

Where Do I Start With HP-UX?

Congratulations! You have purchased HP-UX, an operating system with a rich set of program development tools. This document helps you sort out the materials you received with HP-UX and your computer. It also shows you how to install HP-UX.

Unpack and Install Your Computer

If you are installing HP-UX on an HP 9000 Model 20 Computer and the computer has not yet been installed, read Chapter 1 of the Installation and Test manual supplied with the computer. It provides instructions for unpacking and installing the computer.

If you are installing HP-UX on an HP 9000 Model 30/40 Computer and the computer has not yet been installed, install the computer per the instructions in its installation manual.

The following table identifies the accessories supplied with your computer. Check to see that you have received all the materials. If any item is damaged, immediately contact the shipping company that delivered your order. If any item is missing, contact your local HP Sales and Support Office.

Accessories Supplied with the HP 9000 Model 20

Quantity Supplied	Description	HP Part Number
1	Installation and Test Manual	09020-90010
3	Flexible discs (256 Kbytes) To reorder discs, order HP 92190A (a box of ten discs)	
2	Special Function Key Overlays	7121-3107
1	System Integrity Software	09020-10010
1	Fuse (110 - 120 VAC): supplied with HP 9000 Model 20C only.	2110-0051
1	Fuse (220 - 240 VAC): supplied with HP 9000 Model 20C only.	2110-0056
If the optional built-in thermal printer is ordered, the supplied accessories include:		
1	Paper tray	09855-67951
1	Package of (8 1/2" wide) 330 sheets black-on-white thermal paper: supplied with Opt. 590 only.	9270-0640
1	Package of (210mm wide) 330 sheets black-on-white thermal paper: supplied with Opt. 591 only.	9270-0642

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Accessories Supplied with the HP 9000 Model 30/40

Quantity Supplied	Description	HP Part Number
1	Installation and Test Manual	09040-90010
1	1" binder (for the Installation and Test Manual)	9282-0988

HP-UX Supplies and Accessories

The following table identifies the materials and accessories you received with HP-UX. Check to see that you have received all the materials. If any item is damaged, immediately contact the shipping company that delivered your order. If any item is missing, contact your local HP Sales and Support Office.

Accessories Supplied with HP-UX

Quantity Supplied	Description	HP Part Number
1	Tape Cartridge containing HP-UX software: single user software for the HP 9000 Model 20 Computer multi-user software for the HP 9000 Model 20 Computer single user software for the HP 9000 Model 30/40 Computer multi-user software for the HP 9000 Model 30/40 Computer	97070-10034 97080-10034 97079-10034 97089-10034
1	HP-UX Reference (manual)	09000-90004
1	Where Do I Start With HP-UX? (manual)	97080-90090
1	The C Programming Language (softbound text)	97089-90000
1	A User Guide to the UNIX* System (softbound text)	97089-90001
1	HP-UX: Selected Articles (manual)	97089-90002
1	HP-UX System Administrator Manual	97089-90045
1	1" binder (for the HP-UX System Administrator Manual)	9282-0988
2	2" binder (one for the HP-UX Reference manual and one for the HP-UX: Selected Articles manual)	9282-0989

* UNIX is a Trademark of Bell Laboratories, Inc.

If you have ordered additional software products for use with your HP 9000 Series 500, Series 600 or Series 700 Model 20/30/40 Computer, use the following list to insure that you receive the appropriate manual(s) and binder(s).

Quantity Supplied	Description	HP Part Number
1	FORTTRAN/9000 Reference Manual	97081-90001
1	Pascal/9000 Reference Manual	97082-90001
1	GRAPHICS/9000 Device Handlers Manual	97084-90025
1	Device-Independent Graphics Library Programmer Reference Manual	97084-90000
1	Device-Independent Graphics Library Supplement for HP-UX Systems	97084-90001
1	Advanced Graphics Package User Guide	97085-90000
1	Advanced Graphics Package Reference Manual	97085-90005
1	Advanced Graphics Package Supplement for HP-UX Systems	97085-90001
1	HP-UX Asynchronous Communications Software (manual)	97076-90000
1	1 1/2" binder (for the Pascal Reference Manual)	9282-0987
1	1 1/2" binder (for the FORTRAN Reference Manual)	9282-0987
1	2" binder (for the Device Handler's Manual)	9282-0989
1	1" binder (for the DGL manual set)	9282-0988
1	2" binder (for the AGP manual set)	9282-0989

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Installing HP-UX

This section provides a step-by-step method for installing the HP-UX Operating System on an HP 9000 Series 500, Series 600 or Series 700 Computer. The following terminology is used throughout this procedure:

- **CS/80** - a family of mass storage devices that communicate via the CS/80 (Command Set '80) command set. HP-UX can only be booted (loaded) from a CS/80 device.

CS/80 devices currently supported on the HP 9000 Series 500, Series 600 and Series 700 are:

HP 7908P/R 16.5 Mbyte Disc/Tape Drive.

HP 7911P/R 28.1 Mbyte Disc/Tape Drive.

HP 7912P/R 65.6 Mbyte Disc/Tape Drive.

HP 7914P/R 132.1 Mbyte Disc/Tape Drive.

the built-in cartridge tape drive of the HP 7908P/R, HP 7911P/R, HP 7912P/R and HP 7914P/R Disc Drives.

HP 7933H 404 Mbyte Winchester Disc Drive.

HP 9130K - the built-in 0.25 Mbyte flexible disc drive of the HP 9000 Series 500, Series 600 and Series 700 Model 20 Computers.

HP 97093A - the built-in 10 Mbyte Winchester disc drive of the HP 9000 Series 500, Series 600 and Series 700 Model 20 Computers (system option 610).

