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iPAQ ConnectionPoint CP-2W
First Edition (August 2001)
Part Number 241274-001

Contents

1. Introduction

Congratulations! As the owner of a new Compaq iPAQ Connection Point CP-2W, you are taking advantage of the most advanced network technology available to manage your home or small office network. The iPAQ Connection Point will be the focal point of your network, providing secure broadband Internet connectivity to all of your networked computers and devices.

This guide is designed to help you:

> Understand the networking features of your iPAQ Connection Point CP-2W

> Install the product correctly

> Find additional information, as needed

Features and Benefits

Share a Single High-Speed Internet Connection

> **Network address translation (NAT)** allows a single public IP address to be shared across many devices

> **DHCP server** automatically provides up to 253 IP addresses on the local area network

> **Supports dynamic IP, static IP, and PPPoE** connections via an external DSL or cable modem, providing high-speed Internet access (up to 50 times faster than a 56K modem)

802.11b Wireless Networking

> **802.11b wireless** is high-performance, industry-standard wireless networking for use with IEEE 802.11b-compatible networking cards

> **Range** up to 300 feet, transmission rates up to 11Mbps: high-speed coverage of most home or small office environments

> **Access point roaming** to work in conjunction with other 802.11b access points, increasing coverage area

Ethernet Networking

> **Built-in 4-port Fast Ethernet switch** connects up to four PCs with Ethernet cables for high-speed data transmission (up to 11 Mbps), enhancing gaming and audio/video streaming

> **Auto-sensing 10/100 ports** automatically configure to 10Mbps or 100Mbps Ethernet transmissions

> **Auto-sensing MDI/MDI-X cabling** automatically configures for use with normal or crossover Ethernet cables

> **Ethernet to wireless bridging** automatically combines an 802.11b wireless network and an Ethernet network into one local area network

Security and Advanced Management

> **NAT firewall** hides local PCs from external hackers by translating IP addresses from public to private local addresses

> **MAC address verification** lets you block or allow network access based on the physical MAC address of a device

> **64-bit and 128-bit WEP encryption** delivers the highest available level of encryption technology for an 802.11b wireless network

> **Secure VPN pass-through** allows users to tunnel into a corporate network from behind the Connection Point CP-2W firewall

> **Internet protocol and port filtering** enable you to block or allow data based on individual protocols or ports

> **Web DMZ** allows an IP address to be set up outside the firewall for web page serving or other services

> **Virtual server** enables a virtual port for such services as FTP, while the host device remains behind the firewall

> **Internet web-based management pages** allow you to manage and configure the Connection Point CP-2W through a web browser for easy access and navigation

What's in the Box?

> **Connection Point CP-2W**

> **An Ethernet cable**

> **An AC-to-12VDC power adapter**

> **A Quick Setup Guide**

> **iPAQ Connection Point CP-2W Utilities CD** containing the following:

- *Firmware Update Utility* to update your Connection Point CP-2W with the latest firmware or repair the system in the case of failure
- *Product Registration* option walks you through the registration of your Connection Point CP-2W to help ensure that you get support information for this product
- *Connection Point CP-2W User Guide* that provides detailed information regarding the configuration and use of your Connection Point CP-2W
- *Safety and Comfort Guide* that provides information about personal safety and comfort

> **A limited warranty card**

What Else Do I Need?

To use the Connection Point CP-2W, you need:

> Microsoft® Windows® 98/98SE, NT 4.0, 2000, ME or higher

> A CD-ROM drive

> An external cable or DSL modem with an RJ45 Ethernet port

> Internet Explorer 4.0 or higher, Netscape Navigator 4 or higher, or MSN Explorer

> One network adapter for each PC

- Wireless: Any IEEE 802.11b compatible network adapter, such as
  iPAQ 11Mbps Wireless USB Adapter for desktops
  iPAQ 11Mbps Wireless PC Card for notebooks

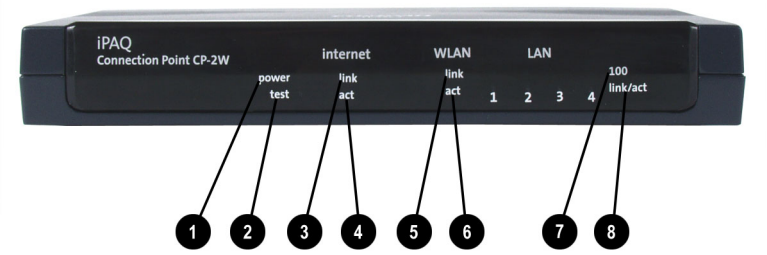
- Ethernet: Any 10Mbps or 100Mbps compatible Ethernet adapter, such as
  iPAQ 10/100 Fast Ethernet PCI Card or iPAQ 10/100 Fast Ethernet USB Adapter for desktops
  iPAQ 10/100 Fast Ethernet PC Card or iPAQ 10/100 Fast Ethernet USB Adapter for notebooks

