

Chapter 3

Installing the Workgroup EISA HP Adapter Software

This chapter explains how to install the workgroup EISA HP adapter software, which includes an EISA HP driver and a Simple Network Management Protocol (SNMP) agent. If the software needs to be removed from your system, see Appendix B, “Deinstalling the EISA HP Adapter Software.”

Requirements

To install the EISA HP adapter software, you should be familiar with HP-UX and an HP-UX text editor. You also need to know your superuser password.

You need 1,000 kilobytes (KB) of disk space to load the EISA HP adapter software, and 2,000 KB in the root directory to rebuild the kernel.

The following software packages are required or recommended:

- HP-UX 8.07, 9.01, 9.03, 9.05, or 10.0 (required)
- LAN/9000 link (required)
- NLS Core fileset for nettl support (required)
- ARPA Services/9000
- NFS Services/9000
- Berkeley IPC Services
- OTS/9000

These software installation instructions differ depending on the version of HP-UX operating system installed in your workstation. These instructions are separated into the following sections:

- HP-UX 9.x and Earlier Installation Instructions
- HP UX 10.0 Installation Instructions

Use the installation instructions appropriate for your HP workstation operating system configuration.

HP-UX 9.x and Earlier Installation Instructions

The following instructions are used to install the workgroup EISA HP adapter software in an HP workstation with HP-UX Version 9.05 or earlier operating system installed.

Copying the Software Using the update Command

The EISA HP Version 9.x DDS tape contains the files you need to install the EISA HP Version 9.x adapter software. Use the following procedure to install the software on your system:

- Step 1** Insert the EISA HP Version 9.x adapter software tape in the DDS tape drive.
- Step 2** Log in to your system as root.
- Step 3** From the command line prompt in an hpterm window, enter **update**. The Update Main Menu window opens:

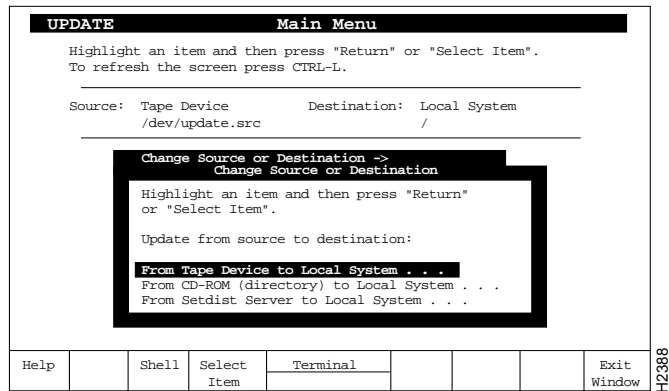
```
UPDATE Main Menu
Highlight an item and then press "Return" or "Select Item".
To refresh the screen press CTRL-L.
-----
Source:  Tape Device      Destination: Local System
        /dev/update.src   /
-----
Change Source or Destination ->
Select All Filesets on the Source Media ->
Select Only Filesets Currently on your System ->
Select/View Partitions and Filesets ...

How to Use Update

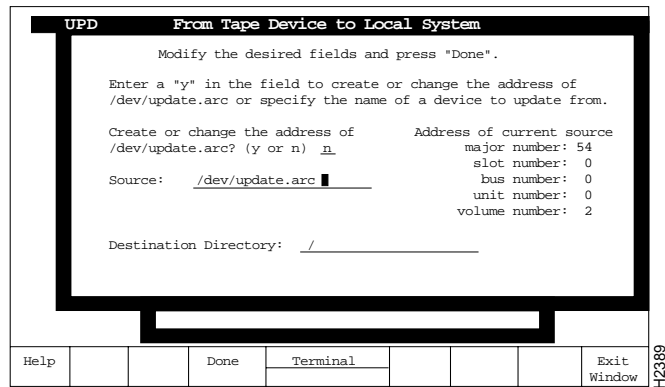
Help  Shell  Select  Terminal  Exit
      Item  Update
```

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Step 4 In the Update Main Menu window, highlight Change Source or Destination. Press **Return** or click on Select Item. The Change Source or Destination menu opens:



