For information on tape head cleaning, refer to the instructions that come with the cleaning cassette.

Figure 10-3 shows the optional CD-ROM drive. Disks are inserted into the CD slot (number 10, and the eject button (number 9) is pressed to remove the disk. Table 10-6 shows the operating conditions of the busy indicator (number 8).

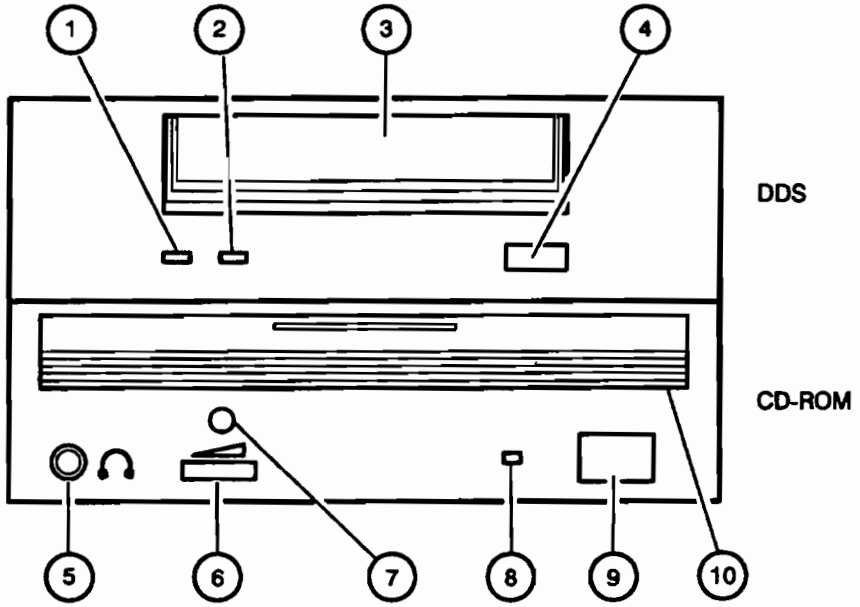


Figure 10-3. DDS Tape Drive and CD-ROM Drive

Parts Identification

Part Number	Part Name
1	Cassette Light
2	Drive Light
3	Cassette Slot
4	Unload Button
5	Headphone Jack
6	Volume Control
7	Emergency Eject Hole
8	Busy Indicator
9	Eject Button
10	CD Slot

Table 10-6. CD-ROM Busy Indicator

Busy Indicator	Condition
Off	CD Caddy ejected.
Fast Blink (0.2 Sec.)	Indicates data transfer.
Fast Blink (0.8 Sec.)-Turns Off	Ready for data read.
Fast Blink (0.8 Sec.)-Turns On	Drive is inoperative.
Slow Blink (3.2 Sec.)	Disk is dirty.
Slow Blink (1.6 Sec.)	Audio playback.

If the Busy Indicator shows that the drive is inoperative, some possible causes are:

- No disk is inserted in the CD caddy.
- Disk is loaded with the label side facing downward in the caddy.
- Disk is extremely dirty, damaged, or scratched.

The Emergency Eject Hole (number 7) is provided if you are unable to eject the CD caddy. If you are unable to eject the caddy using the eject button, turn off the power to your system (be sure to bring it to single-user mode and run *shutdown* before turning off the power), and either stick a Philips-head screwdriver into the hole and remove the screw, OR insert a solid bar, such as a paper clip, into the hole and push to remove the caddy. The bar must be less than 2.0 mm in diameter and less than 25 mm long.

Quarter-Inch (QIC) Tape Drive

Figure 10-4 shows the optional quarter-inch tape drive (QIC).

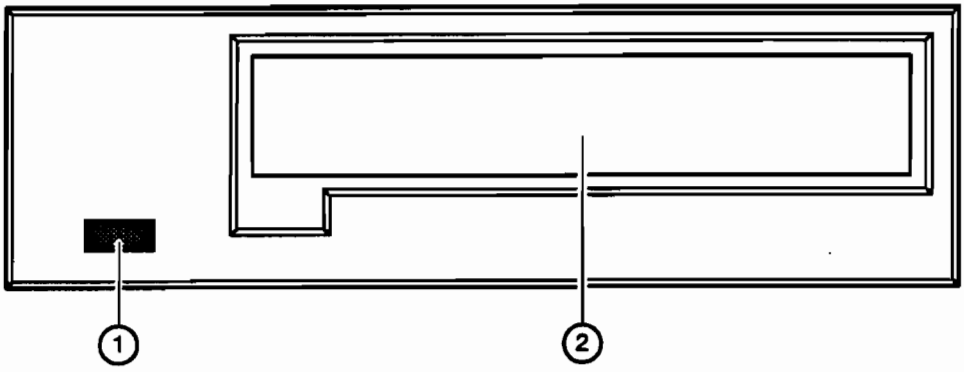


Figure 10-4. Quarter-Inch Tape Drive

Parts Identification

Part Number	Part Name
1	Drive Activity Light
2	Tape Slot

This quarter-inch tape drive uses the same commands as the DDS tape, except that the *tar append* options, `tar -u` and `tar -r`, are not supported. Fast search, a feature found on the DDS tape drive, is not supported on the QIC tape drive. The commands *fbackup* and *frecover* are not supported on the QIC-120 and QIC-150 formats, and will only work with the QIC-525 format. Block mode and partitions are not supported on the DDS tape drive, nor on the QIC tape drive.