- **88140 cartridge tape drive** - the built in cartridge tape drive of a CS/80 disc drive (such as the HP 7908P/R, HP 7911P/R, HP 7912P/R, and HP 7914P/R).
- **source device** - the mass storage device from which HP-UX is installed. The source device must be a CS/80 device such as the built-in cartridge tape drive (88140L/S) of a CS/80 disc drive.
- **destination device** - the mass storage device on which HP-UX is to be installed. The destination device must be a CS/80 device other than the HP 9000 Series 500, Series 600 or Series 700 Model 20's built-in flexible disc drive or its built-in Winchester disc drive. The built-in cartridge tape drive of a CS/80 device should not be used as a destination device when installing the system.
- **kernel** - the core of the HP-UX operating system. The kernel is compiled code that is responsible for managing the computer's resources (such as allocating memory and scheduling programs for execution).
- **boot area** - a portion of a mass storage medium on which the core of the operating system (such as the HP-UX kernel) resides. The boot area is created to be a specific size when the medium is initialized. Once created, the boot area is reserved for holding operating systems; it cannot be used to store your files.

The contents of a boot area can be marked "loadable" or "unloadable" with the *osmark* command. Marking a boot area as "loadable" or "unloadable" determines, in part, which operating system is loaded by the system loader.

- **system loader** - a program that permanently resides in the computer (in ROM); it is loaded and run each time the computer is powered-up. The function of the system loader is to search the boot area of all CS/80 mass storage devices present on the system and load the first "loadable" operating system found. Boot areas marked "unloadable" are ignored by the system loader (whether the boot area contains a valid operating system or not). The order in which devices are searched is described in the System Administrator manual chapter, "System Boot and Login: a Detailed Examination".
- **system console** - a terminal whose location HP-UX always knows. System error messages, loader error messages and other system communications are sent to the system console. When HP-UX is installed on an HP 9000 Series 500, 600 or 700 Model 20 Computer, the system console is the computer's keyboard and display (as described in the HP-UX: Selected Articles manual).

When HP-UX is installed on an HP 9000 Series 500, 600 or 700 Model 30/40 Computer, the system console is the terminal connected to the computer via select code zero (0). (If select code zero (0) is used for an HP 27130A Asynchronous 8-Channel Multiplex Interface, the terminal connected to port zero (0) of the HP 27130A is the system console.)

Before Installing HP-UX



Before HP-UX can be installed, a few procedures need to be followed.

1. Install your computer as described in its installation manual.
2. If you are installing HP-UX on an HP 9000 Series 500, 600 or 700 Model 20 Computer, this installation step does not apply to you. Skip to installation step 3.

If you are installing HP-UX on an HP 9000 Series 500, 600 or 700 Model 30/40 Computer, your HP Customer Engineer will initially install the computer hardware portion of your system. When all parts of your order have arrived, call your HP Customer Engineer. In case you want to re-install your system at a later time, instructions for installing the HP 9000 Series 500, 600 or 700 Model 30/40 Computer (as it pertains to installing HP-UX) are included in this section. Read the remainder of this section (but leave the hardware connections to the HP Customer Engineer); it helps you identify much of the information you need to install the HP-UX Operating System.

If you are installing HP-UX on an HP 9000 Series 500, 600 or 700 Model 30/40 Computer, the system console must next be connected.

If you are connecting the system console via an HP 27128A ASI Card (Asynchronous Serial Interface Card), the card **must** be installed such that its select code is zero (0). Refer to the computer's installation manual to learn how to install the interface card and determine its select code. Before installing the card, locate the set of eight switches on the ASI Card. **Set the eight switches on the ASI Card such that switches 1 through 7 are open and switch 8 is closed.**

Alternately, an HP 27130A Asynchronous 8-Channel Multiplex Interface may be used when connecting to the system console. It must be installed such that its select code is zero (0). The terminal's interface cable must be connected to channel zero (0) of the Multiplex Interface.

- a. Next the terminal must be configured so that it can "talk" to HP-UX. The manual supplied with the terminal describes how to use the function keys to configure the terminal. First, press the appropriate key for terminal configuration; select the hardwired default values. If necessary, alter the appropriate fields such that the terminal's configuration parameters have the indicated values:

LocalEcho:	OFF
CapsLock:	OFF
InhHndShk(G):	YES
Inh DC2(H):	YES
Baud:	9600
Bits/Character:	8
Parity:	none
RecvPace:	Xon/Xoff
Full Duplex	
EnqAck:	YES

After the system is installed and running, you may change the configuration parameters to suit your own needs.

- b. Press the appropriate function key to select datacomm configuration; select the hardwired default values. Initially, the baud rate for the terminal should be 9600, to match the default */etc/inittab* entry for the system console. After the system is installed and running, you may change the configuration parameters to suit your own needs.
3. Connect the source device and destination device to the computer. Your computer's installation manual describes the method for installing the interface cards. Before installing the card, refer to the installation manual supplied with the HP-IB Interface to:
 - set the card for high speed operation.
 - set the card as system controller.
 - set the card's HP-IB address to 30.

Note

High speed devices (such as disc drives and tape drives) cannot share an HP-IB interface card with low speed devices (such as plotters and some printers).

CAUTION

DO NOT ATTEMPT TO INSTALL AND CONNECT A CS/80 DISC DRIVE (OTHER THAN THE HP 97093A, HP 9130K OR THE HP 7908P/R DISC DRIVES) YOURSELF. THE CS/80 DISC DEVICES ARE PACKED TO PREVENT DAMAGE DURING SHIPMENT. THEY MUST BE UNPACKED AND INSTALLED BY AN HP CUSTOMER ENGINEER TO PREVENT DAMAGE TO THE DEVICE.