> Additional Ethernet equipment:

- The Connection Point CP-2W comes with a built-in four-port Ethernet switch, so you can connect up to four PCs without purchasing an additional hub or switch. More than four Ethernet PCs will require an additional hub or switch.
- Ethernet cabling to connect each PC to the Connection Point CP-2W. Use Category 3 cabling or better for 10 Mbps, Category 5 cabling or better for 100 Mbps.

What's in Front?

Before you begin installation, familiarize yourself with your Connection Point CP-2W.

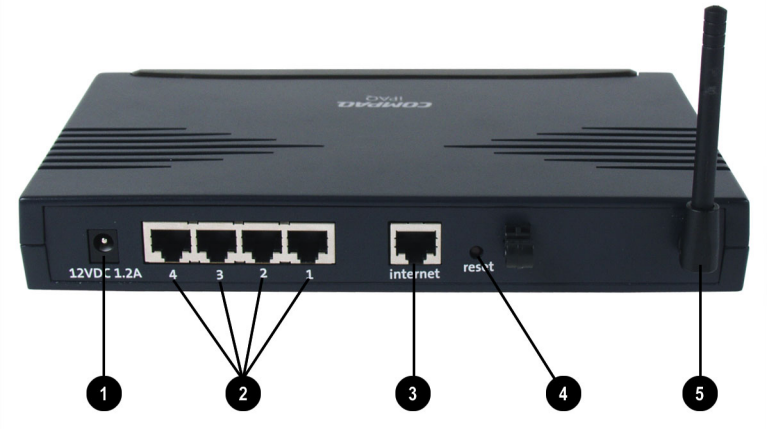


Your Connection Point CP-2W has the following LED indicators:

Item	*Description*	*Significance*
❶	Power LED	Steady indicates power on
❷	Test LED	Steady indicates self test in progress Off indicates normal operation
❸	Internet link LED	Steady indicates valid Internet link
❹	Internet act LED	Blinking indicates data transmission
❺	WLAN link LED	Steady indicates valid wireless link
❻	WLAN act LED	Blinking indicates data transmission
❼	LAN 100 LED	Steady indicates Fast Ethernet connection
❽	LAN link/act LED	Steady indicates valid Ethernet link Blinking indicates Ethernet activity

What's in Back?

The Connection Point CP-2W has the following components on the back.



Item	*Description*	*Function*
❶	Power input (DC12v 1.2A)	Power adapter connector
❷	RJ 45 (1-4)	Individual Ethernet LAN ports
❸	RJ 45 (Internet)	Ethernet port for broadband Internet connection
❹	Reset button	Used to manually restart the Connection Point CP-2W
❺	Antenna	802.11b antenna for wireless LAN

2. Installation and Configuration

Installing and configuring the Connection Point CP-2W involves the following steps:

> Installing the Connection Point CP-2W hardware

> Configuring a PC client

> Configuring the Connection Point CP-2W Internet connection

> Establishing a unique wireless security setting, or service set identifier (SSID)

> Installing the firmware update utility

> Registering the Connection Point CP-2W

In this chapter, you will find step-by-step instructions to help you complete the installation and configuration quickly and easily.

Installation

First, you must establish the physical connections between your Connection Point CP-2W and:

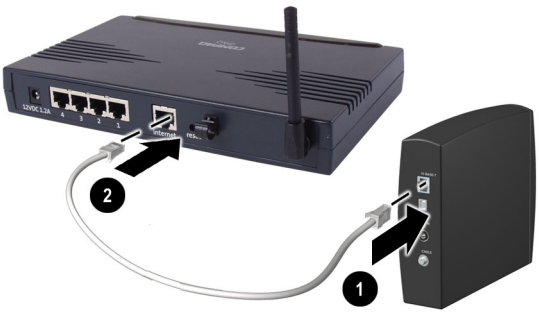
> The Internet

> Your PC

> A power source

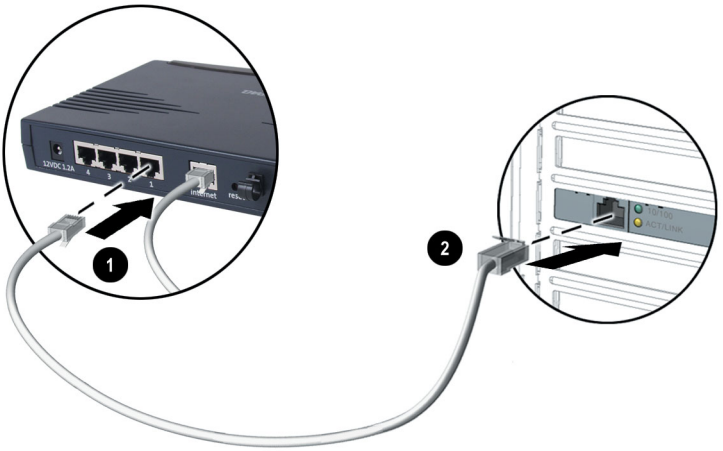
Connecting to the Internet

1. Power down your broadband (cable or DSL) modem.



2. Disconnect the existing Ethernet cable from PC. Leave the other end of the cable connected to your modem. ❶
3. Connect the existing cable to the port labeled *Internet* on the back of the Connection Point CP-2W. ❷

Connecting to Your PC



1. Plug one end of the supplied Ethernet cable into the port labeled 1 on the back of the Connection Point CP-2W. ❶
2. Plug the other end of the Ethernet cable into the Ethernet port on the PC. ❷

Powering Up

1. Plug the power adapter into an AC power outlet. ❶
2. Connect the output of the power adapter to the 12V DC power input on the rear of the Connection Point CP-2W. ❷
   The Power LED on the front panel should light up immediately.

The Connection Point CP-2W runs a series of self-tests to verify that it is operating properly. The Test LED on the front panel remains lit while the self-tests are running. The Connection Point CP-2W is ready to use when the Test LED turns off.

Client PC Configuration

The configuration procedure for Windows 98 and ME clients is described below.

The Connection Point CP-2W automatically provides the following TCP/IP configuration information to your PC:

> IP address of the PC

> Subnet mask of the PC

> IP address of default gateway, which is the IP address of the DHCP server itself

> Domain name system (DNS) server

Note: If your PC provides Internet access to other computers on your network, you must uninstall your Internet sharing software now in order for your Connection Point to be the Internet sharing device.
You may also wish to uninstall the Internet sharing software from other PCs on the network for consistency and to avoid confusion.

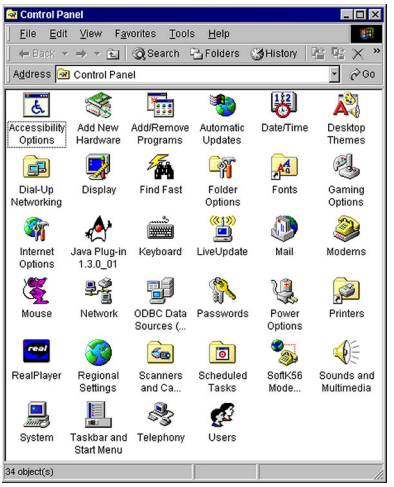
Note: To install the Connection Point CP-2W using an 802.11b wireless PC, the following are required:

- The SSID of your client PC should be set to ConnectionPoint. (If you need help with this, refer to the documentation that came with your wireless card or adapter.)
- WEP encryption on your client PC should be disabled for the initial configuration process. (Consult your wireless adapter documentation for information on how to set this. It is recommended that you re-enable encryption after initial configuration is completed.)

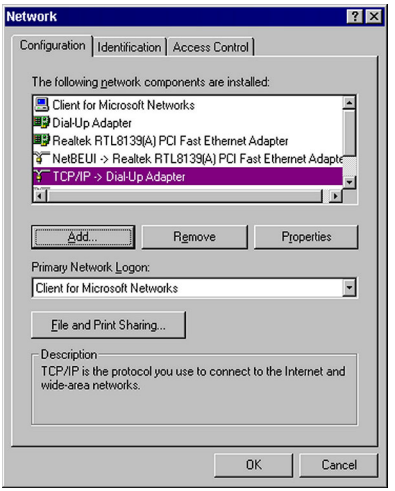
Configuring Windows 98 and ME Clients

To configure other clients, refer to Chapter 3.