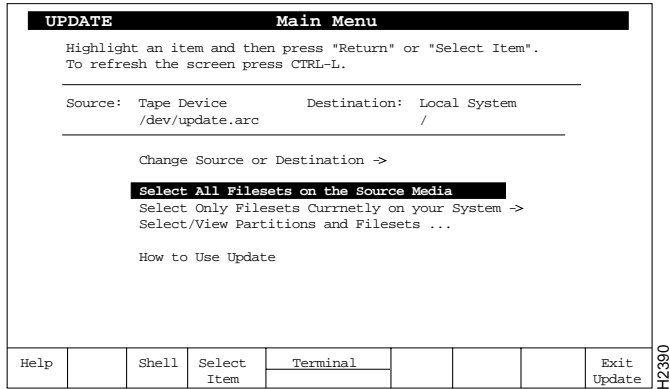
Step 5 In the Change Source or Destination menu, highlight From Tape Device to Local System. Press **Return** or click on Select Item. A dialog window opens:



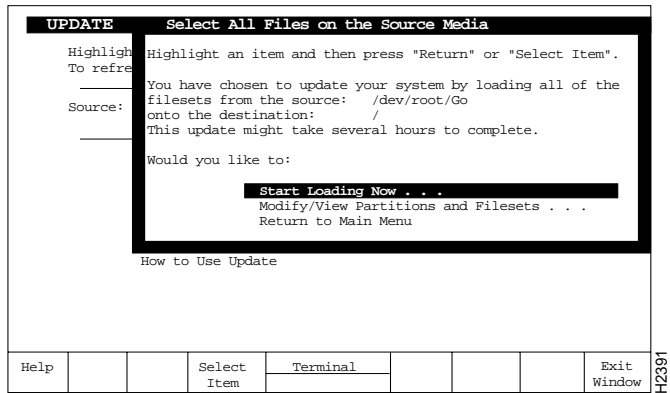
Step 6 Press **Return** to move the cursor to the Source field.

Step 7 In the Source field, change /dev/update.src to /dev/rmt/xm, where xm is the device file for the DDS tape drive (for example, /dev/rmt/0m or /dev/rmt/3m).

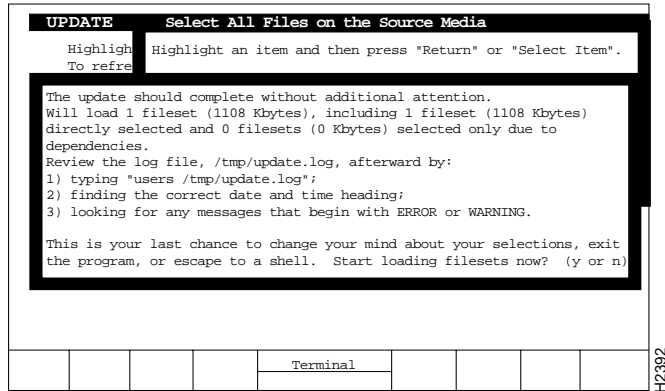
Step 8 Click on Done or press **Ctrl-F4**. The Update Main Menu windows reopens:



Step 9 In the Update Main Menu window highlight Select All Filesets on the Source Media. Press **Return** or click on Select Item. The Select All Files on the Source Media menu opens:



Step 10 In the Select All Files on the Source Media menu, highlight Start Loading Now. Press **Return** or click on Select Item. The following installation confirmation window opens:



Step 11 Enter **y** to start copying the files.

The EISA HP adapter files will be copied to the system. When the update utility has finished copying, the software the command line prompt will reappear.

Files Added or Modified Using update

Use the update utility to copy the EISA HP adapter software. The following files are copied to /usr/local/cfddi:

download_flash	install.fddi	eisa26.rom
download_flash.README	README	network_download
libfddifmt.a	cfddi.hp8.o	deinstall.fddi
libfddifmt.sl	cfddi.hp9.o	fddi.cat
cfddi.msg	eisa33.rom	

EISA HP Adapter Software Driver Installation

This section contains instructions for installing the FDDI driver and modifying system files. If you prefer to perform the installation manually, see the section “Configuring Your System Manually” later in this chapter.