CAUTION

The quarter-inch tape drive is NOT compatible with 16 and 32 track tape drives such as the HP 9144 and HP 9145 drives. DO NOT use QIC tapes in these drives. DO NOT use 16 or 32 track tapes in the QIC drive.

Tape Formats

The quarter-inch tape drive supports the following tape formats for reading data: QIC-525, QIC-150, QIC-120, and QIC-24 formats. The following tape formats are supported for writing data: QIC-525, QIC-150, QIC-120 formats. The drive automatically determines the format of the tape it is reading. You do not have to identify the tape format to the drive.

When writing to the QIC tape, you specify the QIC format to be written through a specific device file. The default QIC device file is:

`/dev/rmt/0h`

For additional information on QIC-format device files, refer to the appropriate manual page.

You can only write in a specific format if the cartridge tape supports that format.

You cannot mix formats on a single tape. For example, if you store data on the tape in the QIC-120 format, you can not append data to the end of the tape in the QIC-150 format. Only 3M brand tape is supported.

Table 10-7 shows the tape interchangeability between different QIC formats and cartridge types.

Table 10-7. Quarter-Inch Tape Formats

Cartridge Type	QIC Write Formats	QIC Read Formats
DC6525	525/320, 150, 120	525/320, 150, 120, 24
DC6320	525/320 ,150, 120	525/320, 150, 120, 24
DC6250	150, 120	150, 120, 24
DC6150	150, 120	150, 120, 24
DC600A	120	120, 24
DC300XL/P	NA	24

NOTE

The QIC-150 and QIC-120 formats requires a fixed data block size of 512 bytes. The QIC-525 format will accept a variable data block size up to a maximum of 65535 bytes.

Loading and Unloading the QIC Tape

To load the quarter-inch tape cartridge into the drive, orient the cartridge so that the tape door opening faces to the left. Push the cartridge into the drive until it resists and the cartridge will slide in no further. When you release the cartridge, it will eject slightly indicating that the tape is properly loaded.

To unload the quarter-inch tape cartridge, push the cartridge into the drive until resistance is felt and the latch releases. The cartridge will be partially ejected. It can be removed at that time.

The drive activity light will blink when data are being written to, or read from, the tape.

Caring for the Tape Cartridges

Do the following:

- Store the cartridge in its protective case.
- Store the cartridge at temperatures between 5° C to 45° C (40° F to 115° F).

- Allow the cartridge to stabilize after moving from one temperature extreme to another before using.
- Keep magnetic sources away from the cartridge.
- Replace damaged or contaminated cartridges.

Do NOT do the following:

- Drop the cartridge.
- Expose the cartridge to moisture or high humidity.
- Place the cartridge in direct sunlight.
- Touch the tape at the head access door or cartridge capstan.
- Use excessive force while inserting or removing the cartridge from the drive.

Preventive Maintenance

The quarter-inch tape drive head should be cleaned after two hours of use with a new cartridge, and after every eight hours of normal operation. The tape should be replaced after 100 hours of use or earlier if you receive data errors.

It may be necessary to "dock" the head assembly in order to gain access to the read/write head for cleaning. To dock the head, open the tape slot door, press inward on the tape carriage plate (black in color) where the cartridge is normally inserted. Stop pushing when the travel is restricted and the latching mechanism releases. The carriage plate will automatically slide out. At this point, the head is docked.

Clean the head using a lint-free polyurethane swab soaked with head-cleaning solution. Return the head to the ready position by pushing the carriage plate inward until its motion is restricted from any further travel.

The capstan should be cleaned by using a cotton swab soaked with only water. Wipe the cotton swab around the entire circumference of the capstan until all debris is removed. Allow the capstan material to dry completely

before inserting a tape cartridge. NEVER clean the capstan with head cleaning solution as severe damage may result.

Rear Connectors and Indicator Lights

Several connectors and indicator lights are mounted in the rear of your computer. Their proper operation should be verified after the operating system has successfully booted up. Look at the rear of your computer and identify the location of each card. The following figures show the rear of your computer and identify the location of the connectors and lights. Take a few minutes and become familiar with their placement.

- Figure 10-5 shows the HP 9000 807S.
- Figure 10-6 shows the HP 9000 817S, and 837S.
- Figure 10-7 shows the HP 9000 827S, 847S, 857S, 867S, and 877S.
- Figure 10-8 shows the HP 9000 887S, and 897S.

NOTE

The rear connectors on the HP 9000 827S, 847S, 857S, 867S, and 877S are identical, except that the HP 9000 857S, and 877S have six additional I/O card slots.

For the HP 9000 807S, figure 10-5, number 1 is the MUX Error light. This light should normally be off. Number 2 is the SCSI Error light. This light should normally be off. Number 3 is the direct distribution cable connector. The cable provides ports 1-6. Number 4 is the connection for the available support modem (port 7). Number 5 is where the console terminal is connected (port 0).

