



HEWLETT
PACKARD

Installation
Note

HP 4980 Network
Advisor PC Card

Installation Note

— HP 4980 Network
Advisor PC Card

Warranty

© Copyright Hewlett-Packard Company 1993

All Rights Reserved

Reproduction, adaptation, or translation without prior written permission is prohibited, except as allowed under the copyright laws.

Warranty

The information contained in this document is subject to change without notice. Hewlett-Packard makes no warranty of any kind with regard to this material, including but not limited to, the implied warranties or merchantability and fitness for a particular purpose.

Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Safety Information

Failure to comply with the precautions or with specific warnings in this book violates safety standards of design, manufacture, and intended use of this instrument. Hewlett-Packard Company assumes no liability for the customer's failure to comply with these requirements.

Hewlett-Packard Company
Network Test Division
5070 Centennial Boulevard
Colorado Springs, Colorado 80919-2497

Printing History

New editions are complete revisions of the manual. Update packages may be issued between editions. They contain additional and replacement pages to be merged into the manual by the customer. The dates on the title page change only when a new edition or a new update is published.

Many product updates and fixes do not require manual changes and, conversely, manual corrections may be done without accompanying product changes. Therefore, do not expect a one-to-one correlation between product updates and manual updates.

October 1993 First Edition

Printing Conventions

If certain actions present a danger:

WARNING

An operating procedure, practice, etc., which, if not correctly followed, could result in personal injury or loss of life.

CAUTION

An operating procedure, practice, etc., which, if not strictly observed, could result in damage to, or destruction of, equipment or software.

If additional or background information is appropriate or necessary:

Boxed information

Explanatory comments or supplementary instructions are presented in boxed format.

Contents

1. Installing the Network Advisor PC Card	
Overview of the installation	1-3
Step 1: Determining whether your PC supports the network advisor PC card	1-4
Recommended PC platforms	1-5
The PC evaluation utility	1-5
Step 2: Installing network advisor software	1-7
Step 3: Using the Hardware Configuration utility	1-8
Configuring multiple network advisor cards	1-9
Using two PC card slots	1-9
Exchanging PC boards using one PC card slot	1-10
Step 4: Preparing the network advisor PC card	1-11
Step 5: Installing the network advisor PC card	1-13
Step 6: Verifying the installation	1-14
Deleting the network advisor software	1-15

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

Figures

1-1. Switch location on the network advisor PC card	1-11
---	------

Installing the Network
Advisor PC Card

Installing the Network Advisor PC Card

This manual explains the installation procedure for the following products:

- HPJ2260A Ethernet Network Advisor PC card
- HPJ2261A Token Ring Network Advisor PC card
- HPJ2308A Both Network Advisor PC cards

When any of the above network advisor PC cards are installed in a supported host PC, the host PC can function as a network advisor. See the Network Advisor User Manual and online help for information on how to operate the network advisor.

Overview of the installation

The installation of the network advisor PC card requires these steps:

1. Determine whether the PC host supports the network advisor PC card
2. Install the network advisor software
3. Use the Hardware Configuration utility
4. Prepare the network advisor PC card
5. Install the network advisor PC card
6. Verify the installation

Before you start the installation, make sure you have the following items:

- Static guard for handling PC boards
- Hardware Installation manual for your PC
- HP 4980 Network advisor software, Version A.05.00 (18 disks)

Step 1: Determining whether your PC supports the network advisor PC card

NOTE

When installed properly on a supported PC host, the network advisor software will function correctly. However, Hewlett-Packard can not guarantee that PC hardware or non-network advisor software will co-exist with the network advisor and function correctly.