The installation process involves loading a minimum working HP-UX system from the supplied source media. You must then run a program that installs the system on the destination device. For the installation program to operate correctly, the source device and destination device must be connected such that the select code, bus address and unit number of the device are within a range of acceptable limits.

The installation program assumes certain defaults for the select code and bus address of the source and destination devices. You can ease the installation task by installing and connecting the source and destination devices such that their select code, bus address and unit number are the default values for the installation program. The following table shows the acceptable ranges and the installation program's defaults for these values.

	Acceptable Range	Default Value
Source device:		
select code	0 - 23	5
bus address	0 - 7	0
unit number	0 - 1	1
Destination device:		
select code	0 - 23	5
bus address	0 - 7	0
unit number *	0	0

* Note that the unit number of the destination device is not controllable (it is always zero).

4. Identify the select code, bus address and unit number of both the source device and the destination device. These values are needed by the installation program to properly install HP-UX.

The select code of the source device and destination device is determined by the slot number in which its interface card is installed (described in the computer's installation manual).

The bus address of the source device and destination device is controlled by a set of switches on the device. The manual supplied with the peripheral device describes the manner in which its bus address is set.

The unit number of the source device is determined by the type of device. The unit number of the source device is zero (0) when the source device is the built-in cartridge tape drive of a dual controller HP 7911P/R (Opt. 001), a dual controller HP 7912P/R (Opt. 001), or a dual controller HP 7914P/R (Opt. 001).

The unit number of the source device is one (1) when the source device is the built-in cartridge tape drive of an HP 7908P/R, a single controller HP 7911P/R, a single controller HP 7912P/R, or a single controller HP 7914P/R.

The unit number of the destination device is always zero (0).

5. Verify that the computer, the disc drive, and its interface are installed and operating properly using the System Integrity Tests described in the computer's Installation and Test manual.
6. Examine the media on which HP-UX is supplied. To properly install HP-UX, you must determine whether the source medium contains only HP-UX or whether the source medium contains HP-UX and other products (such as FORTRAN, Pascal, or the Device-independent Graphics Library).

The system is supplied on an HP 88140L/S cartridge tape for installation from the built-in cartridge tape drive of your HP 7908P/R, HP 7911P/R, HP 7912P/R, or HP 7914P/R Disc Drive. Look for the product number(s) on the label of the cartridge tape. One of the following four numbers should be present:

- 97070A (Single User HP-UX for the HP 9000 Series 500, Series 600 and Series 700 Model 20).
- 97079A (Single User HP-UX for the HP 9000 Series 500, Series 600 and Series 700 Model 30/40).
- 97080A (Multi-user HP-UX for the HP 9000 Series 500, Series 600 and Series 700 Model 20).
- 97089A (Multi-user HP-UX for the HP 9000 Series 500, Series 600 and Series 700 Model 30/40).

If the tape contains other product numbers as well, (such as HP 97071A - the product number of the FORTRAN programming language for a single-user HP-UX operating system), multiple products are supplied on the same medium.

7. HP-UX is installed by running one of two supplied installation programs, *sysinstall* or *coreinstall*. Determine which of the two programs you will use to install your system.

Use the information gathered in step 6 to decide which program to use. If the supplied tape contains only HP-UX, you may use either installation program to install the system.

If the supplied tape contains HP-UX and one or more additional products, you must decide whether or not you want the additional products installed at the same time HP-UX is installed. If you want only HP-UX installed, use the *coreinstall* program. (The additional products can be installed at a later time, using the *optinstall* program, as described in this manual's chapter entitled "System Administrator's Toolbox"). If you want to install all products supplied on the cartridge tape, use the *sysinstall* program. **Optional boot area code of HP-UX (such as optional drivers) and optional boot area code of optional products is not installed by the *sysinstall* or *coreinstall* programs.**

8. As part of the installation process, the destination disc medium is initialized. Initializing the destination disc medium removes all its files and data, verifies that the destination medium is not corrupt and creates a boot area on the destination medium.

As a last step before installing the system, you should decide the size of the boot area that is created at initialization. There must be sufficient room in the boot area to install the boot area portion(s) of all products being installed. The minimum size allowable for the boot area is 500 000 bytes; the default size is 1 100 000 bytes (sufficiently large for either HP-UX or the BASIC Language Operating System; the BASIC Language Operating System is supported only on HP 9000 Series 500, 600 and 700 Model 20 Computers). The following table specifies the boot area portions of the currently available HP-UX products (and optional software). Use these values to calculate the size of the boot area you should create for your system:

Product	Recommended Boot Area Size for Product
HP-UX Operating System (including the HP-UX kernel and any optionally installed kernel code such as optional drivers ¹ .)	600 000 bytes
HPCIO Ethernet (Local Area Network software)	300 000 bytes

You should create the boot area on the destination device such that it is large enough to contain the biggest system that you anticipate using. HP recommends that you “pad” the size of the boot area by 200 000 bytes to allow for future products that you may purchase and install. For example, if the largest system you anticipate using consists of HP-UX, its optional drivers and HPCIO Ethernet, create a boot area that is at least 900 000 bytes (600 000 bytes + 300 000 bytes) in size; the recommended size would be 1 100 000 bytes (900 000 bytes required, plus 200 000 bytes for future products).

If you plan to keep the BASIC Language Operating System on the same mass storage device as HP-UX (and plan to boot the BASIC Language Operating System from this device as well), use the manuals supplied with that system to determine the maximum size of the boot area required for that system. Then compare the boot area size required for each system; select the largest of the two values as the size of the boot area to be created by the installation program.

