COMPAQ

Installation Guide
Compaq 802.11b MultiPort Module

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This guide provides information on installing and setting up the
802.11b MultiPort Module as well as tips on solving common
problems.

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Getting Started

The Compaq 802.11b MultiPort Module allows you to access
wireless Local Area Networks, share a local printer and files with
others in your network, access the Internet, and roam about the
office—wire-free.

This wireless Local Area Network solution is designed for both
large and small businesses, and it is scalable so that you can add
users and new network features as your networking needs grow.

Using a Wireless Local Area Network

This product is a Local Area Network (LAN) device. A LAN is
two or more computers that are connected to each other in order
to share files or common equipment such as a printer or a modem.

A wireless LAN provides the same functionality of a wired
network, but it eliminates the need to install networking cables
and other networking equipment. Not only is a wireless LAN
easier to deploy, but it also allows for "roaming."

For example, when using a portable computer with a Compaq
802.11b MultiPort Module, you can roam from a conference
room to an office without being disconnected from the network.

Features and Requirements

A wireless LAN includes the following features:

■ Support for the IEEE 802.11b Standard

■ 2.4-GHz band operation

■ Network speeds up to 11 Mbps

■ Wired Equivalent Privacy (WEP) encryption

To participate in a wireless LAN, you need the following:

■ Compaq 802.11b MultiPort Module

■ Software CD containing application, drivers, software reference guide, and help file

■ A portable computer with a MultiPort, equipped with a CD drive, and running Microsoft Windows 98, Windows Me, or Windows 2000

Selecting a Network Mode

A wireless LAN can be configured for two different modes of operation. While each method has its advantages, one may be better suited for your needs. Review the following configurations to determine which mode is best for you and the hardware and software you need to build your network.

■ Ad hoc networking

■ Infrastructure networking

Ad Hoc Networking Mode

Also called "peer-to-peer" networking, this mode is the easiest to deploy and is ideal for small offices. As a user on this type of network, you are able to share files with other employees, print to a shared office printer, and access the Internet through a shared modem. However, with ad hoc networking your computer is only able to communicate with other wireless computers that are within range and in your wireless workgroup.

Advantages	Simple to set up
	Cost-efficient
Disadvantages	Communication is limited to those who are in range

Infrastructure Networking Mode

The key difference between an infrastructure wireless LAN and an ad hoc wireless LAN is the addition of one extra element—an access point. Unlike "peer-to-peer" networking, where networked computers send data directly to each other, networked computers using the infrastructure networking mode communicate with each other through a dedicated access point.

The 802.11b MultiPort Module is compatible with any WiFi (Wireless Fidelity) interoperability certified access point, such as the Compaq WL300, WL400, WL410, and WL510.

All data transmitted between two computers on the wireless LAN passes through the access point.

Additionally, the access point on the infrastructure wireless LAN can provide access to an existing wired LAN. This link allows computers on the wireless LAN to access the wired LAN's resources and tools, including Internet access, electronic mail delivery, file transfer, and printer sharing.

Advantages	Extended range: The access point extends the range of the wireless LAN. Each computer can communicate with other computers equipped for wireless networking that are within the range of the access point.
	Roaming: As you move throughout the building, the MultiPort Module determines the best access point to use to ensure continuous communication with the network.
	Network connectivity: An access point can provide a wireless LAN access to an existing wired network by bridging the two networks together. This gives users of the wireless LAN access to all functions of the wired network—from file server access to electronic mail and Internet.
Disadvantages	As this network mode offers more features, it requires additional components and setup time to deploy.
Requirements	One access point, such as the Compaq WL300, WL400, WL410, or WL510.

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Installing Hardware and Drivers

✎ Before installing the 802.11b MultiPort Module on a new computer, the computer software setup process should be completed and the operating system should be fully operational. Refer to the "Setting Up the Software" section in the *Getting Started* guide included with the computer.

