



Read Me First (UGR0107-000, REVB)

4824 Hardware Requirements

You can install a 4824 in any HP server or workstation EISA slot in a system running HP-UX 9.05, 9.07, 10.10, or 10.20.

Number of 4824s Supported in a Single System

There is no established limit on the number of 4824s supported in a single system. The driver has been tested with up to 6 adapters in a configuration. System resources and EISA bandwidth will dictate the feasible limitations for each configuration on this device.



HP-UX 9.05/9.07 Driver Application Notes



The lanscan, lanadmin, and nettl utilities are not supported; it is not possible to support these utilities with third-party devices under HP-UX 9.x.

HP-UX 9.05/9.07 Driver Installation

Overview

Following is the procedure for installing the HP-UX 9.x driver, configuring the 4824 network interface, and monitoring and debugging the interface. This release of the software works with HP-UX 9.05 and 9.07. Releases prior to 9.05 are not supported.

This procedure covers



- Installation prerequisites
- Installing the HP-UX 9.05/9.07 driver via the update utility, which installs the software driver and builds the kernel
- Modifying the 4824 configuration file
`/etc/netlinkrc`
- Verifying the interface

Installation Prerequisites

The recommended installation prerequisites for your software, hardware, and network are:

- Software:
 - HP-UX 9.05 or 9.07 operating system. You can verify the operating system by entering: `uname -a`
 - You must be logged in as “root.”
 - Approximately 1 megabyte of free disk space in the `/usr` directory.
- Installation device: You will need the device name of the DDS tape drive. The installation example assumes the tape device `/dev/rmt/0m` is installed and will be used in this procedure. If you are using another device, substitute the appropriate name.
- Network:
 - A new IP address, subnet mask (optional), and host name alias for the 4824.
 - Appropriate cables to connect the 4824 to the network.

Loading the HP-UX 9.x Software Driver

The 4824 software loads via the HP-UX 9.x update program. Depending on your terminal type, the keystrokes used to navigate through the installation screens will vary. For more detailed information, see your Hewlett-Packard documentation.

1. Insert the software media (DDS tape) in the appropriate drive.

2. At the prompt, type:

```
/etc/update -s /dev/rmt/0m -c > \  
/tmp/ip4824_inst
```

This creates a temporary file containing information about the fileset.

3. Load the driver using the following command:

```
/etc/update -s /dev/rmt/0m -r -f \  
/tmp/ip4824_inst
```

This command loads the driver from tape, builds the kernel, and automatically reboots the system.

The following appears during installation:

```
Initializing...
Reading information from the update media...
update: WARNING: The following filesets to be loaded will
cause update to rebuild the kernel and reboot the system:
IP4824.IP4824. 31 non-essential processes (other than
those expected at the time of system reboot) are running.
Inspect the list of processes found (run cat(1) on
/tmp/update.procs). You can kill the processes (except
non-shell parents of this program, if any) using the
/tmp/update.killall script. This should suffice, and be
faster than exiting to do a shutdown. Proceeding; this
might cause work to be lost or files to be left in
undesirable states.
Loading selected filesets.
The program should proceed to completion without
additional attention.
Review the log file, /tmp/update.log, afterward by:
1) typing "more /tmp/update.log";
2) finding the correct date and time heading;
3) looking for any messages that begin with ERROR or
WARNING
Beginning to load fileset "IP4824" (1 of 1).
/system/IP4824/customize
/system/IP4824/copyright
/etc/conf/ip4824/mastadd.awk
/etc/conf/ip4824/netlinkrc.ext
/etc/conf/ip4824/UGR0107-000,REVA
/etc/conf/libip4824.a
/etc/eisa/!INT1060.CFG
/system/IP4824/CDFinfo
/system/IP4824/index
Finished loading fileset "IP4824".
Beginning customize script for fileset "IP4824" (1 of 1).
Generating a new kernel. This might take a few minutes..
```

4. When the system comes back up, inspect the end of the install log (/tmp/update.log) for errors.

If there are no errors, continue.