You are now ready to install HP-UX.

¹ Drivers for: CIPER protocol printers (such as the HP 2608S), HP 7970E Magnetic Tape Drive, HP 7971A 9-track Magnetic Tape Drive, HP 9885M/S Flexible Disc Drives, HP 82901 Flexible Disc Drive, HP 82902 Flexible Disc Drive, HP 9895 Flexible Disc Drive, and the Asynchronous Serial Interface driver for raw I/O transfers (used by the HP-UX Asynchronous Communications Software).

Installation Procedure

The system is supplied on an HP 88140L/S cartridge tape for installation from the built-in cartridge tape drive of your HP 7908P/R, HP 7911P/R, HP 7912P/R, or HP 7914P/R disc drive.

1. Examine the supplied cartridge tape containing HP-UX. Locate the write protect mechanism (labeled "SAFE") at the front, upper, right-hand corner of the medium. Using a coin or screwdriver, **turn the protect screw such that the arrow is pointed away from the word "SAFE"**.
2. Power up the source device. After the drive's busy light has extinguished, insert the HP 88140L/S cartridge into the disc's built-in cartridge tape drive. Wait for the drive's busy light to extinguish before continuing.
3. If the computer is not already powered down, switch off its power and wait a few seconds before proceeding. Switch on power to the computer. It first performs some hardware self-tests and then loads and runs the system loader. The system loader searches for an operating system, and, finding HP-UX on the supplied cartridge tape, begins to load HP-UX. As HP-UX loads, the following is displayed:

```
Loader Rev X
HP-UX Model YYYY Release X.X
```

The message `Loader Rev X` identifies the current version of the computer's system loader. The characters `YYYY` stand for "9020" or "9030/40" and identify the model of HP 9000 Computer for which the software is intended.

Note

If any other message is displayed, refer to the appendix entitled "System Loader Messages" in the computer's installation manual. If no message is displayed, verify the operation of the computer and its peripherals by performing the tests described in the computer's installation manual.

4. The remainder of the installation procedure requires you to enter information from the keyboard of the system console. Before proceeding, you should understand how to correct errors made while typing the information. When typing information, use the backspace key (`BACK SPACE`) to move the cursor back to the position where the error was made. When `BACK SPACE` is pressed, the cursor moves one space backwards and erases the character that occupied the location. Only the backslash character (`\`) is not easily erased in this manner. Alternately, you can tell HP-UX to ignore everything typed on the current line by holding the `CTRL` key depressed as you press the `U` key. (After releasing both keys, press `RETURN`.)

Once `RETURN` is pressed, all information typed is sent to HP-UX; an error cannot be corrected once `RETURN` is pressed.

Note

When asked to enter numerical information (such as a select code or bus address), do not use leading zeros with the values you enter. For example, to specify the value 7, enter 7 not 07 or 007. Use of leading zeros can cause unexpected results.

When HP-UX is loaded and begins to execute, the following message is briefly displayed:

```
Load done.
```

Some initial operations are performed and several messages are displayed (a copyright statement and statement specifying the version of the software). After about five minutes, the super-user's prompt, #, is displayed. In response to the prompt, type the name of the installation program that you have decided to use (followed by **RETURN**). Execute either

```
sysinstall RETURN
```

to install all products supplied on the source medium or

```
coreinstall RETURN
```

to install only HP-UX from the source medium.

5. As the installation program executes, it displays the following:

```
HP-UX FILE SYSTEM INSTALLATION UTILITY
```

Then, depending on which installation program you specified, one of two messages is displayed. The following message is displayed when installing with the *sysinstall* program:

```
All products on this source media will be installed.
```

However, when installing HP-UX with the *coreinstall* program, the following message is displayed:

```
Only the HP-UX core product will be installed.
```

Next, the installation program displays the default values for the installation program's parameters:

```
Here are the default parameters for this installation:
```

```
* Source Device:          88140 Cartridge Tape Drive
                           select code      = 5
                           bus address      = 0
                           unit number     = 1

* Destination Device:     CS/80 Disc Drive
                           select code      = 5
                           bus address      = 0

* Initialization operation: WILL be done on destination disc.
                           bootsize        = 1100000 (bytes)
```

```
Are these values satisfactory for your system?
```

```
If they are not, you will be instructed to supply responses
for each parameter, interactively.
```

```
(Enter y or n, then RETURN; default is 'yes')
```

If the default installation parameters correctly specify the source and destination devices and if you are satisfied with program's stated intentions regarding initialization, enter y or Y (followed by **RETURN**). Then skip to step 10 of this procedure.

If one or more of the default installation parameters is not correct, enter n or N (followed by **RETURN**). Then using the following instructions, enter the correct values for the installation parameters.

6. Once you have specified that you do not want the default parameters used, you are prompted to identify the source device:

```
* Source Device:          88140 Cartridge Tape Drive
                           select code    = 5
                           bus address    = 0
                           unit number    = 1
```

Do these parameters accurately describe your source device?
(Enter y or n, then RETURN; default is 'yes')

If the source device is correctly identified, press to select the default response (yes) or enter:

y

Continue the installation procedure with step 7.

If the source device is not correctly identified, enter the following (then continue the installation procedure with step a):

n

- a. The system next prompts to find the select code of the source device:

```
Enter the select code of your 88140 tape drive.
The range for the select code is 0 through 23, inclusive.
```

Enter the select code of the source device, then press . Entering no value (simply pressing) causes the most recently entered value (or the default value, if it has never been changed) to be used.

- b. The system next prompts to find the bus address of the source device:

```
Enter the bus address of your 88140 tape drive.
The range for the bus address is 0 through 7, inclusive.
```

Enter the bus address of the source device, then press . Entering no value (simply pressing) causes the most recently entered value (or the default value, if it has never been changed) to be used.