The PC host for the network advisor PC card must have the following minimum configuration:

- 8 megabytes of PC memory with at least 7 of those megabytes as extended memory. *Recommended:* 16 megabytes of memory with at least 7 of those megabytes as extended memory.
- 386SX/20 MHz processor. *Recommended:* 486DX/33 MHz processor.
- 84 megabyte hard drive. *Recommended:* 105 megabyte hard drive.
- 3.5 inch floppy drive.
- VGA color or monochrome display (must have VGA compatible display circuitry with a 16 bit PC interface).
- One full-size 16 bit PC/AT slot, either EISA or ISA.
- 12 watts of power available to each PC/AT slot.
- Fan for adequate cooling.
- One free I/O location in the 1024 location PC I/O space.
- Standard keyboard. *Recommended:* Extended keyboard that allows Key 101.
- MS DOS 6.0 (included with the Network Advisor software).
- One available interrupt line out of the following list:
 - IRQ3
 - IRQ5
 - IRQ9
 - IRQ10
 - IRQ11
 - IRQ12
 - IRQ15

Step 1: Determining whether your PC supports the network advisor PC card

Recommended PC platforms

Any PC which meets the minimum specifications is a good candidate for a host platform for the network advisor PC card. The following platforms have been tested to be sure they meet all advisor PC card requirements. Only the Hewlett-Packard systems are certified to meet environmental and EMC criteria.

- HP Vectra 486/66U
- HP Vectra 486/33U
- Compaq Deskpro 66M
- Compaq Portable 486c/66

The PC evaluation utility

Your PC may support the network advisor PC card even if it does not appear in the supported hosts list. A utility is provided with the network advisor software to help you determine whether the network advisor PC card can be successfully installed.

Because of the variability in available PC hardware and firmware, the evaluation utility sometimes cannot correctly determine the system configuration. To help the utility be more accurate, first remove any lines in the CONFIG.SYS and AUTOEXEC.BAT files which install device drivers. Also, remove any accessory PC cards which may interfere with the network advisor.

The utility checks the following items:

- OS version
- CPU type
- Bus type
- Display adapter
- Main memory
- Extended memory
- Keyboard type

Step 1: Determining whether your PC supports the network advisor PC card

- Disk space
- Available IRQs
- Available addresses

To use the PC Evaluation utility, follow these steps:

1. Insert the disk labeled PC Card Configuration.
2. At the **C:\>** prompt, type **A:PCCARD**.
3. When the Main Menu screen is displayed, the **Evaluate PC** selection is highlighted. Press **(Enter)** to start the system evaluation.

After a moment, a summary screen shows whether the PC passed or failed in each area. Press any key to see detailed information.

The following table provides suggestions for action if the utility displays a Fail message in any of the evaluation areas:

Table 1: Suggested Action on Fail Message

Evaluation Area	Suggested Action
OS Version	Update to DOS 6.0. DOS 6.0 is included in the network advisor A.05.00 software. Do not use the DBLSPACE or MEMMAKER DOS 6.0 commands.
CPU Type	This PC CANNOT be a host for the network advisor card
Bus Type	This PC CANNOT be a host for the network advisor card
Display Adapter	Update to VGA display and adapter card
Main Memory	Add memory
Extended Memory	Add memory, to 16 megabytes if possible
Keyboard Type	Most keyboards should work
Fixed Disk	Upgrade to larger disk
Largest Drive	C: must have at least 84 megabytes of available space.
Available IRQs	Remove any accessory boards and their associated drivers. If this area continues to fail, it may be that the evaluation utility cannot read your particular system configuration. You can attempt to use the highest available IRQ or the one you suspect may be free.
Available Addresses	The PC card requires one 8K memory block. Remove any accessory boards and their associated drivers. If this area continues to fail, it may be that the evaluation utility cannot read your particular system configuration. You can attempt to use the highest available address or the one you suspect may be free.

Step 2: Installing network advisor software

When the evaluation of the host PC passes, the next step is installing the network advisor software. This step loads all network advisor software to the hard disk. The installation process requires up to 84 megabytes of free disk space, however, 24 megabytes are needed only temporarily. The network advisor software requires up to 60 megabytes of disk space.