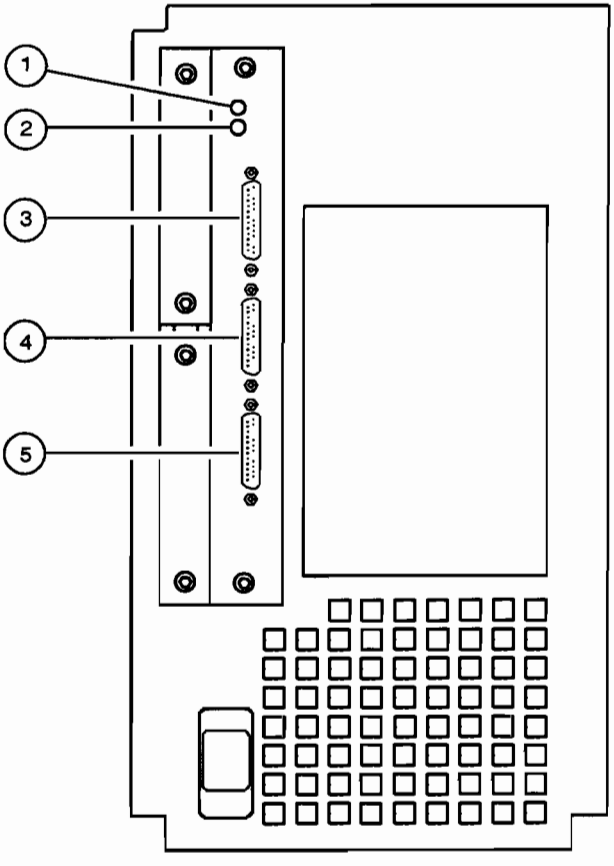


Figure 10-5. HP 9000 807S Rear Panel

Parts Identification

Part Number	Part Name
1	MUX Error Light
2	SCSI Error Light
3	Direct Distribution Cable Connector
4	Modem Connector
5	Console Terminal Connector

Figure 10-6 shows the HP 9000 817S, and 837S, while figure 10-6 shows the HP 9000 827S, 847S, 857S, 867S, and 877S. The connectors and lights are the same for these computers. Number 1 is the SCSI Self Test light. This light should normally be off. Number 2 is the external SCSI connector. Number 3 is the Term Power light. This light should normally be on. Number 4 is the parallel connector. Number 5 is the MUX Status light. This light should normally be off. Number 6 is the connector to the active distribution panel.

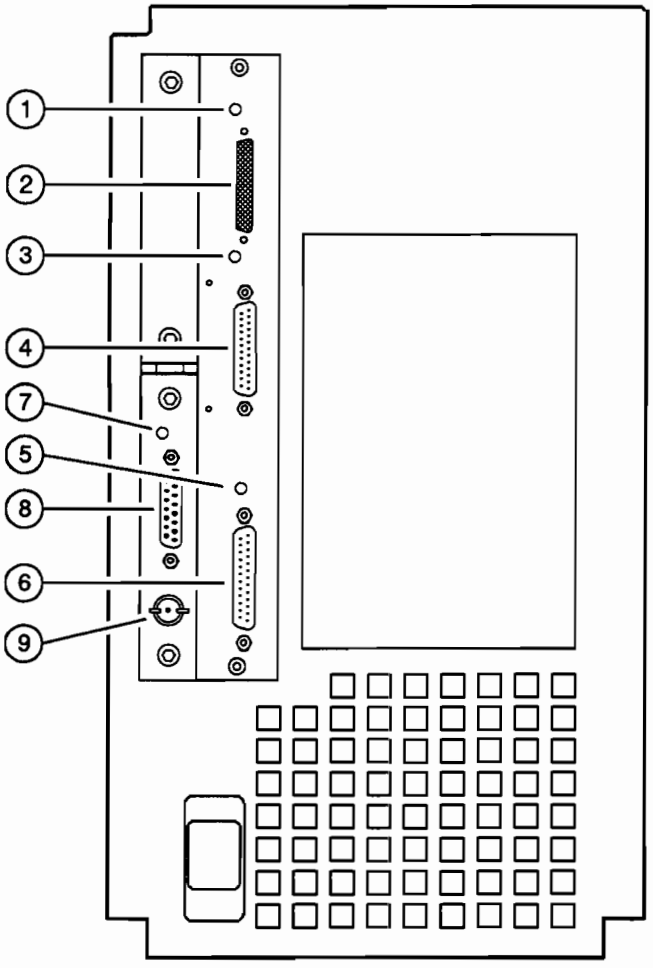


Figure 10-6. HP 9000 817S, and 837S Rear Panel

Parts Identification

Part Number	Part Name
1	SCSI Self Test Light
2	SCSI Connector
3	Term Power Light
4	Parallel Connector
5	MUX Status Light
6	Active Distribution Panel Connector
7	Xcrv/Net Fail, Self Test Fail Light
8	AUI Connector
9	LAN Connector