Step 1 Change directory to /usr/local/cfddi.

Step 2 To start the EISA HP adapter installation script, enter **./install.fddi**.
The following information appears:

```
You have invoked the ./install.fddi script, which is used to
install
software for FDDI EISA HP Adapters.
There are two steps to the installation:
```

- 1) Install SNMP agent (optional).
- 2) Install FDDI EISA driver.

```
Do you wish to install the SNMP agent (y/n) [y] ? y
```

Step 3 When the SNMP agent installation prompt appears, enter **y**. The following information appears:

```
modifying /etc/netmrc
```

```
Do you wish to install the FDDI HP-UX driver (y/n) [y] ? y
```

Step 4 When the script asks if you want to install the FDDI HP-UX driver, enter **y** to continue with the installation, or **n** to terminate and return to the command prompt. If you enter **y** the following information appears:

```
How many FDDI interfaces are being installed in this machine
[1] ? 1
```

Step 5 Enter the number of FDDI interfaces installed on this workstation.
The FDDI interface host name prompt appears:

```
Enter hostname for FDDI interface 1 [console-fddi]:
```

Step 6 Enter the name of the workstation or use the default name assigned (the existing name with -fddi appended). The Internet Protocol (IP) address prompt appears:

```
You are using NIS, do you want to get ip address from NIS (y/n)
[y] ? y
```

Step 7 Enter **y**. The following information appears:

```
Retrieved ipaddr 198.133.219.59 for host console-fddi
Enter IP address for FDDI interface 1 [198.133.219.59]:
```

Step 8 Enter the IP address or use the default address retrieved from network information services (NIS). The following information appears:

```
modifying /etc/hosts
```

```
The lan number for the built-in LAN[ethernet] is lan0 and the
first networking adapter in an EISA slot is lan1. The LAN
adapters in other slots are named sequentially according to
the order of the slots
Enter lan number for FDDI interface 1 [ lan1 ]:
```

Step 9 At the FDDI interface prompt, enter the LAN number for this interface adapter. The follows information appears:

```
modifying /etc/master
modifying /etc/conf/dfile
```

```
modifying /etc/netlinkrc
```

```
modifying nettl tracing and logging files
```

```
Regenerating netfmt and nettl commands.
```

```
configuring kernel.....done
```

```
Rebuilding kernel...
```

```
Compiling conf.c ...
```

```
Loading hp-ux...
```

```
done
```

```
Saving /hp-ux in /hp-ux.sv
```

```
Copying /etc/conf/hp-ux to /hp-ux
```

```
enter command to add eisa configuration.
```

```
Format[add !CRS3203 <slotnum>] for old cards OR
```

```
Format[add !CRS3204 <slotnum>] for turbo cards
```

```
HP-UX E/ISA CONFIGURATION UTILITY
```

```
Type q or quit to exit eisa_config.
```

```
Type ? or help for help on eisa_config commands.
```

```
Slot CFG File Contents
```

```
0 !HWPC000 HP Series 720/730 EISA System Board (A1094-66531)
1 ** EMPTY **
```

```
EISA: add !CRS3204 1
```

Step 10 When the EISA prompt appears, enter **add !CRS3203 1** to install a nonturbo interface card or **add !CRS3204T 1** to install a turbo interfaces card. The following information appears:

```
Added board: 32-bit EISA FDDI Adapter
```

```
EISA: Slot CFG File Contents
```

```
0 !HWPC000 HP Series 720/730 EISA System Board (A1094-66531)
1 !CRS3204 32-bit EISA FDDI Adapter
```

```
EISA: save
```

Step 11 When the EISA prompt reappears, enter **save** to save the new configuration file contents. The following confirmation information appears:

```
Successfully saved configuration in NVM and in
/etc/eisa/system.sci.
```

```
EISA: q
```