- c. The system next prompts to find the unit number of the source device:

```
Enter the unit number of your 88140 tape drive.
The range of the unit number is 0 through 1, inclusive.
```

Enter the unit number of the source device, then press . Entering no value (simply pressing) causes the most recently entered value (or the default value, if it has never been changed) to be used.

7. Next, you are prompted to identify the destination device:

```
* Destination Device:      CS/80 Disc Drive
                           select code   = 5
                           bus address   = 0
```

Are the select code and bus address of the destination disc
correctly described?

(Enter y or n; then RETURN; the default is 'yes')

If the destination device is correctly identified, enter:

y

Continue the installation procedure with step 8.

If the destination device is not correctly identified, enter the following (then continue the installation procedure with step a):

n

a. The system next prompts to find the select code of the destination device:

Enter the select code of the destination device.
The range for the select code is 0 through 23, inclusive.

Enter the select code of the destination device, then press . Entering no value (simply pressing) causes the most recently entered value (or the default value, if it has never been changed) to be used.

b. The system next prompts to find the bus address of the destination device:

Enter the bus address of the destination device.
The range for the bus address is 0 through 7, inclusive.

Enter the bus address of the destination device, then press . Entering no value (simply pressing) causes the most recently entered value (or the default value, if it has never been changed) to be used.

Since unit number of the destination device must be zero (0), you are not prompted for this value.

8. Next, the system asks about the size of the boot area to be created on the destination medium:

```
* Initialize operation: WILL be done on destination disc,
                        bootsize           = 1100000 (bytes)
```

Is the size of the boot area satisfactory?
(Enter y or n, then RETURN; default is 'yes')

If the boot area size displayed correctly identifies the amount of boot area space that you want reserved on the destination device, press (selecting the default answer, 'yes') or enter:

y

Continue this procedure at step 9.

If you want to change the size of the boot area created during initialization, enter:

n

You are next prompted to specify the size of the boot area to be created on the destination medium:

Please enter the number of bytes to be allocated for the boot area.
The recommended size is 1100000 bytes.
The default size is 1100000 bytes.
The minimum size is 500000 bytes.
New value:

Enter a value specifying the size of the boot area that you want created on the destination medium, then press . Do not embed spaces or commas in the value you enter.

9. Next, the system displays the menu of default values shown in step 5, previously (the new values you entered during the prompting sequence replace the original values displayed). And again, you are prompted to specify whether or not the values displayed are valid for system installation. Continue the installation procedure from step 5. (This time, the default values for each installation parameter are the values you specified in steps 5 through 8).
10. Now that all of the parameters for the installation program have been entered, the system prompts you to re-examine the values and make sure that they are accurate:

Are you sure you are ready to begin the installation procedure
on the destination disc?
(Enter y or n, then RETURN; default is 'NO!')

If you are not satisfied with the installation parameters, either press (selecting the default answer, 'NO!') or enter:

n

The installation program terminates. Re-start the installation procedure.

If you are satisfied with the installation parameters and are ready to begin installation, enter:

y

The installation process begins with initialization of the destination device medium. The initialization process can require up to 60 minutes to complete.

CAUTION

DO NOT SWITCH OFF POWER TO THE COMPUTER OR DESTINATION DEVICE DURING DISC INITIALIZATION. TERMINATING THE INITIALIZATION PROCESS IN THIS FASHION MAY CORRUPT THE DISC MEDIUM. SHOULD THIS OCCUR, TRY RE-INSTALLING THE SYSTEM; IF THIS FAILS TO CORRECT THE PROBLEM, CALL YOUR HP CUSTOMER ENGINEER.

11. After the destination disc is initialized, the HP-UX kernel is copied to the boot area of the destination disc.

Next, the HP-UX files are copied from the source medium to the destination medium. The name of each file is displayed when it has been copied successfully. Up to one hour may be required to copy all of the HP-UX files to the destination medium.

If you specified to install all products (such as FORTRAN) from the source medium, the products' files and boot area information are copied at this time.

12. When the system has been successfully installed, the following is briefly displayed:

```
INSTALLATION OF HP-UX ON THE DESTINATION DISC IS NOW  
COMPLETE.
```

```
The BB140 tape will now be automatically rewound for you.  
When you hear the buzzer, use the slide lever to remove the  
tape.
```

```
Once you have removed the tape, reboot the system.
```

When you hear the buzzer, remove the cartridge tape from the tape drive. Using a screwdriver or coin, **turn the write protect mechanism such that the arrow is pointed toward the word "SAFE"**.

Store the tape in a safe location (away from magnetic fields and harsh environments). If the disc should ever become corrupt such that HP-UX no longer boots from it, you can use the cartridge tape to re-install the system. To enhance security of your system, store the tape at a location accessible only to you and your back-up system administrator. Armed with the source tape, a determined individual can defeat the security of the system.

13. Finally, reboot the system. Power down the computer, wait a few seconds, then switch on power to the computer again. The system loader searches for and loads the HP-UX kernel (assuming that it is the first "loadable" operating system found). After some initial set-up (this may require several minutes), the login prompt is displayed:

```
login:
```

HP-UX is now installed.



What now?

Note

Now that your system is installed, you have the ability to modify and customize the system. However, if you have purchased support services (CSS - Customer Support Services, SSS - Software Support Services, or SIS - Software Information Services) from Hewlett-Packard, only minor changes can be made without voiding your agreement. Consult your support plan or HP System Engineer regarding intended changes.