After loading the software, you will use the **Hardware Configuration** utility to determine settings for the network advisor PC card configuration switches.

Your AUTOEXEC.BAT and CONFIG.SYS files are copied to AUTOEXEC.ORG and CONFIG.ORG by the installation process. You may want to carefully merge these files later.

NOTE

The network advisor software must be installed on the host PC in order for the **Hardware Configuration** utility to complete successfully.

1. Use the arrow keys to select the **Finished** menu and return to the operating system.
2. Remove the disk labeled **PC Card Configuration** from drive A:, and insert the disk labeled **Network Advisor System Disk 1**.
3. Reboot the PC either by pressing **CTRL-ALT-DEL** or by cycling the power.
4. Follow the instructions on the screen. The installation process may ask you to skip disks depending on the interfaces you elect to load.
5. Do **NOT** reboot the PC. Go to Step 3.

Step 3: Using the Hardware Configuration utility

The network advisor PC card switch settings and the host PC configuration file must agree on an IRQ line, an IO port, and a shared memory address.

The Hardware Configuration utility creates a configuration file for the host PC and also a file containing switch setting patterns to guide you in configuring the PC card. You must run the Hardware Configuration utility every time you install network advisor software, or change the settings on the network advisor PC card.

Follow the steps below:

1. Remove the last install disk from drive A: and insert the disk labeled PC Card Configuration.
2. Enter the command `A:PCCARD`.
3. Use the arrow keys to move to the `HW Config.` menu item from the Main Menu. Press `(Enter)` to start the hardware configuration.
4. Select either 802.3 or 802.5 to match the network advisor PC card you are currently installing. Only one network advisor PC card can be active at a time. If you have both network advisor cards and you want to install them on the same host PC, see the section *Configuring multiple network advisor cards* at the end of this step.
5. The default values for the hardware settings are displayed at the top of this screen. If the defaults are satisfactory, select `Quit` and `Save` to write the settings to the configuration file. Otherwise, the menu selections in the `HW Config.` menus let you change any of the default values.

Use the arrow keys to select each menu item from the `HW Config.` menu. Press `(Enter)` to see the available options. Options which are marked as "Possible Conflict" mean that the address or IRQ seems to be in use. Because the evaluation utility cannot be 100 percent correct, these items may be selected if desired.

The `Transfer Size` gives you the option of choosing either 8-bit or 16-bit. The 8-bit option is strongly recommended. The 16-bit option often causes problems with video displays and other peripheral cards.

6. After you select the values you want, choose the `Quit` and `Save` menu to write the values to the configuration file and return to the Main Menu.

7. Use the arrow keys to move to the **Finished** menu item, and press **Enter**. Leave the PC Card disk in drive A:. It has files you need in order to use **PRINT** or **MORE** to see the switch settings.
8. The file **C:\NA3SWSET.DOC** for the Ethernet interface, or **C:\NA5SWSET.DOC** for the Token-Ring interface shows the switch settings for the values you selected in the Hardware Config menu. Print this file to a printer or to the screen to see instructions for setting hardware switches on the network advisor PC card. The command **TYPE C:\NA3SWSET.DOC | MORE** prints to the screen one page at a time.

If you have both network advisor PC cards, read the next section. Otherwise, go to Step 4.

Configuring multiple network advisor cards

If you have network advisor PC cards for both Token-Ring and Ethernet interfaces, you can set up one host PC to run either card. There are two options: use two PC card slots and install both cards, or use one PC card slot and exchange boards.

Using two PC card slots

When there are two available PC card slots in the host PC, you can install both the HPJ2260A (Ethernet) card and the HPJ2261A (Token-Ring) card. The advantage to this method is that you do not have to open the PC and exchange the PC card when you want to run the other interface.

Follow the steps below to configure the host PC to use two PC card slots.