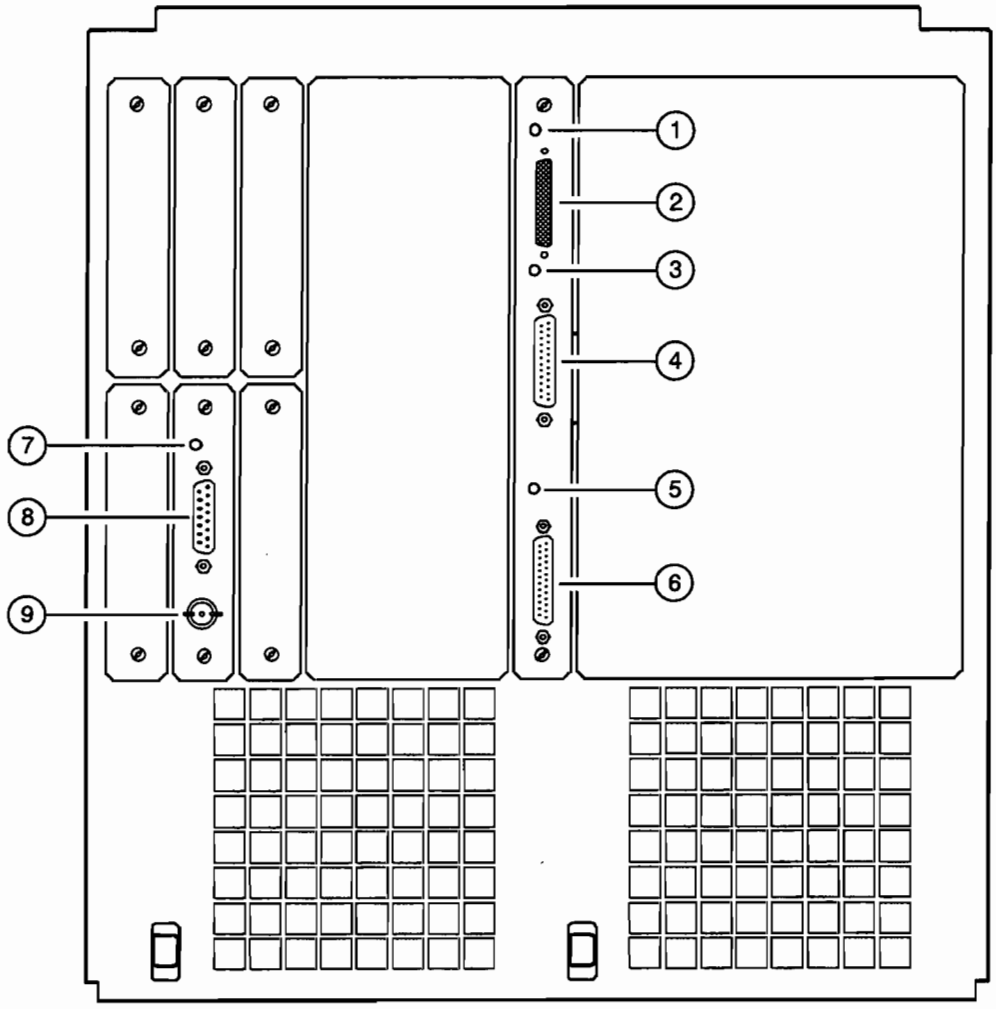


Figure 10-7. HP 9000 827S, 847S, 857S, 867S, 877S, Rear Panel

Parts Identification

Part Number	Part Name
1	SCSI Self Test Light
2	SCSI Connector
3	Term Power Light
4	Parallel Connector
5	MUX Status Light
6	Active Distribution Panel Connector
7	Xcrv/Net Fail, Self Test Fail Light
8	AUI Connector
9	LAN Connector

For the HP 9000 887S,and 897S figure 10-8, number 1 is the SCSI Self Test Light. This light should normally by off. Number 2 is the Termination Power Light. This light should normally be off. Number 3 is the SCSI connector. Number 4 is the connection for the console terminal. Number 5 is the connection for the available support modem. Number 6 is the Console/LAN Self Test Light. This light should normally be off. Number 7 is the AUI connector. Number 8 is the LAN connector.