Verify the Installation

To verify that the HP-UX system has successfully been installed, you must first log in (gain access to the system). When the prompt `login:` is displayed, enter:

```
root 
```

Several messages are displayed followed by the shell prompt, `#`. Execute the `/etc/fck` command by entering:

```
/etc/fck -y /dev/rhd 
```

The file system verification routine (`/etc/fck`) may take 20 minutes or more to complete. If the message `THIS FILE SYSTEM IS NOT COMPLETELY RESTORED` is displayed once `/etc/fck` has completed, your HP-UX system has not been installed properly. Repeat the installation procedure.

Your system is properly installed and contains no errors if the message `THIS FILE SYSTEM IS NOT COMPLETELY RESTORED` is **not** displayed.

Set the System Clock

Check to see if the system clock is set correctly. Enter:

```
date 
```

The time displayed is in the format of a twenty-four hour clock (for example, 2:00 pm is 14:00). If the time displayed is not correct, you need to first set the correct time zone and then set the system clock.

As shipped to you, the system is set up to run in the Mountain Standard Time Zone. To change the time zone to your time zone, type two entries of the following form:

```
TZ=XXXHHYY   
export TZ 
```

where XXX and YYY are three letter representations of the standard and daylight time zones for your area and H represents the difference between current local time and Greenwich Mean Time, in hours. For example, in Denver, Colorado you would enter the following:

```
TZ=MST7MDT   
export TZ 
```

MST stands for Mountain Standard Time and MDT stands for Mountain Daylight Time. Until you change the entry in the file */etc/profile* (described in the System Administrator manual section "Setting the System Clock"), you will need to set the time zone in the fashion previously described, each time the computer is powered up.

Now that the time zone is set, you can set the correct time and date by typing an entry of the following form:

```
date MMddhhmmyy 
```

MM is a two digit integer representing the month (for example, March is represented as 03).

dd is a two digit integer representing the day of the month (for example, enter 02 for the second day of the month).

hh is a two digit integer specifying the current hour in terms of a twenty-four hour clock. For example, 03 specifies 3:00 am and 14 specifies 2:00 pm.

mm is a two digit integer specifying the number of minutes past the stated hour. For example, 04 specifies four minutes past the hour.

yy is a two digit integer specifying the last two digits of the current year. For example, 83 specifies 1983 as the current year.

The correct time and date are now set. Verify this by entering:

```
date 
```

If the time and date are not correct, repeat the procedure "Set the System Clock".

Note

Do not attempt to execute any other command while logged in as the super-user (the user with the user name, root) until you are very familiar with the system. Otherwise, you may inadvertently damage the operating system.

Log out by holding the key depressed as you press the key.

Onward to Success

As shipped to you, your HP-UX system is set up to allow any of several users to log in. However, two in particular are of immediate interest: `root` and `guest`. Until you are familiar with HP-UX and understand its operation, you (or any other user) should avoid logging in as `root`; this is the user name supplied for the super-user. The user logging in with this user name has unlimited capabilities and can destroy system integrity if he is not careful.

Read the supplied text authored by Jean Yates. Try the examples on your system as you read. (Until you are familiar with the system, use the user name `guest` when logging in).

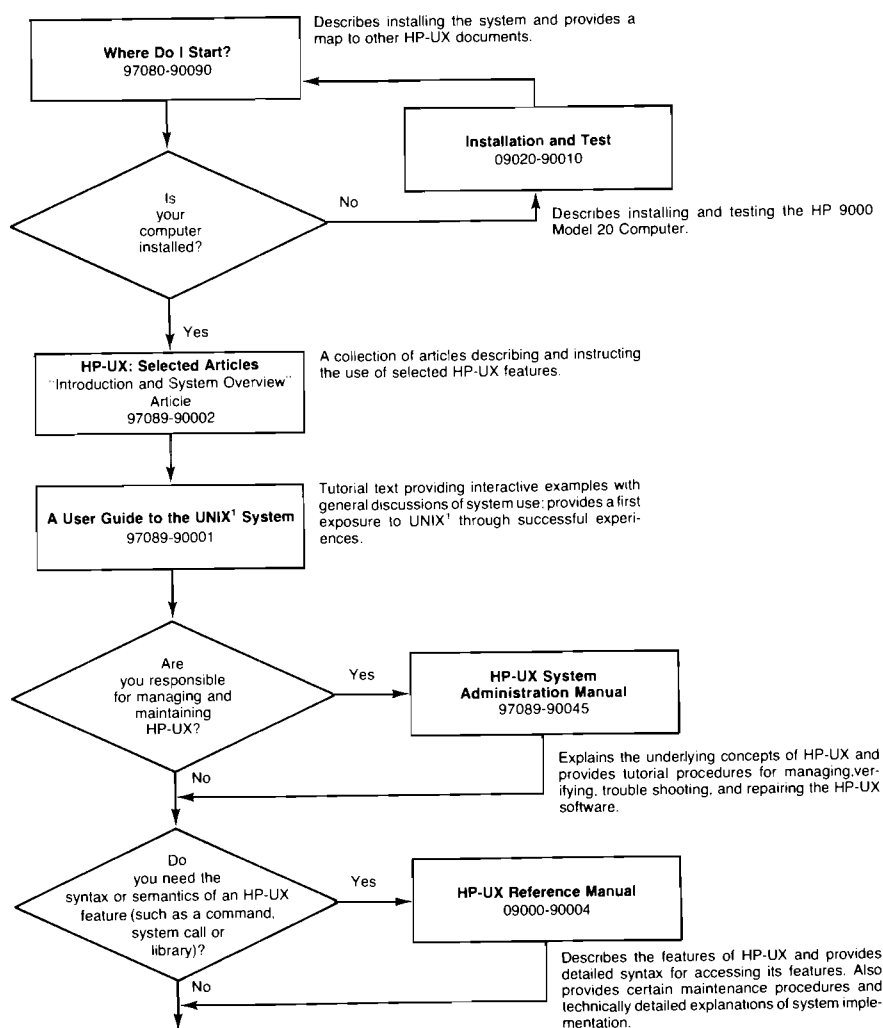
Next, read the chapters of the System Administrator manual entitled “Overview of the Job”, “Concepts”, and “System Boot and Login: a Detailed Examination”. These should give you a general understanding for the manner in which the system operates.