Step 12 When the EISA prompt reappears, enter **q** to quit the installation script. The following information, and a description of additional steps you may need to take, appears:

```
The configuration was changed and has already been saved to NVM.
```

```
A description of the configuration was saved in
/etc/eisa/config.log.
```

```
After exiting eisa_config, follow these steps:
```

```
(1) Make any necessary device files. Refer to the section titled
"Making Device Files" in "Adding an EISA Board: Alternate
Method" in chapter 2 of the "E/ISA Configuration Guide for
HP-UX, HP 9000 Series 700". If you have moved a board you
may also need to make new device files. Refer to the section
titled "Moving an E/ISA Board" in chapter 3 of "E/ISA
Configuration Guide for HP-UX, HP 9000 Series 700".
(2) Ensure that all appropriate software I/O drivers are present
in the kernel. Refer to "Adding Drivers to the HP-UX Kernel"
in "Adding an EISA Board: Alternate Method" in chapter 2
of the "E/ISA Configuration Guide for HP-UX, HP 9000 Series 700
```


Computers".

- (3) Shut down the system with the "/etc/shutdown -h" command.
- (4) Once the system is shut down, turn the power off. Then set any physical switches and jumpers correctly. The switches and jumpers that have changed since you invoked eisa_config are listed below. Refer to the section titled "Setting Switches and Jumpers" in chapter 3 of the "E/ISA Configuration Guide for HP-UX, HP 9000 Series 700 Computers".

Also refer to /etc/eisa/config.log for a summary of the new configuration, including required settings.

- (5) Physically add, move, or remove boards as needed.
- (6) Turn the power on and boot the system.

No switches or jumpers have changed.
Exiting eisa_config.

Installation of FDDI EISA HP driver complete.
You should now halt the system, power down,
and install the FDDI EISA HP Adapter.

A log of the installation is in ./install.fddi.log

Step 13 Enter **shutdown -h -y 0** to shut down the system.

Step 14 Proceed to Chapter 4, "Installing the Workgroup EISA HP Adapter Hardware."

EISA HP Adapter Installation Script Example

The following text is an example of the ./install.fddi.log file created using the previous installation procedure:

```
root@console: etc => ./install.fddi

You have invoked the ./install.fddi script, which is used to install
software for FDDI EISA HP Adapters.
There are two steps to the installation:

  1) Install SNMP agent (optional).
  2) Install FDDI EISA driver.

Do you wish to install the SNMP agent (y/n) [y] ? y
modifying /etc/netmrc

Do you wish to install the FDDI HP-UX driver (y/n) [y] ? y

How many FDDI interfaces are being installed in this machine [1] ? 1

Enter hostname for FDDI interface 1 [console-fddi]:
```

You are using NIS, do you want to get ip address from NIS (y/n) [y] ? **y**

Retrieved ipaddr 198.133.219.59 for host console-fddi
Enter IP address for FDDI interface 1 [198.133.219.59]:

modifying /etc/hosts

The lan number for the built-in LAN[ethernet] is lan0 and the first networking adapter in an EISA slot is lan1. The LAN adapters in other slots are named sequentially according to the order of the slots

Enter lan number for FDDI interface 1 [lan1]:

modifying /etc/master
modifying /etc/conf/dfile

modifying /etc/netlinkrc

modifying nettl tracing and logging files

Regenerating netfmt and nettl commands.

configuring kernel.....done

Rebuilding kernel...

Compiling conf.c ...

Loading hp-ux...

done

Saving /hp-ux in /hp-ux.sv
Copying /etc/conf/hp-ux to /hp-ux

enter command to add eisa configuration.
Format[add !CRS3203 <slotnum>] for old cards OR
Format[add !CRS3204 <slotnum>] for turbo cards

HP-UX E/ISA CONFIGURATION UTILITY

Type q or quit to exit eisa_config.
Type ? or help for help on eisa_config commands.

Slot CFG File Contents

0 !HWPC000 HP Series 720/730 EISA System Board (A1094-66531)
1 ** EMPTY **

EISA: **add !CRS3204 1**

Added board: 32-bit EISA FDDI Adapter

EISA: Slot CFG File Contents

```
0 !HWPC000 HP Series 720/730 EISA System Board (A1094-66531)
1 !CRS3204 32-bit EISA FDDI Adapter
```

EISA: **save**

Successfully saved configuration in NVM and in /etc/eisa/system.sci.

EISA: **q**

The configuration was changed and has already been saved to NVM.