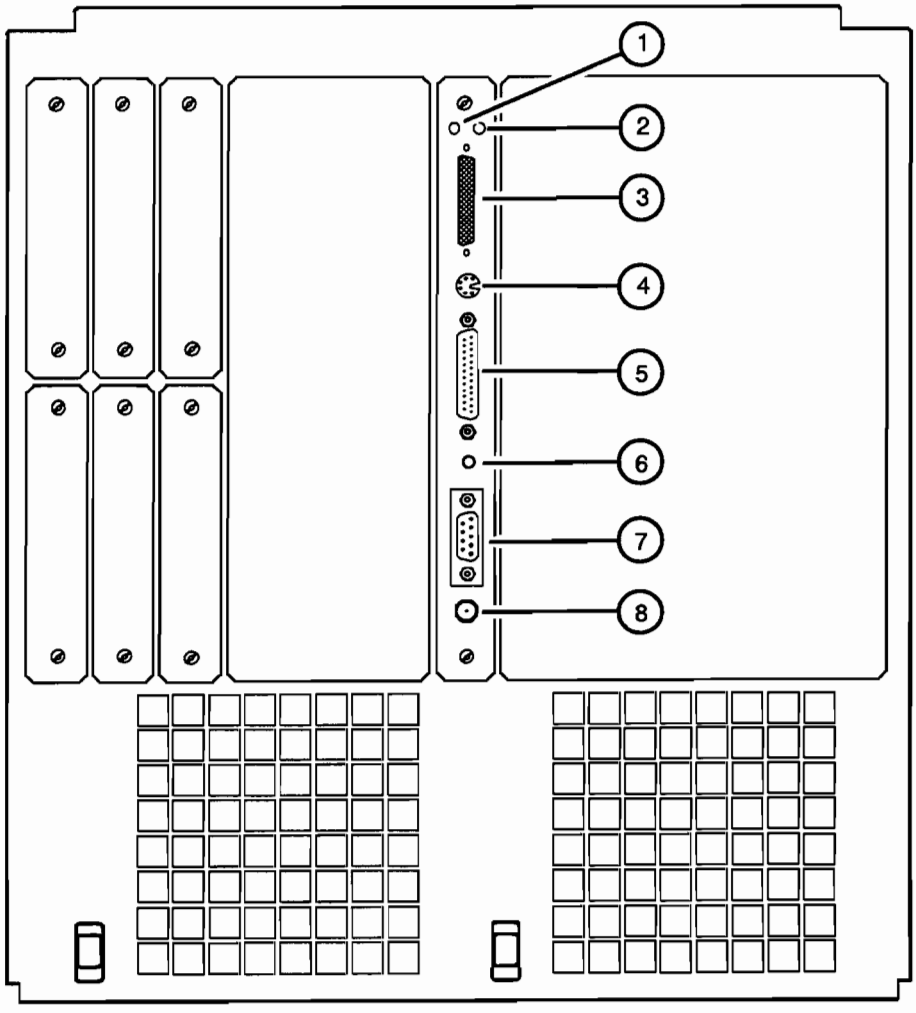


Figure 10-8. HP 9000 887S, 897S Rear Panel

Parts Identification

Part Number	Part Name
1	SCSI Self Test Light
2	Term Power Light
3	SCSI Connector
4	Console Connector
5	Support Modem Connector
6	Console/LAN Self Test Light
7	AUI Connector
8	LAN Connector

SCSI

A SCSI connector is available at the rear of each computer, with the exception of the HP 9000 807S. You can also mount optional SCSI cards in your computer.

The total length of the cable connecting the SCSI controller and all SCSI drives (disk, tape, CD-ROM) must not exceed six meters. If this length is exceeded, data corruption could result. This includes the total length of the external cable, plus the length of cable internal to all drives, plus the length of cable internal to the SCSI card.

The HP 9000 807S has an internal connection for its integrated drives, and does not have an external SCSI connector. You do not have to be concerned about this internal cable.

The HP 9000 817S, and 837S each adds 1.25 meters of internal cable to the total length of SCSI cable.

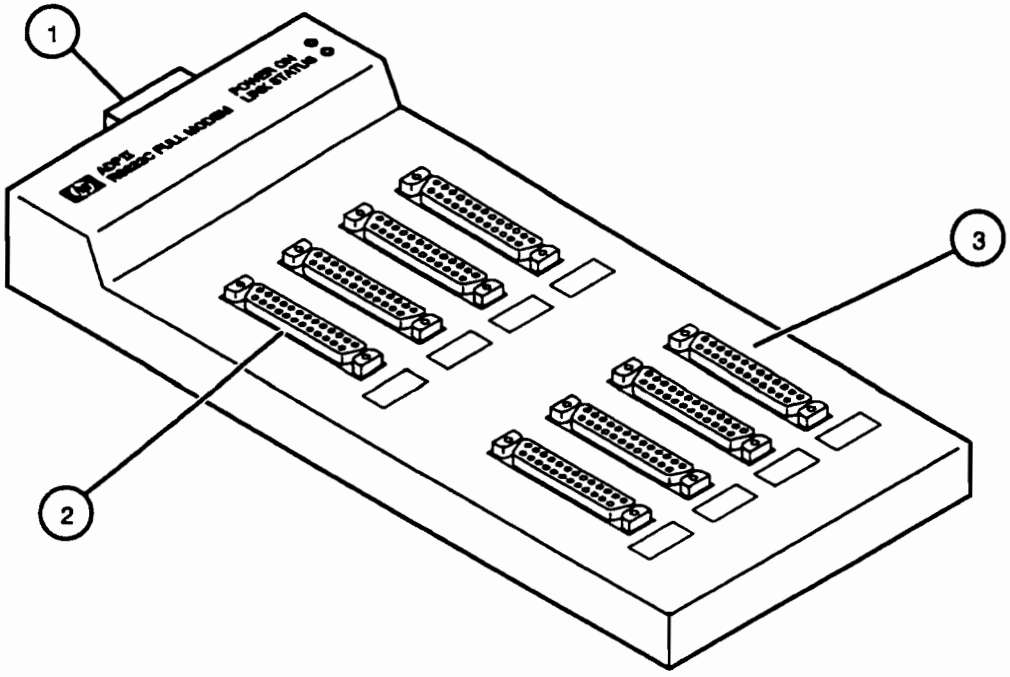


Figure 10-10. Active Distribution Panel

Parts Identification

Part Number	Part Name
1	Cable Connector
2	Console Terminal Connector (MUX 0)
3	Support Modem Connector (Optional, MUX 0)

The active distribution panel performs a self-test after power is applied to the computer. This self-test requires about one minute. After the self-test is completed, check the lights on the computer, and on the distribution panel:

- The *MUX Status* light on the computer, should NOT be lit.
- The *Power On* light on the active distribution panel should be lit.

- The *Link Status* light on the active distribution panel should NOT be lit.

The console terminal must be connected to connector 0 of the first active distribution panel (MUX 0). The optional remote support terminal must be connected to connector 7 of the first active distribution panel (MUX 0).

The data distribution panel does not have status lights and does not require that you check it for proper operation.

LAN Card

LAN (Network) is optional on the HP 9000 807S, and is standard on the other computers. Figure 10-11 shows the LAN card that is used on the HP 9000 817S, 827S, 837S, 847S, 857S, 867S, and 877S. LAN functionality is provided through an integrated port on the HP 9000 887S, and 897S.