1. In the HW Config. menu of the PC Card Configuration Disk, choose the selection "802.5 and 802.3"
2. Next, choose one of the interfaces to configure first.
3. Select the values for the parameters for that interface.
4. Select the other interface and configure the values for it. The values for the first interface are shown also so that you do not select the same values for both cards. Each card must have a unique value for each configuration parameter except Transfer Size.

Step 3: Using the Hardware Configuration utility

5. Both switch set files (NAXSWSET.DOC) are created in the C:\ directory. Follow Steps 4 through 6 to complete the installation.

When you have installed and configured both cards, the Ethernet interface is the default the first time you run the network advisor. To change network interfaces, follow the steps below:

1. If you are running the network advisor software, use the UTILS window to Exit to DOS
2. Enter advisor basic5 or advisor basic3 to change from Ethernet to Token-Ring, or vice versa.

After you specify which network interface you want, the advisor automatically boots up into that network interface every time until you use the above procedure again to change it.

Exchanging PC boards
using one PC card slot

When you have only one PC slot available and only one PC host, you must exchange the network advisor PC cards to switch from Token-Ring to Ethernet, or vice versa.

The following steps explain how to exchange PC cards:

1. In the HW Config. menu of the PC Card Configuration Disk, choose the selection "802.5 and 802.3"
2. Next, choose one of the interfaces to configure first.
3. Select the values for the parameters for that interface.
4. Select the other interface and configure the values for it. The values for the first interface are shown also so that you do not select the same values for both cards. Each card must have a unique value for each configuration parameter except Transfer Size.
5. Both switch set files (NAXSWSET.DOC) are created in the C:\ directory. Follow Steps 4 through 6 to complete the installation for the card you want to install first. Set the switches on the other card and carefully store it until it is needed.
6. When you want to switch interfaces, the correct configuration files will be in place, and the switches on the card are correct, so you can open the PC and exchange the cards.

Step 4: Preparing the network advisor PC card

CAUTION

The network advisor PC card, like any other PC board, is sensitive to static. Use a properly grounded static protection wrist guard or take other precautions to ensure you do not damage the board.

Remove the network advisor PC card from its protective bag. There are four sets of switches on the card. Figure 3-1 shows the location of the switches.

- Switch Bank 1 is used by the factory. Do not adjust this switch.
- Switch Bank 2 specifies the interrupt line for the network advisor PC card.
- Switch Bank 3 specifies the shared memory address.
- Switch Bank 4 specifies the I/O address used by the card.

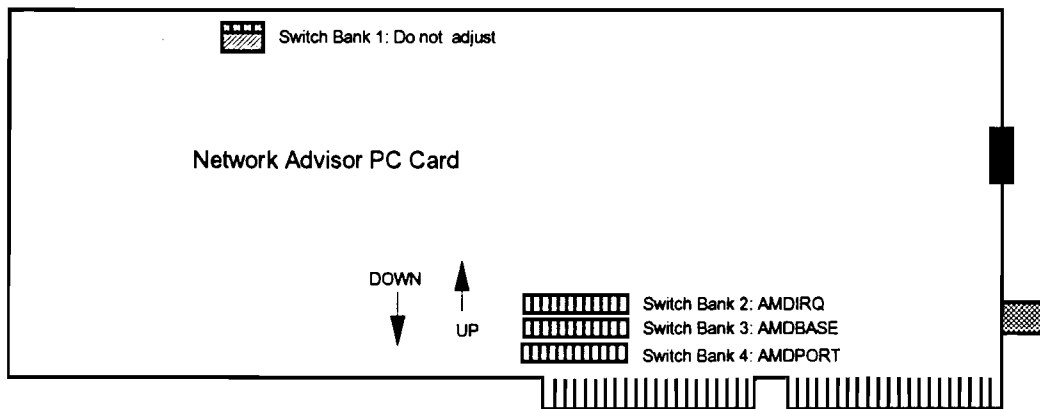


Figure 1-1. Switch location on the network advisor PC card

Set the switches on the network advisor PC card according to the pattern in the NAXSWSET.DOC file.