✎ If you have previously installed a wireless LAN device, such as a PC Card, you must uninstall the wireless LAN drivers and software according to the device manufacturer's instructions.

Before installing the 802.11b MultiPort Module hardware, insert the software CD, included with the MultiPort Module accessory kit, into the CD drive. When the computer is turned on after installing the hardware, this ensures that the operating system will prompt you for drivers after detecting the new hardware.

Installing the MultiPort Module and Drivers

To install the MultiPort Module and essential drivers:

1. Insert the MultiPort Module software CD into the CD drive.

2. Turn off the computer.

3. Disconnect any external devices.

4. Remove all battery packs.

5. Remove the Phillips screw securing the MultiPort cover on the computer display ❶.

6. Remove the MultiPort cover by sliding it toward the front of the computer ❷, then sliding it to the right ❸.
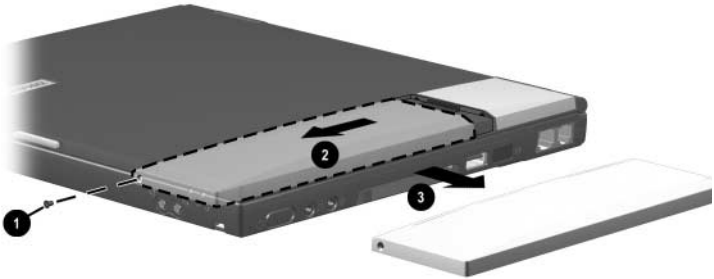
✎ The MultiPort cover should be stored, then reinstalled on the display if the MultiPort Module is removed at a later date.

7. Place the 802.11b MultiPort Module in the MultiPort, making sure to rest the tabs ❶ on the back of the module against the rear edge of the MultiPort.

8. Press down on the rear-left corner of the MultiPort Module ❷ and slide the module toward the back of the computer ❸ until the connectors are seated.

⚠ **CAUTION:** Do not slide the 802.11b MultiPort Module any farther than the length of the tabs ❶ on the back edge of the module. Failure to follow this precaution can result in damage to the connectors inside the module and computer display.

9. Install the Phillips screw to secure the MultiPort Module to the display ❹.
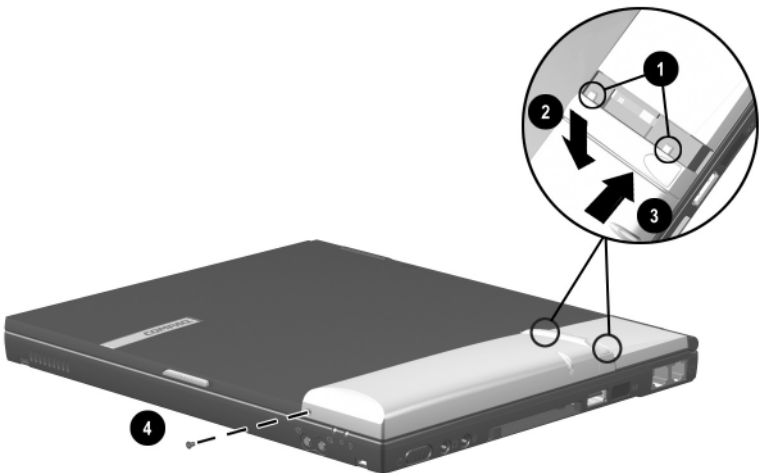
10. Open the computer and turn it on. After the operating system is fully operational, Windows should find a new USB device. If Windows does not find the device, press **Fn+F2** to turn on the MultiPort Module. At this point the New Hardware Wizard should start and guide you through the process of installing the drivers for the module.

✎ The drivers are located in the root directory of the CD (for example, if D:\ is your CD drive, the drivers are located in D:\).

11. Follow the on-screen directions to find and install the drivers. Several dialog boxes are displayed to complete the driver installation and you may also be prompted for your original Windows installation disk.