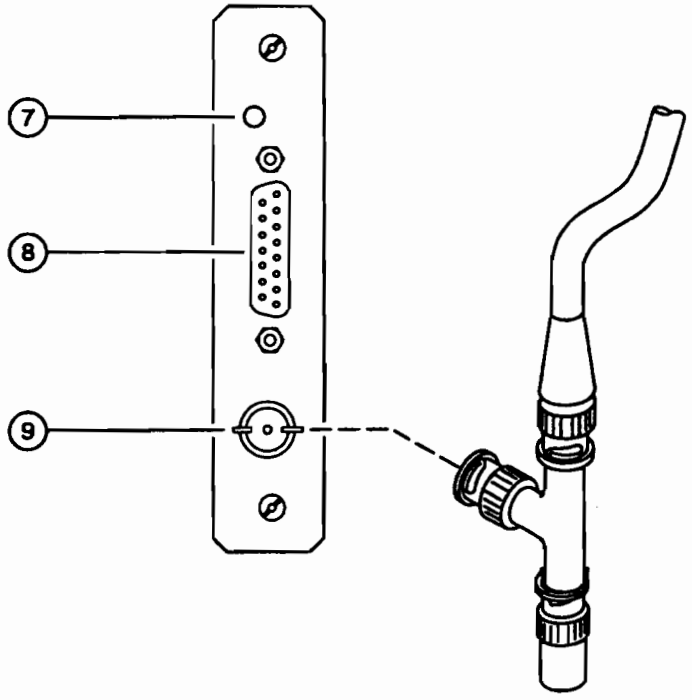


Figure 10-11. LAN Card

Parts Identification

Part Number	Part Name
7	Xcrv/Net Fail, Selftest Fail Light
8	AUI Connector
9	LAN Connector

Correct operation of the LAN card is indicated when the *Xcrv/Net Fail, Selftest Fail* light (figure 10-11, number 7) is NOT lit. (Console/LAN Self Test Light on the HP 9000 887S, 897S.) If the light is on, or is blinking, check the following:

- Is the LAN cable properly connected?

- Is the LAN cable properly terminated? Coaxial cable LANs must be terminated with a 50 ohm terminator.
- If you are using the AUI connector, has the internal jumper been changed from the factory setting?
- Is your networking working properly?
- Has your software been configured properly?

CAUTION

If you are not connecting the network cable to your LAN card at this time, be sure to connect the LAN terminator to the back of your computer in place of the network cable. The LAN terminator is shipped with your computer, and is shown in figure 1-12.

Computer High Temperature

The operating temperature of your computer is constantly monitored, and your computer will automatically shut down if the temperature exceeds a pre-set level.

When the temperature exceeds the warning level (OVERTEMP_LOW), the following message will appear on your console:

```
OVERTEMP_LOW warning: exceeded the normal operating threshold.
Correct over-temperature condition.
```

When the temperature exceeds the automatic shut down level (OVERTEMP_MID), the following message will appear on your console:

```
OVERTEMP_MID warning: exceeded the OVERTEMP_LOW threshold.
Correct over-temperature condition immediately. NOTE: Shutdown
is necessary to preserve the data.
```

When the temperature returns back to normal, the following message will appear on your console:

```
Temperature is back to normal machine operating range.
```

The OVERTEMP_CRIT is not supported on the HP 9000 8X7S family.

You can customize the high temperature warning features. See the information on the **overtempd** command in the *HP-UX Reference* manual.

If your computer does not boot up properly, or if there is a hardware problem, see the next chapter "What To Do If You Have Problems".

11

What To Do If You Have Problems

What To Do If You Have Problems

There are several things that you should check if your computer does not boot up to the login prompt, or if the displays and indicator lights do not appear as described in the preceding chapter. These include:

- Make sure that your computer is cabled properly.
  - Check that the power cord is connected and plugged into an operating outlet (two power cords on the HP 9000 827S, 847S, 857S, 867S, 877S, 887S, 897S).
  - Check that an active distribution panel is connected to correct connector on the back of your computer (not required for the HP 9000 807S).
  - Check that your console terminal is connected to port 0 of the first active distribution panel (MUX 0) (not on the HP 9000 807S).
  - Check that your console terminal is connected to the console connector on the back of the HP 9000 807S.
  - Check that your LAN, if installed, is properly connected to your computer.
- Make sure that your console terminal is configured properly. Chapter 3 of this manual contains instructions on terminal configuration.
- Make sure that your console terminal is turned on.

If you still have problems, write down the condition of the displays and indicator lights on your computer as described in the preceding chapter. Also write down the last few lines, if any, that appear on the console terminal.

This information will be helpful when you contact Hewlett-Packard.

Your computer is supplied with a tool called SupportWave which an advanced system administrator can use to troubleshoot the computer. If you do not feel comfortable with troubleshooting your computer, you should not attempt to use this tool. You can find out more about using SupportWave by reading the manual *Support Tools Manager User's Guide.*

This is as far as you should go in troubleshooting your computer.

Hewlett-Packard provides an Installation Assistance Line to help you with installation problems. The telephone number is only available in the United States. The number is:

(404)-850-2698

Warranty service is available by contacting your local HP Sales and Service Office.

Computer High Temperature

A

Site Preparation

Site Preparation

This appendix details site preparation requirements for installing your computer. Your computer is designed to operate under environmental conditions suitable for an office environment. The operating specifications listed in the following tables are within the normal range of an office environment.

If you are unsure of the electrical and environmental conditions in the area that the computer is to be installed, here are some suggestions for verification:

- Contact the building maintenance department to verify the specifications.
- Hire a licensed electrical contractor familiar with the local electrical codes to verify the specifications.
- Contact your local HP sales representative to hire an HP field engineer to verify the specifications.

NOTE

Make sure that the electrical installation complies with all local and national electrical codes and regulations.