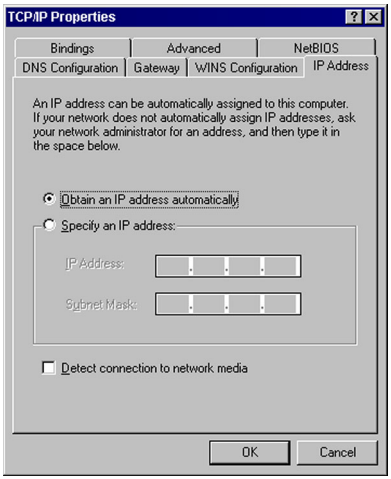
1. From the taskbar, select **Start > Settings > Control Panel**. The Control Panel window is displayed.



2. Double-click the **Network** icon. The Network window is displayed.



3. In the list of installed network components on the Configuration tab, double-click **TCP/IP**.
   If more than one TCP/IP entry is listed, select the entry for the network adapter you will use to connect to the Connection Point CP-2W.
   The TCP/IP Properties window is displayed.



4. Click the **IP Address** tab.
5. Click the **Obtain an IP address automatically** radio button so that it is selected.
6. Click **OK**.
   The Network window is displayed again.
7. Click **OK**.
8. Restart the PC to complete the process.

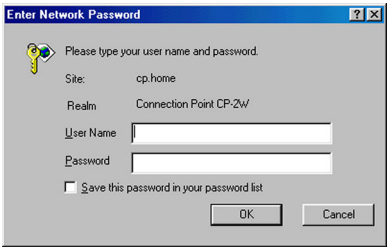
Note: You must restart your PC before continuing, even if you are not prompted to reboot.

Internet Connection

To set up your Internet connection, log into the internal web page of the Connection Point CP-2W using a web browser, such as Microsoft Internet Explorer or Netscape Communicator.

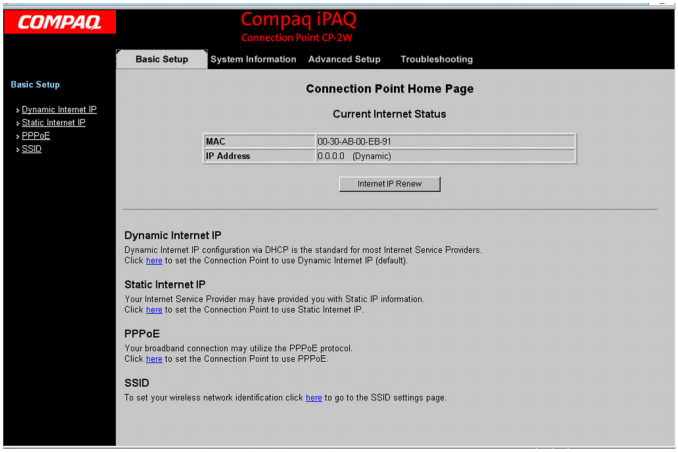
Logging In

1. Open a web browser.
2. Type *cp.home* into the **Address** field and press **Enter**.
   The Enter Network Password window is displayed.



3. Type *admin* into the **User Name** field.
4. Leave the **Password** field blank. (You can change the user name and add a password later, if you wish.)
   You may be prompted to login with each reboot of the Connection Point CP-2W. Repeat the above steps, then continue.

5. Click **OK**.
   The Basic Setup tab is displayed.
   As you navigate through the Connection Point CP-2W internal web pages, you can click the blue text for additional help.



Choose one of the following connection types from the left selection menu and proceed to that step.

> **Dynamic Internet IP:** This is the default setting for the Connection Point CP-2W. If your internet service provider (ISP) automatically assigns you a public IP address (common among cable providers) or you unsure of the other options, select this option.

> **Static Internet IP:** If your ISP provided you with a static IP address, select this option.

> **PPPoE:** The point-to-point over Ethernet (PPPoE) connection is the most likely choice for DSL service. A PPPoE user name and password must be provided to you by your ISP.

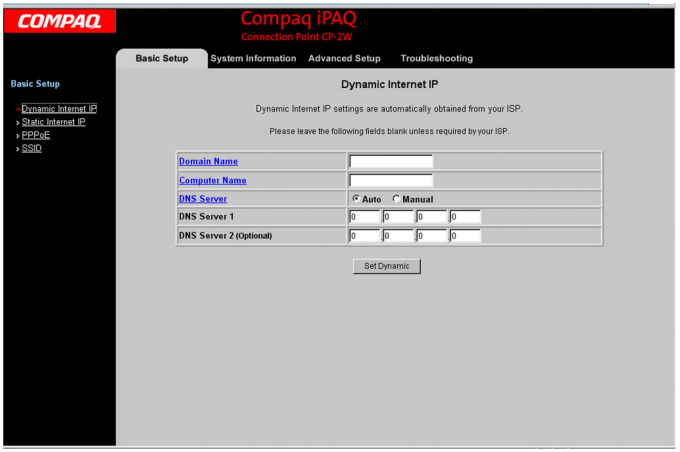
> **SSID:** The service set identifier, or SSID, is a unique identifier that an 802.11b wireless device uses to ensure connectivity to the network.