If you find errors, do the following: If you get an error message that indicates there is a kernel build problem, remove the 4824 entry from /etc/conf/dfile, and



rebuild the kernel. Then, try reinstalling the driver. If the error message(s) persist, make a note of any console messages and the adapter's LED status, and then see the Assistance page in the front of this manual.



Note

The utility 'lanscan' and SAM's Network Interface Configuration do not display the Interphase 4824 entry. Configure the interface as outlined in the following section.

Configuring the Network Interface

Before the 4824 can communicate with other hosts on the network, its interface must be configured. The following procedure explains how to edit the `/etc/netlinkrc` file for this purpose. For more detailed information, see Hewlett-Packard's *Installing and Administering LAN/9000*.



Note

The 4824 driver must already be installed on the endstation before you configure the network interface.

To configure the 4824 to the network, do the following:





Note

Before you edit the `/etc/hosts/` and `/etc/netlinkrc` files in this procedure, it is recommended that you create backup copies of them.

1. Add the new IP address for the adapter to `/etc/hosts/` by manually editing that file.
2. Edit the `/etc/netlinkrc` file to identify the hostname and netmask for each 4824 installed in your machine as follows:



Note

If this is a first-time install, the driver script automatically inserts the template shell script in the `/etc/netlinkrc` file.

- a. In the `/etc/netlinkrc` file, locate the line similar to

```
# /etc/ifconfig ife0 inet HOST_NAME \  
netmask NET_MASK -trailers
```
- b. Remove the # comment notation at the beginning of the line.
- c. Change the `HOST_NAME` and `NET_MASK` placeholders to your new hostname and netmask for the adapter:

```
#  
# NOTE: Substitute new values for the place holders HOST_NAME and  
NET_MASK  
# below for the 4824 interface.  
#  
/etc/ifconfig ife0 inet HOST_NAME netmask NET_MASK -trailers up  
STATUS=$?  
if [ ! $STATUS -eq 0 ]
```

```

then
net_init=1
fi
#
#

```

- d. Repeat substeps a–c for each additional 4824 installed in your machine.

You must edit the file `/etc/netlinkrc` to duplicate the above lines for each interface. The second 4824 (if installed) has a device and instance number of **ife1**, and so on.

- e. Save and exit the file.



Note

If you brought up the 4824 interface from the command line, you can omit the following step (that is, you do not need to reboot).

3. Restart the system again by entering:

```
reboot
```

The adapter and its software driver are now installed. Complete the next section before running any utilities or applications.

Verifying the Network Interface

Verify that the 4824 interface is up and configured properly as follows:

1. Verify the interface name and network address by typing

```
netstat -i
```

2. Use the `ifconfig` command to verify the interface IP address and netmask. For example, type:

```
ifconfig ife0
```

Figure 1-7 on page 8 shows a sample console output for the `ifconfig` command where the placeholders for `ife0` were set to `HOST_NAME: 171.15.21.131` and `NET_MASK: fffffff0`:

```
ife1: flags=63<UP,BROADCAST,NOTRAILERS,RUNNING>  
inet 17.15.21.131 netmask fffffff0 broadcast 171.15.21.255
```

Figure 1-7. Sample `ifconfig` Output

The UP flag in this example means that an IP address was successfully assigned to the adapter.

3. Verify that the console output for the IP address, netmask, and broadcast settings matches what you expected for this adapter.
4. To verify that the 4824 can communicate with other hosts, use the `ping (1M)` command:

```
ping <remote_host>
```

where `<remote_host>` is the network name or the IP address of the endstation you want to ping. A sample console output from a ping command follows:

```
# ping 171.15.21.130  
64 bytes from 171.15.21.130: icmp_seq=1. time=3 ms  
64 bytes from 171.15.21.130: icmp_seq=2. time=1 ms  
64 bytes from 171.15.21.130: icmp_seq=3. time=1 ms
```

Figure 1-8. Sample ping Output

If the 4824 is unable to communicate with other hosts, see *Troubleshooting* for suggestions.