Table A-1.
SPU Specifications
HP 9000 807S, 817S, 837S

PARAMETER	SPECIFICATION
Temperature	
Operating:	+5 to +40° C (+41 to +104° F)
Non-Operating:	-40 to +65° C (-40 to 149° F)
	Change in temperature cannot exceed 10° C per Hour.
Humidity	
Operating:	20% to 80% RH non-condensing
Non-Operating:	5% to 80% RH non-condensing
	Maximum wet-bulb temperature is 26° C.
Acoustics	
Below 30° C-37° C:	≈45dB
Above 30° C-37° C:	≈47dB
AC Power	
Voltage:	100-120 VAC or 220-240 VAC +/- 10%
Current:	6.5 A @ 100 V or 3.5 A @ 220 V
Frequency:	50/60 Hz or 50/60 Hz
Dimensions	
Width:	222 mm (8.7 inches)
Height:	430 mm (16.9 inches)
Depth:	533 mm (21.0 inches)
Weight:	31.8 kg (70 lbs)

Table A-2.
SPU Specifications
HP 9000 827S, 847S, 857S, 867S, 877S, 887S, 897S

PARAMETER	SPECIFICATION
Temperature	
Operating:	+5 to +40° C (+41 to +104° F)
Non-Operating:	-40 to +65° C (-40 to 149° F)
	Change in temperature cannot exceed 10° C per hour.
Humidity	
Operating:	20% to 80% RH non-condensing
Non-Operating:	5% to 80% RH non-condensing
	Maximum wet-bulb temperature is 26° C.
Acoustics	
Below 30° C-37° C:	≈48dB
Above 30° C-37° C:	≈51dB
AC Power	
Voltage:	100-120 VAC or 220-240 VAC +/- 10%
Current:	12 A @ 100 V or 6 A @ 220 V
Frequency:	50/60 Hz or 50/60 Hz
Dimensions	
Width:	444 mm (17.4 inches)
Height:	430 mm (16.9 inches)
Depth:	533 mm (21.0 inches)
Weight:	50 kg (110 lbs)

CAUTION Failure to ensure that the computer site complies with the listed specifications could cause possible data loss, equipment damage, and void the HP warranty for the computer.

B

Installing the Operating System

Installing the Operating System

The HP 9000 8X7S family of computers comes with the operating system pre-installed on an internal hard disk drive. If you have ordered your system without the internal disk drive, or if you chose to re-install the operating system, you will need to follow the instructions presented in this section.

There will be a delay between typing the installation command and the time that you will notice any disk activity. This delay could be between two and three minutes. Do not turn off the power, nor try to cancel the installation process during this period.

Boot Paths

The following boot paths are for the HP 9000 8X7S family of computers as configured by HP.

Primary Boot Path—52.6.0

Alternate Boot Path—52.0.0

Console Path—56.0

Installation Command

NOTE

Do NOT use the command **`hpux install`** to install the operating system. This command writes the system to the lowest numbered device on a bus. On the SCSI bus, the root disk is often the highest numbered device. Using this command with SCSI disks may cause the operating system to be written to a disk other than the root disk.

The following commands assume that the DDS tape or CD-ROM drive is at address 52.0.0. This is the default address for the integrated drive. If you have changed the location of the drive, are using an external drive, refer to *Installing and Updating HP-UX*. The installation command is:

From DDS Tape

```
hpux -a (52.6.0) (52.0.0;0xa0000,1)
```

From Reel-To-Reel Tape

```
hpux -a (52.6.0) (52.0.0;0xa0000,1)
```

From QIC Tape

```
hpux -a (52.6.0) (52.0.0;0x40000f)
```

From CD-ROM

```
hpux -a (52.6.0) (52.0.0;0)
```

Obtaining a CD-ROM Codeword

You may install the operating system from a CD-ROM disk. However, to install the operating system from CD-ROM, you must obtain a codeword that you will enter during the installation process. You cannot use this installation disk as a startup disk, nor should you expect to be able to execute commands from this disk.

The following items provide information about obtaining a codeword.

- It is possible for one or more required codewords to appear on the CD-ROM Certificate that you received with your product. Be sure you examine the contents of the packages that contain your product and take time to study the certificate. Keep the certificate handy because you will need to refer to the codeword or codewords.
- Your certificate may not include a codeword. In this case, you need to obtain a codeword from Hewlett-Packard Company. The CD-ROM booklet that came with your CD-ROM disk has directions for obtaining the codeword. The process involves filling out a form, using a fax machine to transmit the form to your HP Sales Office, and getting a returned fax that has the codeword. If you do not have access to a fax machine, you can make other arrangements with your HP Sales Office, but the procedure will take more time.
- If, for any reason, your CD-ROM disk does not have a certificate, contact your HP Sales Representative to obtain one.
- Take the time to resolve any questions you have regarding CD-ROMs, certificates, and codewords before you begin an installation. Not completing this prerequisite step may cause a significant delay in completing an installation.

Besides obtaining a codeword, there are some requirements for associating the codeword with hardware IDs.

- Your codeword will be tied to the specific hardware ID for your computer.
- The ID is four to ten characters long (numbers 0-9 only). The CD-ROM booklet contains explanations, according to devices, for what you can use as the ID for codewords.

Read the insert booklet that came with your CD-ROM disk. This booklet contains additional information on obtaining your codeword, as well as information on inserting the disk into the drive.

OS Pre-Configuration

Your operating system has been pre-configured in the factory to provide several features which make your computer easier to use. If you install the standard HP-UX operating system from tape, these features will not be present. This section describes what has been done to pre-configure your operating system. If you install the standard HP-UX operating system, you will have to make these changes before your new operating system has the same features as the pre-configured operating system.