Dynamic Internet IP

This setting configures your Connection Point CP-2W to automatically obtain an IP address from your ISP. This is the most common setting, and should be used unless your ISP provided specific instructions for use of a static IP address or point-to-point protocol over Ethernet (PPPoE).

Configuring Dynamic Internet IP

1. Click the **Dynamic Internet IP** link to the left of the Basic Setup tab.
   The Internet IP Dynamic page is displayed.



2. If your ISP requires a specific domain name or computer name to be used when you establish a connection, type the required domain or computer name into the **Domain Name** or **Computer Name** field, as appropriate. Otherwise, leave these fields blank.

3. If your ISP requires you to specify the IP address of its primary/secondary DNS server(s), click the **Manual** radio button so that it is selected, then type the IP address(es) for the DNS servers into the fields below the radio buttons. Otherwise, leave these fields blank.

4. Click **Set Dynamic**.
   The Reboot dialog box is displayed. The Connection Point CP-2W must be rebooted for applied changes to take effect.

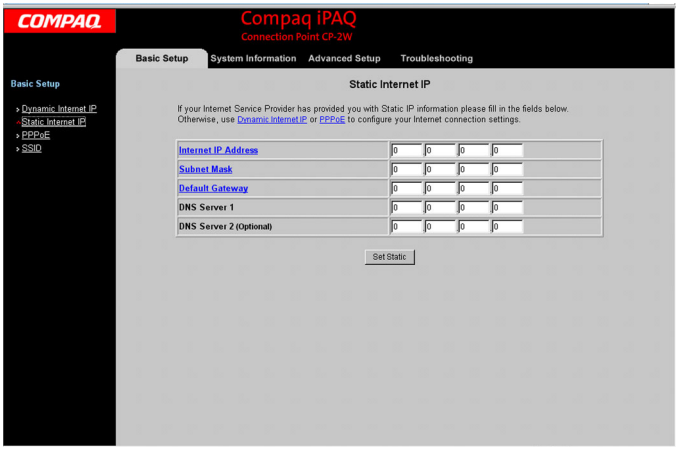
5. Click **OK**.
   The system restarts, then resumes operation with the new configuration. This takes a few seconds.

Static Internet IP

This setting configures your Connection Point CP-2W to use a static (fixed) IP address to access the Internet. The static IP address is provided to you by your ISP.

Configuring Static Internet IP

1. Click the **Static Internet IP** link to the left of the Basic Setup tab.
   The Static Internet IP page is displayed.



2. Type the static IP address provided by your ISP into the **Internet IP Address** field.

3. Type the subnet mask provided by your ISP into the **Subnet Mask** field.

4. Type the IP address of the default gateway provided by your ISP into the **Default Gateway** field.

5. Type the IP address of a primary DNS server provided by your ISP into the **DNS Server 1** field. If an address for a secondary DNS server is provided, type that into the **DNS Server 2** field.

6. Click **Set Static**.
   The Reboot dialog box is displayed. The Connection Point CP-2W must be rebooted for applied changes to take effect.

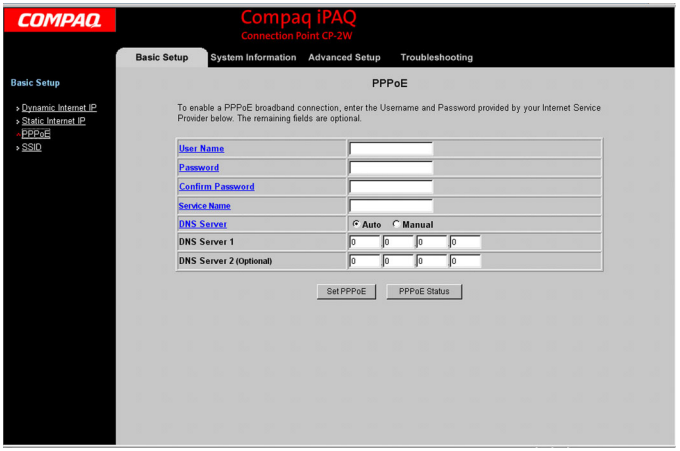
7. Click **OK**.
   The system restarts, then resumes operation with the new configuration. This takes a few seconds.