A description of the configuration was saved in /etc/eisa/config.log.

After exiting eisa_config, follow these steps:

(1) Make any necessary device files. Refer to the section titled "Making Device Files" in "Adding an EISA Board: Alternate Method" in chapter 2 of the "E/ISA Configuration Guide for HP-UX, HP 9000 Series 700". If you have moved a board you may also need to make new device files. Refer to the section titled "Moving an E/ISA Board" in chapter 3 of "E/ISA Configuration Guide for HP-UX, HP 9000 Series 700".

(2) Ensure that all appropriate software I/O drivers are present in the kernel. Refer to "Adding Drivers to the HP-UX Kernel" in "Adding an EISA Board: Alternate Method" in chapter 2 of the "E/ISA Configuration Guide for HP-UX, HP 9000 Series 700 Computers".

(3) Shut down the system with the "/etc/shutdown -h" command.

(4) Once the system is shut down, turn the power off. Then set any physical switches and jumpers correctly. The switches and jumpers that have changed since you invoked eisa_config are listed below. Refer to the section titled "Setting Switches and Jumpers" in chapter 3 of the "E/ISA Configuration Guide for HP-UX, HP 9000 Series 700 Computers".

Also refer to /etc/eisa/config.log for a summary of the new configuration, including required settings.

(5) Physically add, move, or remove boards as needed.

(6) Turn the power on and boot the system.

No switches or jumpers have changed.

Exiting eisa_config.

Installation of FDDI EISA HP driver complete.

You should now halt the system, power down, and install the FDDI EISA HP Adapter.

A log of the installation is in ./install.fddi.log

Configuring Your System Manually

The installation script modifies several system files, so you may wish to configure your system manually. This section describes the modifications you should make to various system files.

/etc/conf/dfile

Add **cfddi** to this file.

/etc/master

Add the following lines to the end of the fileset section in **/etc/master**:

```
*fileset CFDDI
cfddi      cfddi    10      100     -1     -1
```

/etc/netlinkrc

Add the bold text to the following code in **/etc/netlinkrc**.

```
case $NODENAME in
$ROOTSERVER) /etc/ifconfig lan0 inet `hostname` up
  STATUS=$?
  if [ ! $STATUS -eq 0 ]
  then
  net_init=1
  fi
  /etc/lanconfig lan0 ether
  STATUS=$?
  if [ ! $STATUS -eq 0 ]
  then
  net_init=1
  fi
  /etc/ifconfig lan# inet hostname up
  STATUS=$?
  if [ ! $STATUS -eq 0 ]
  then
  net_init=1
  fi
  ;;
```

In the example above, **lan#** is the LAN interface number for the FDDI interface, and **hostname** is the host name of the FDDI interface.

/etc/netmrc

To install the SNMP agent, add the following lines to /etc/netmrc.

```
if [-x /etc/snmpd.cfddi ]; then
    SNMPD=/etc/snmpd.cfddi
elif ....
```

Making a New Kernel

Install the driver object into the archive library to allow access by the ar utility:

For HP-UX 8.07, enter the following:

```
ar -rv /etc/conf/libusrdrv.a cfddi.hp8.o
```

For HP-UX 9.01, enter the following:

```
ar -rv /etc/conf/libusrdrv.a cfddi.hp9.o
```

For more information, see the man pages for the ar utility.

To make the new kernel, enter the following:

```
cd /etc/conf
config -m /etc/master /etc/conf/dfile
make -f config.mk
```

When the make process is complete, back up the old kernel, copy the new one to the root directory, and reboot the system using the following commands:

```
cp /hp-ux /hp-ux.save
cp ./hp-ux /hp-ux
sync
cd /
shutdown -h -y -0
```

HP UX 10.0 Installation Instructions

The following instructions are used to install and configure the workgroup EISA HP adapter software in an HP workstation with HP-UX Version 10.0 operating system installed.