12. **For computers running Windows 98 or Windows Me:** After the drivers are installed, a System Settings Change dialog box is displayed and the operating system prompts you to restart the computer. Select Yes to accept.

Removing the MultiPort Module

1. If the MultiPort Module status light is lit, press **Fn+F2** to turn off the wireless device.

2. Turn off the computer, disconnect any external cables, and remove all battery packs.

3. Remove the Phillips screw securing the MultiPort Module to the display ❶.

4. Press the MultiPort Module release button ❷.

5. Slide the MultiPort Module toward the front of the computer ❸, then slide it to the right ❹ to remove it.

⚠ **CAUTION:** Do not slide the 802.11b MultiPort Module forward or backward any farther than the length of the tabs on the back edge of the module. Failure to follow this precaution can result in damage to the connectors inside the module and computer display.
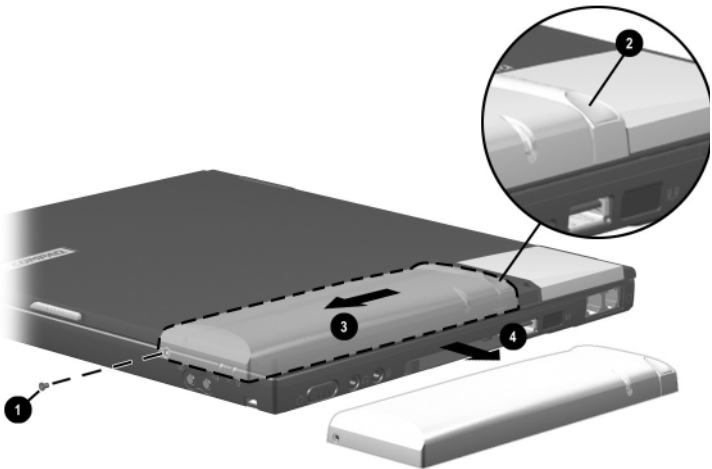
6. Install the MultiPort cover and secure it to the display using the Phillips screw.

3
Installing Software

Preparing for Installation

Before installing the software, make sure the hardware and drivers are installed. Refer to Chapter 2, "Installing Hardware and Drivers," for more information.

If you have previously installed a wireless LAN device, such as a PC Card, you must uninstall the wireless LAN drivers and software according to the device manufacturer's instructions.

For each computer that you want to add to the wireless LAN, follow the instructions in the sections that apply to your computer's operating system.

✎ After completing the installation, refer to the Microsoft Windows operating system manual, included with your computer, for information on sharing network resources, such as printers.

Installing Software

1. After the hardware and drivers have been installed, select Start > Run, enter D:\setup.exe (where D:\ is your CD drive), and select OK. The Welcome dialog box is displayed.

2. Carefully read the information in the Welcome dialog box and then select Next.

3. Select Yes to accept the Software License Agreement.

4. Enter the SSID and select Next.

✎ All computers on the same wireless LAN must have the same
SSID. The setup program uses the default SSID "101." However,
it is strongly recommended that the SSID be changed to one of
your choice.

5. Select the Ad Hoc or Infrastructure network mode in which
   your computer will operate and select Next (you can change
   this setting at any time after installation).

6. Choose one of the following settings from the Encryption
   (WEP) list:

   ❏ **64-bit**—All communication must be WEP encrypted
      with one of four 64-bit keys. Otherwise it is ignored.

   ❏ **128-bit**—All communication must be WEP encrypted
      with the same 128-bit key. Otherwise it is ignored.

   ❏ **Disabled**—WEP-encrypted communication will be
      ignored (continue with Step 8).

7. After enabling WEP by selecting 64 or 128 bit, use one of the
   following methods to enter the encryption keys:

   ❏ Create a passphrase.

      a. Select Create with Passphrase.

      b. Enter a passphrase. The passphrase is a text string
          with a maximum of 31 characters.