If you are the system administrator (and you have completed the recommended reading), log in to the system as the super-user (log in with user name `root`). Guided by the procedures in the chapter entitled “The System Administrator’s Tool Box”, consider performing the following operations:

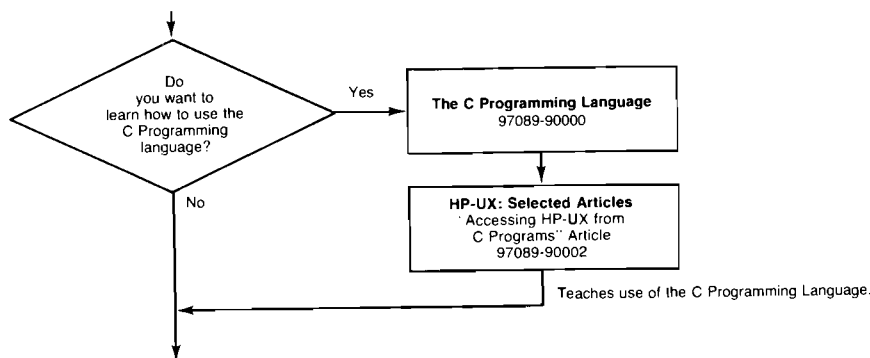
- assign a password to the root user. Write down the password you assign; if it is lost or forgotten, no one can log in as the super-user. (A complete re-installation of the system may be required to recover from a forgotten super-user password. If the super-user password is lost, call your HP System Engineer for assistance.)
- add peripheral devices such as printers, plotters, discs, and 9-track tape drives to the system.
- add other users to the system.
- modify `/etc/motd`, `/etc/profile`, and `/etc/rc` to fit your installation’s requirements. The chapter “System Boot and Login: a Detailed Examination” details the use of these programs.

Suggested Reading List

The following diagram identifies the manuals supplied with your system and helps you determine the order in which they should be read. Start at the top of the chart and follow the arrows. Answer the questions presented and read the manuals indicated by your response.



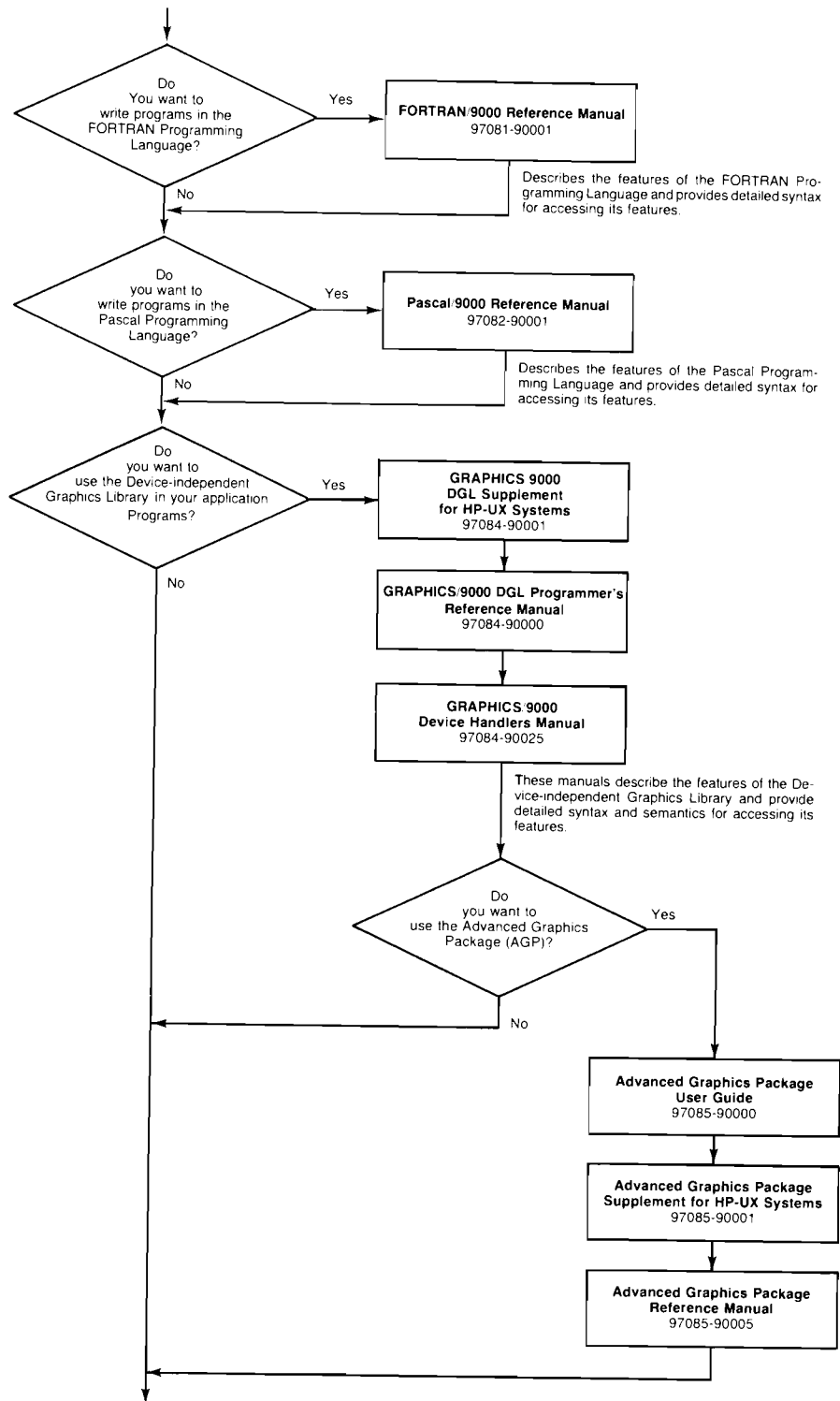
Below this point the manuals may be read in any order.