PPPoE

This setting configures your Connection Point CP-2W to connect to a DSL service using PPPoE. A PPPoE password is provided by your ISP.

Configuring PPPoE

1. Click the **PPPoE** link to the left of the Basic Setup tab.
   The PPPoE page is displayed.



2. Type your ISP user name into the **User Name** field.
3. Type your ISP password into the **Password** field.
4. Type your ISP password into the **Confirm Password** field.

Note: The above three entries are required, and may be case-sensitive.

5. If a service name is required by your ISP, type the service name into the **Service Name** field. Otherwise, leave the field blank.
6. If your ISP requires you to specify the IP address of a DNS server, click the **Manual** radio button so that it is selected and type the IP address into the **DNS Server 1** field. If there is a second DNS server IP address, type it into the **DNS server 2** field.

7. Click **Set PPPoE**.
   The Reboot dialog box is displayed. The Connection Point CP-2W must be rebooted for applied changes to take effect.

8. Click **OK**.
   The system restarts, then resumes operation with the new configuration. This takes a few seconds.

SSID

The Connection Point CP-2W is configured with a default wireless network service set identifier (SSID), *ConnectionPoint*. This setting could make your network accessible to other wireless computers that support the IEEE 802.11b wireless standard. You should establish a unique SSID to limit access to your private network, and to prevent conflicts with other wireless networks that may be nearby.

Note: All PCs on the same wireless LAN must have the same SSID. If you change the SSID on the Connection Point CP-2W, you must change the SSID on each wireless PC or device on the network to match.

Note: Connection Point comes with WEP encryption disabled. This means that your network is accessible by any 802.11b wireless client. WEP encryption can provide several levels of security and should be enabled to secure your network. See Chapter 4.

Changing the SSID

1. Click the **SSID** link to the left of the Basic Setup tab.
   The SSID page is displayed.

2. Type a unique SSID into the **SSID** field (up to 32 characters).

3. Click **Set SSID**.
   The Reboot dialog box is displayed. The Connection Point CP-2W must be rebooted for applied changes to take effect.
4. Click **OK**.
   The system restarts, then resumes operation with the new configuration. This takes a few seconds.
5. Reconfigure each wireless client PC on the network to use the same SSID. (If you need help with this, refer to the documentation that came with your wireless card or adapter.)

Installing the Firmware Update Utility

The Connection Point CP-2W firmware update utility enables you to update your Connection Point CP-2W with the latest firmware or repair the system in case of failure.

It is recommended that you install the utility during initial set-up.

1. Insert the CD into the CD-ROM drive of a network PC.
   The menu is displayed.

2. Click **Install Firmware Update Utility**.
3. Follow the instructions presented by the installation wizard.

Registering the Connection Point CP-2W

You can register your new iPAQ Connection Point CP-2W at **www.compaq.com/register**.

3. Adding PCs to Your Network

Once you have set up the Connection Point CP-2W, you can add more PCs to your Connection Point CP-2W network. PC client configuration for Windows 2000 and NT 4.0 are included in this chapter. Refer to your operating system's online help for instructions to set up file sharing.

Ethernet PCs

The Connection Point CP-2W has a built-in 4-port 10/100 Ethernet switch. Any of the Ethernet LAN ports can be connected to a computer that has an Ethernet adapter installed. Each of the four Ethernet LAN ports supports auto-sensing of MDI or MDI-X (crossover) connections. You can connect the Connection Point CP-2W directly to personal computers or indirectly through an Ethernet hub or switch. The Connection Point CP-2W automatically determines the type of cable connection and configures itself accordingly.

Adding Ethernet PCs

1. Use an Ethernet cable to connect your PC to the next available Ethernet port on the Connection Point CP-2W.
2. Find the TCP/IP settings for the Ethernet adapter on your PC and verify that TCP/IP is set to obtain an IP address automatically. Instructions for this are found in Chapter 2.
3. Restart the PC to complete the process.

Note: You must restart your PC before continuing, even if you are not prompted to reboot.

Wireless PCs

The Connection Point CP-2W supports multiple wireless PCs. You may notice drops in transmission speed when users simultaneously access the network.