          The passphrase automatically creates all the
          appropriate WEP keys needed for data encryption.
          All clients and access points within the WLAN
          network must use this same passphrase to
          communicate.

✎ The passphrase is a unique function of the Compaq 802.11b
MultiPort Module and may not be supported with all WLAN
access point products. To ensure interoperability, use the Manual
Entry method for creating the WEP keys or reconfigure the access
points to use the WEP keys that are generated using the
passphrase method.

❑ Manually enter the keys.

a. Select Manual Entry.

b. **For 64-bit encryption**—Enter Key 1 through Key 4.
The manually entered WEP key values are
hexadecimal and can only contain the numbers 0–9
and the letters a–f. The four keys must be entered in
the same order for every client or access point.

For 128-bit encryption—Enter a key. The manually
entered WEP key values are hexadecimal and can
only contain the numbers 0–9 and the letters a–f.

c. **For 64-bit encryption only**—Select the Default Tx
Key. When you configure the access point, select the
same key to encrypt the data.

8. Accept or Browse to change the default installation and
program folders for the software and select Next. Windows
Setup will copy files and install the software.

9. Select Yes, I want to restart my computer now. Select Finish.

✎ A green, red, or yellow Wireless Monitor icon in the system tray indicates a successful installation.

■ A green icon indicates you are connected to the wireless LAN.

■ If you are operating in an infrastructure networking mode, a red icon indicates your computer is not associated with an access point.

If you are operating in an ad hoc networking mode, a red icon indicates either no client is within range or no client is within your workgroup.

■ A yellow icon indicates the computer is linked to a wireless LAN, but signal strength or quality is diminished. Refer to Appendix A, "Troubleshooting," for more information.

A

Troubleshooting

Using the World Wide Web

Support services are available on the Internet through the Compaq support forum. You can either browse the postings as a guest, or register as a user and submit your own questions. Compaq responds to questions within one business day.

To access the Compaq support forum, go to the Compaq Web site at http://www.compaq.com.

Preparing to Call Technical Support

If you cannot solve a problem using the troubleshooting tips in this section, you may need to call technical support. To receive the fastest possible solution when you call, run the computer's diagnostic utility. Refer to your computer documentation for information on running diagnostics. Refer to the *Worldwide Telephone Numbers* guide included with the computer for information about contacting a Compaq authorized dealer, reseller, or service provider. Have the following information available before calling Compaq:

■ Compaq 802.11b MultiPort Module serial number and model name and number

■ Applicable error messages

■ Add-on options

■ Operating system

■ Third-party hardware or software

■ Detailed questions

■ Technical Support Registration number (if you have previously called Compaq Technical Support for assistance with your product; this number is assigned to you the first time you call Technical Support)

The following table lists possible problems and the recommended solutions.

Solving Problems

Problem	Solution
The wireless monitor icon does not appear in the system tray.	■ Make sure the Multiport Module is seated correctly. Refer to Chapter 2, "Installing Hardware and Drivers."
	■ Make sure the MultiPort Module status light is solid or flashing green. If the MultiPort Module status light is not lit, press **Fn+F2** to enable the MultiPort Module.
	■ Make sure the drivers are installed. Select Start > Settings > Control Panel > Network and determine if the Compaq 802.11b Multiport Module is listed as a network adapter. Refer to Chapter 2, "Installing Hardware and Drivers," for more information on installing drivers.
	■ The wireless monitor icon software may not be installed. Refer to Chapter 3, "Installing Software," for more information.
The system tray Wireless Monitor icon is always red.	■ Make sure your computer and each network client to which you are trying to connect have the same SSID. The SSID is case sensitive.
	■ Make sure your WEP settings are correct.
	■ Make sure you are within range of an access point or network client.