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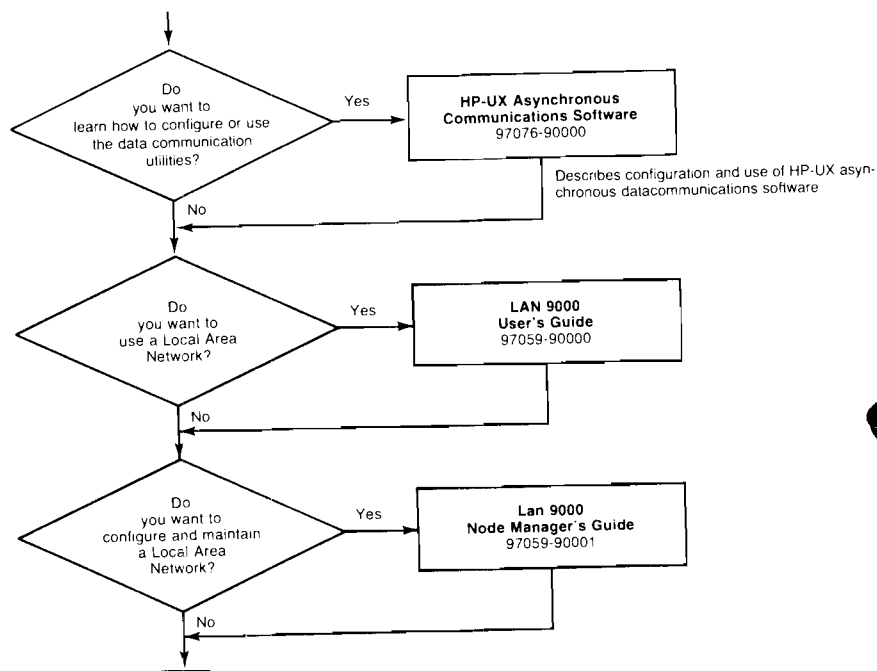
¹ UNIX is a registered trademark of Bell Telephone Laboratories, Inc.

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The manual "HP-UX: Selected Articles" contains several articles that teach you to use various HP-UX commands and features. The following list identifies and briefly describes each article in the manual:

"System Overview" - provides an introduction to the HP-UX operating system.

"Edit: A Tutorial" - teaches you how to use *edit*, a line oriented text editor.

"Ex Reference Manual" - teaches you how to use *ex*, a line oriented text editor.

"The vi Editor" - teaches you how to use *vi*, a full screen text editor.

"The ed Editor" - teaches you how to use *ed*, a line oriented text editor.

"Sed - A Non-Interactive Text Editor" - teaches you how to use *sed*, a stream editor.

"Shell Programming" - introduces you to the shell. This article discusses the shell environment, its environment variables, and its programming and control flow constructs.

"Accessing HP-UX From C Language Programs" - teaches you how to call HP-UX system calls and library routines from C language programs.

"Make - A Program for Maintaining Computer Programs" - teaches how to use the *make* program.

“Source Code Control System User’s Guide” - teaches you how to use the various programs that form the source code control system. The source code control system is a collection of commands that help individuals or projects control and account for changes to files of text (typically, the source code and documentation of software systems).

“Lint - A C Program Checker” - teaches you how to use the *lint* command. *Lint* is a command which examines C source programs, detecting a number of bugs and obscurities.

“NROFF/TROFF User’s Manual” - teaches you how to use *nroff* and *troff*, text processors that format text for typewriter-like terminals and for a Graphic Systems phototypesetter, respectively.

“PWB/MM Programmer’s Workbench Memorandum Macros” - serves as a user’s guide and reference manual for *mm*, a general purpose package of text formatting macros for use with the *nroff* and *troff* text formatters.

“Lex - A Lexical Analyzer Generator” - teaches you how to use *lex*, a command that helps write programs whose control flow is directed by instances of regular expressions in the input stream.

“Yacc: Yet Another Compiler Compiler” - teaches you how to use *yacc*, a general tool for describing the input to a computer program.

“Uucp Implementation Description” - provides a detailed implementation description of the current implementation of *uucp*, a series of programs designed to permit communication between HP-UX systems using either dial-up or hardwired communication lines.

“HP-UX and the HP 9000 Model 20 as System Console” - describes the HP 9000 Model 20 Computer when used as system console on an HP-UX system.

There are many books commercially available on the UNIX* Operating System (the system on which HP-UX is based). Although features and syntax may vary between the UNIX* Operating System and HP-UX, the commercially available texts may be useful in helping you understand the basic underlying concepts common to both systems. Some texts currently available on this subject are:

The UNIX* System - by S. Bourne, 1982

A User Guide to the UNIX System* - by R. Thomas and J. Yates, 1982

Using the UNIX System* - by R. Gauthier, 1982

A UNIX Primer* - by A Lomuto and N. Lomuto, 1982

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