These instructions are separated into two parts:

- Copying the Software Using the swinstall Command

- Configure TCP/IP Using the SAM Command

Copying the Software Using the swinstall Command

The EISA HP Version 10.0 DDS tape contains the files you need to install the EISA HP Version 10.0 adapter software. The following procedure to installs the software on your system:

- Step 1** Insert the EISA HP Version 10.0 adapter software tape in the DDS tape drive.
- Step 2** Log in to your system as root.
- Step 3** From the command line prompt in an hpterm window, enter **swinstall -i**. This command starts the software installation process in interactive mode, and a Notes window appears.
- Step 4** Read the information in the Notes window and press **Return** or click on the **OK** button. The Specify Source window appears.
- Step 5** In the Specify Source window, confirm that the Source Depot Path . . . field information in the data entry box is correct for your tape drive.
- Step 6** If the source depot path information is wrong, change it; otherwise click on the **OK** button. The workstation reads the tape, and the Software Selection window appears.
- Step 7** Highlight the **CFDDI** software in the Software Selection window with a single click of the mouse.
- Step 8** From the menu bar at the top of the Software Selection window, select **A**ction to display the drop-down menu.
- Step 9** From the Action drop-down menu, select **Show Description Of Software**. The Software Description Dialog box appears.
- Step 10** Confirm that the CFDDI adapter software is the correct version number and click on the **OK** button. The Software Selection window reappears.
- Step 11** From the menu bar at the top of the Software Selection window, select **A**ction to display the drop-down menu.

- Step 12** From the Action drop-down menu, select **Mark for Install**. In the Software Selection display window, yes will appear next to CFDDI and under the heading Marked.
- Step 13** From the menu bar at the top of the Software Selection window, select **Action** to display the drop-down menu.
- Step 14** From the Action drop-down menu, select **Install Analysis...** The Install Analysis window appears.
- Step 15** Click on the **Logfile** button. This will display a window showing the installation steps as the process progress. Leave this window open and return to the Install Analysis window.
- Step 16** In the Install Analysis window, click the **OK** button. A Confirmation window appears.
- Step 17** From the Confirmation window, click on the **Yes** button. A second Confirmation window appears.
- Step 18** In the second Confirmation window, click on the **Yes** button. An Installation Window window appears. The Installation Window displays the progress of the driver installation in the percent complete field. When the installation is complete, a Confirmation window appears asking if you want to reboot the system.
- Step 19** In the Confirmation window, click the **OK** button to reboot the workstation.

This completes the adapter driver installation. When the workstation has rebooted, continue with the next section, "Configure TCP/IP Using the SAM Command."

Configure TCP/IP Using the SAM Command

Use the following procedure to configure the network interface IP address on your system:

- Step 1** Log in to your system as root.
- Step 2** From the command line prompt in an hpterm window, enter **sam**. The System Administration Manager window appears.

- Step 3** In the System Administration Manager window, double-click on the **Networking and Communications** icon. The Networking and Communications window appears.
- Step 4** In the Networking and Communications window, double-click on the **Network Interface Cards** icon. The icons disappear and the system displays the network interface cards installed in your workstation.
- Step 5** From the list of network interface cards the system displays, highlight **FDDI** with a single-click of the mouse. The Configure LAN Cards window appears.
- Step 6** From the menu bar at the top of the Networking and Communications window, select **Action** to display the drop-down menu.
- Step 7** From the Action drop-down menu, select **Configure**. The Configure LAN Cards window reappears.
- Step 8** In the Configure LAN Cards window in the Internet Address data entry box, enter the IP address for this network interface card connection.
- Step 9** In the Subnet Mask data entry field, enter the subnet mask for this network interface card.
- Step 10** In the Configure LAN Cards window, click on the **Advanced Options...** button. The Configure Advanced Options window appears.
- Step 11** In the Configure Advanced Options window in the Internet Broadcast Address data entry box, enter the broadcast address for this network interface card.
- Step 12** In the Configure Advanced Options window, click the **OK** button. The Configure LAN Cards window reappears.
- Step 13** In the Configure LAN Cards window, click the **OK** button. The Networking and Communications window reappears. The IP address should appear in the FDDI area under the Internet Address heading.
- Step 14** In the Networking and Communications window, select **File** and **Exit SAM** from the menu bar to close the System Administration Manager window.

| This concludes the network interface IP address configuration on your system.