/etc/inittab File

The **/etc/inittab** file was modified in order to permit the login screen to automatically appear when the operating system is booted up.

In order to enable this feature, make the following changes to the **/etc/inittab** file:

1. Find the line which begins: **cons:0:respawn**
2. Change this line to read: **cons:2:respawn:/bin/cuegetty console console**
3. Add the following line: **con2:013456:respawn:/etc/getty console console**

/etc/passwd File

The **/etc/passwd** file has been modified to enable password aging. This modification consists of setting the superuser (root) password to ,. in order to require that the superuser password be set the first time the operating system

is booted up. You will be asked to change the password. You may change the password to any password, including just pressing Return for no password.

Glossary

Glossary

ARPA
A network communication program which allows one computer to communicate with another.

AUI
Connector on the computer for attaching Thick LAN, Twisted Pair, and other types of network cables.

back up
The process of copying certain files onto a tape for storage. This ensures that you can recover your data if your disk drive fails or if you unintentionally erase the data.

boot up
The process of starting your operating system. This occurs when you turn on your computer.

Bourne shell
An interface to the operating system where you can issue a command or run a program. The Bourne shell, Korn shell, C shell, and keyshell perform similar functions.

client
The computer which is using files and running programs located on another computer called the server.

configuration
The way the operating system has been customized to meet your specific needs.

configuring
The process of customizing the operating system to meet your specific needs.

console terminal
The dedicated terminal used for system administration. It is connected directly to the computer and must be connected to a specific port.

C shell
An interface to the operating system where you can issue a command or run a program. The Bourne shell, Korn shell, C shell, and keyshell perform similar functions.

disk drive
A peripheral, either integrated into the computer or external to the computer, that provides for semi-permanent storage of files and data.

file system
An organization of individual files on a tape or disk. The files may all be located on the same tape or disk, or they can be distributed across more than one tape or disk.

gateway
A computer which provides a communication link between two or more other computers.

group
A collection of users who share files, work on the same project, or are associated within the same organization.

home directory
The highest level directory under an individual user's account.

host
Your computer, the one from which you are trying to communicate. The computer to which your are trying to communicate is called the remote.

HP-UX
The operating system which is running on your computer.

integrated computer
A computer with the System Processor Unit (SPU) tape drives and disk drives in the same cabinet.

interface
An I/O card that provides a connection between your computer and one or more peripherals.

I/O card
A computer card installed in your computer to provide a connection to peripherals or networks.

IP address
The Internet Protocol address is used by the host or remote computer to identify it to the communication software.

keyshell
An interface to the operating system where you can issue a command or run a program. The Bourne shell, Korn shell, C shell, and keyshell perform similar functions.

Korn shell
An interface to the operating system where you can issue a command or run a program. The Bourne shell, Korn shell, C shell, and keyshell perform similar functions.

LAN
The Local Area Net is the communication connection between computers located in the same area.

language environment
Selection of the language, such as French or German, which is used to display error messages and other information from the operating system.

local
Connected directly to your computer and not through a network.

logging in
The process of identifying yourself to the computer. This includes providing your login name and your password.

login
The name you use to identify yourself to the computer.

LVM
Logical Volume Manager is a software feature of HP-UX Release 9.0 which allows parts of the same file or file system to exist on one or more disk drives at the same time.

MAU
The Media Attachment Unit connects networks such as Thick LAN and Twisted Pair to your computer.

modem
The modem connects your computer to the telephone line. It is used with the available support contract from Hewlett-Packard.

networking
The hardware and software which enables your computer to communicate with other computers and to share files and programs.

NFS
A networking software program which allows for the transfer of files from one computer to another.

operating system
The software program which allows you to access your files, operate terminals and printers, run applications, and perform other user and system administration functions.

parallel communications
A method of providing communications to peripherals, mainly printers which can be much faster than serial data communications but requires more wires in the cable and also requires that the peripheral be located closer to the computer than with serial data communications.

password
The secret word which you provide to your computer to verify who you are.

peripherals
Devices such as terminals, printers, and modems which are attached to your computer.

prompt
The symbol which appears on your terminal to indicate where to type information.

remote
The computer to which you are trying to communicate. Your computer is called the host.

root
The highest level of a file system. You have to be a superuser to have access to this level. Most system administration functions are performed from here.

RS-232
A method for providing serial data communications.

SAM
The System Administration Manager is a feature of HP-UX which aids the system administrator is completing tasks such as adding user and peripherals.

serial data communications
A method of providing communications to peripherals, mainly terminals and modems, which can be much slower than parallel communications but requires less wires in the cable and also permits the peripheral be located closer to the computer than with parallel communications.

server
The computer which is providing files and programs used by another computer called the client.

session type
Another name for the shell you are using.

shell
An interface to the operating system where you can issue a command or run a program.

superuser
A user who has the authority to use all system administration commands. The superuser is identified to the operating system as "root" and is required to provide the superuser password.

superuser prompt
A special prompt that informs you that you are the superuser. It is a number sigh (#).

system administration
The process of configuring and maintaining the operating system. System administration tasks include adding users, adding peripherals and configuring the network.

system name
The name of your computer that is used to identify it to other computers on the network.

tape drive
A peripheral, either integrated into the computer or external to the computer, that stores files and data on removable magnetic tape.

terminal
The display device, consisting of a keyboard and monitor, which is used to communicate with your computer.

TSM
Terminal Session Manager, a user interface to a terminal which makes it easier for users to communicate with their computers.

user
The individual person who is using the computer. The user's name and password must be added to the operating system by the superuser.

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