Solving Problems *(Continued)*

Problem	Solution
I cannot connect to one of the users in the network.	■ Make sure each network client is up and running with a green taskbar icon. ■ Make sure your WEP settings are correct. ■ Move your computer closer to the access point or other network client. ■ Make sure the network client you need to reach is within range, or within range of an access point. ■ Make sure the network settings are correct for your local area network. ■ The MultiPort Module is not enabled. Press **Fn+F2** to enable the MultiPort Module. Contact your network administrator for other networking issues.

B

Regulatory Compliance Notices

Wireless Notices

In some situations or environments, the use of wireless devices may be restricted by the proprietor of the building or responsible representatives of the organization. Such restrictions may apply when:

■ Using the wireless equipment on airplanes, or

■ The risk of interference to other devices or services is perceived as harmful.

If you are uncertain of the policy that applies on the use of wireless equipment in a specific organization or environment (such as airports), you are encouraged to ask for authorization to use this device prior to turning on the equipment.

⚠ **WARNING: Exposure to Radio Frequency Radiation**
The radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact during normal operation is minimized. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna should not be less than 20 cm (8 inches) during normal operation.

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

■ Reorient or relocate the receiving antenna.

■ Increase the separation between the equipment and receiver.

■ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

■ Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Compaq Computer Corporation may void the user's authority to operate the equipment.

Declaration of Conformity for Products Marked with the FCC Logo—United States Only

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding your product, contact:

Compaq Computer Corporation
P. O. Box 692000, Mail Stop 530113
Houston, Texas 77269-2000

Or, call

1-800-652-6672 (1-800-OK COMPAQ)

For questions regarding this FCC declaration, contact:

Compaq Computer Corporation
P. O. Box 692000, Mail Stop 510101
Houston, Texas 77269-2000

Or, call

(281) 514-3333

To identify this product, refer to the Part, Series, or Model number found on the product.

Canadian Regulatory Wireless Notice

Operation is subject to the following two conditions:

■ This device may not cause harmful interference, and

■ This device must accept any interference received, including interference that may cause undesired operation.

At the time of publication for this document, the following note applies to the operation of this product. The requirements are subject change.

✎ To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Class B Equipment

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Union Notice $\zeta\epsilon$ 0470 ①

Products with the CE marking comply with the R&TTE Directive (1995/5/EC), EMC Directive (89/336/EEC), and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms (in parentheses are the equivalent international standards and regulations):

■ EN55022 (CISPR 22)—Electromagnetic Interference

■ EN55024 (IEC61000-4-2, 3, 4, 5, 6, 8, 11)—Electromagnetic Immunity

■ EN61000-3-2 (IEC61000-3-2)—Power Line Harmonics

■ EN61000-3-3 (IEC61000-3-3)—Power Line Flicker

■ EN60950 (IEC 60950)—Product Safety

■ ETS 300 328—Technical requirements for radio equipment

■ ETS 300 826—General EMC requirements for radio equipment

This product may be used in all EU and EFTA countries unless the packaging indicates that it may not be used in France.

Japanese Notices

　この機器の使用周波数帯では、電子レンジ等の産業・科学・医療用機器のほか
工場の製造ライン等で使用されている移動体識別用の構内無線局（免許を要する
無線局）及び特定小電力無線局（免許を要しない無線局）が運用されています。
１　この機器を使用する前に、近くで移動体識別用の構内無線局及び特定小電力
　　無線局が運用されていないことを確認して下さい。
２　万一、この機器から移動体識別用の構内無線局に対して電波干渉の事例が発
　　生した場合には、速やかに使用周波数を変更するか又は電波の発射を停止した
　　上、下記連絡先にご連絡頂き、混信回避のための処置等（例えば、パーティシ
　　ョンの設置など）についてご相談して下さい。
３　その他、この機器から移動体識別用の特定小電力無線局に対して電波干渉の
　　事例が発生した場合など何かお困りのことが起きたときは、次の連絡先へお問
　　い合わせ下さい。

連絡先：コンパックコンピュータ株式会社　ＴＥＬ：０１２０－１０１５８９

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