Step 4: Preparing the network advisor PC card

A partial sample switch setting file is shown here so that you can read the text. Your switch settings may be different for switch banks 2 through 4. The switches in Switch Bank 1 should all be in the UP position as set by the factory.

Hewlett-Packard Co. Network Advisor PC
Hardware switch settings for the 802.X Network Advisor PC card.

To complete the installation of the Network Advisor PC, the switches on the PC board must be set to correspond to the environment variable values you have selected. The settings for the switches are diagrammed below.

The switches are located in the center of the bottom edge of the board. The board should be oriented so that the edge connector is down or away from you and the external interface is to your right. SW1 is set at the factory and should not be changed. Of the lower three switch banks, SW2 is the top most switch bank, followed by SW3 and SW4.

In the "Setting" pattern below, each digit represents a single switch on each switch bank. The position of the digit corresponds directly to the physical location of each individual switch in each bank (i.e. the right most digit corresponds to the rightmost switch in the bank) when the board is oriented as described above.

1 = Up position 0 = Down position

Up = Farthest from the edge connector
Down = Closest to the edge connector

Switch:	SW2	SW3	SW4
Variable:	AMDIRQ=3	AMDBASE=0xD0000	AMDPOR=150
Setting:	11111110	1110010111	1010101111

Step 5: Installing the network advisor PC card

After you have set the hardware switches on the network advisor PC card according to the instructions in the NAXSWSET.DOC file, perform the following steps to install the network advisor PC card.

1. Be sure to unplug your PC to avoid risk of shock.
2. Check the switch settings on the network advisor PC board to be sure they match the settings shown in the NAXSWSET.DOC file. Use a narrow rigid implement such as the end of an empty mechanical pencil to adjust the switch settings.
3. Follow the instructions in your PC manual for inserting new boards.
4. Seat the network advisor board.
5. Follow the instructions in your PC hardware manual to close the PC.

Step 6: Verifying the installation

To start the network advisor, remove the disk from drive A: and cycle power or press **CTRL-ALT-DEL** to reboot the PC.

If the network advisor does not start up properly, check the following:

- The switch settings on the PC card must match the settings documented in the file NAXSWSET.DOC. Compare the settings on the PC card to the switch settings for each variable.

If you see the error

SharedMemTestResultCode 2130

it could be that the switch settings for Port Address and/or Shared Memory Address do not match the configuration in NAXSWSET.DOC.

If the network advisor stops booting while the logo is displayed, check that the switch setting for the IRQ line matches the setting in NAXSWSET.DOC. If you find you cannot press Control-C before the hang occurs, insert the Network Advisor System Disk 1 and cycle power or press **CTRL-ALT-DEL**. Use **CTRL+X** to exit to DOS.

- Be sure that no other applications loaded on your host PC use the resources that you have allocated for the network advisor. The IRQ line, the port address and the shared memory address must be unique to the network advisor.
- If you set the Transfer Size in the Hardware Configuration menu to 16 and are seeing problems, try setting the Transfer Size variable to 8.
- Be sure you have seated the board properly.
- If you need to change Hardware Configuration variables, insert the PC Card Configuration Disk into A: and type **A:PCCARD**.

See the Network Advisor User's Guide and online help for information on how to operate the network advisor.

If you want to delete the network advisor software

If you want to remove all network advisor software from your disk, you can use the DOS 6.0 command DELTREE. This command lets you delete a directory and all the files beneath it in one command. The network advisor software is written into four directories:

- C:\ANALYZER
- C:\HELP
- C:\USER
- C:\UTILS

To delete all files in these directories, use the following commands in the DOS environment:

1. CD \
2. DELTREE ANALYZER
3. DELTREE HELP
4. DELTREE USER
5. DELTREE UTILS

Copyright © 1993
Hewlett-Packard
Printed in USA 11/93

Reorder Part No.
Manual Part No.
5962-2216



5962-2216E1193