Adding Wireless PCs

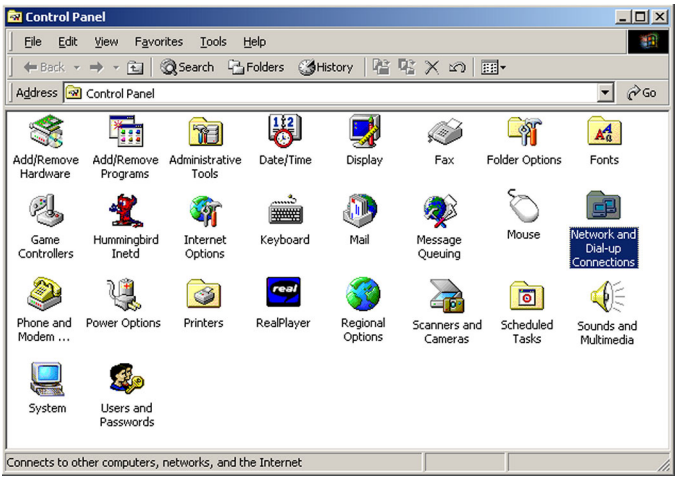
1. Verify that you have a wireless adapter properly installed on your PC.
2. If you changed the SSID and/or WEP encryption on the Connection Point CP-2W, change the SSID and WEP encryption settings on your adapter to match the settings on the Connection Point CP-2W. (Refer to the documentation that came with your wireless adapter).
   If you did not change these settings on the Connection Point CP-2W, set the SSID and WEP encryption on your wireless adapter to match the defaults described in Chapter 2.
3. Find the TCP/IP settings for the wireless adapter on your PC and verify that it is set to obtain an IP address automatically. Instructions for this are found in Chapter 2.
4. Restart the PC to complete the process.

Note: You must restart your PC before continuing, even if you are not prompted to reboot.

Windows 2000 Configuration

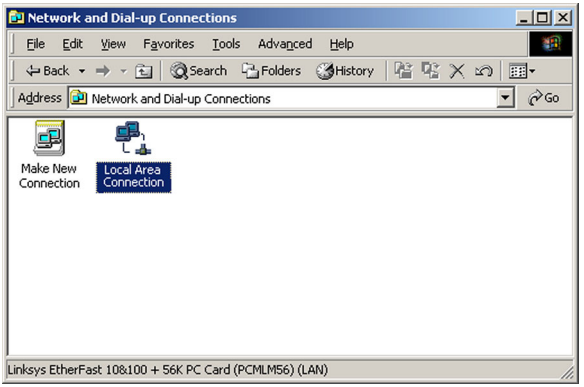
Configuring the Client

1. From the taskbar, select **Start > Settings > Control Panel**. The Control Panel window is displayed.

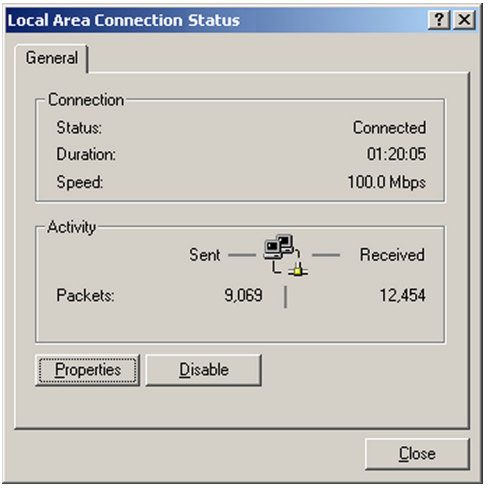


2. Double-click the **Network and Dial-Up Connections** icon.|
   The Network and Dial-Up Connections window is displayed.

3. Double-click the **Local Area Connection** icon.
   The Local Area Connection Status window is displayed.

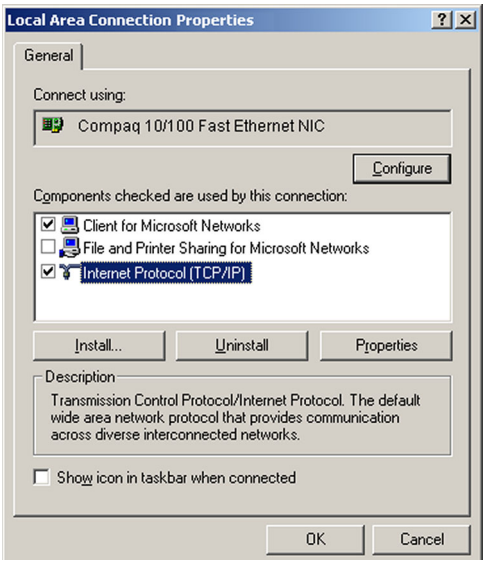


4. Click **Properties**.
   The Local Area Connection Properties window is displayed.



5. Select **Internet Protocol (TCP/IP)** under Components checked are used by this connection.

6. Click **Properties**.
   The Internet Protocol (TCP/IP) Properties window is displayed.



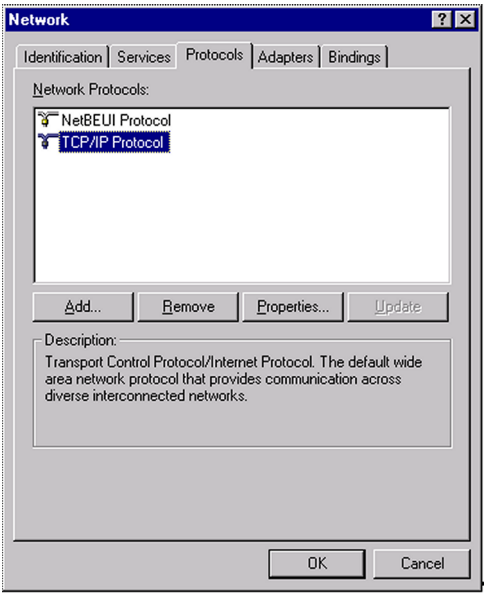
7. Click the **Obtain an IP address automatically** radio button so that it is selected.
8. Click the **Obtain DNS server address automatically** radio button so that it is selected.
9. Click **OK**.
   The Local Area Connection Properties window is displayed.
10. Click **OK**.
    The Local Area Connection Status window is displayed.
11. Click **OK**.
12. Restart the PC to complete the process.

Windows NT4.0 Configuration

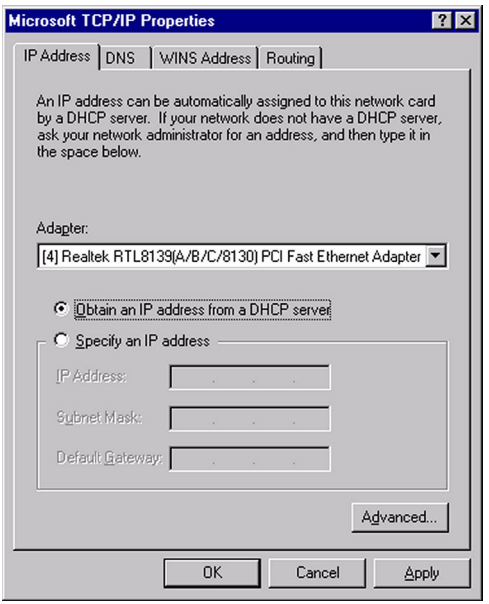
Configuring the Client

1. From the taskbar, select **Start > Settings > Control Panel**. The Control Panel window is displayed.

2. Double-click the **Network** icon.
   The Network window is displayed.



3. Select **TPC/IP Protocol** and click **Properties**.
   The TCP/IP Properties window is displayed.



4. Click the **Obtain an IP address from a DHCP** server radio button so that it is selected.
5. Click **OK**.
   The Network window is displayed again.
6. Click **OK**.
7. Restart your PC to put the change into effect.

4. Network Security

Three types of wireless management and security features are provided with your Connection Point CP-2W:

> SSID

> WEP encryption

> MAC address filtering

As a minimum, you should establish a unique SSID for your Connection Point CP-2W. To enable security, use WEP encryption and MAC address filtering.

SSID

The service set identifier, or SSID, is a unique identifier that an 802.11b wireless device uses to ensure connectivity to the network. The Connection Point CP-2W is configured with *ConnectionPoint* as the default.

You should establish a unique SSID to prevent conflicts with other wireless networks that may be nearby.

Note: All computers on the same wireless LAN must have the same SSID. If you change the SSID on the Connection Point CP-2W, you must change the SSID on each wireless PC or device on the network to match.

For details on changing the Connection Point CP-2W SSID, refer to Chapter 2.

Note: A unique SSID will not completely ensure the privacy of your local network. For a higher level of security, use WEP encryption and/or MAC address filtering

Wired Equivalent Privacy (WEP)

WEP is a security protocol for wireless local area networks. WEP encrypts data as it is transmitted from one wireless PC to another.

WEP encryption can be enabled in two modes: 64-bit and 128-bit. WEP encryption can reduce the throughput performance of the Connection Point CP-2W: 128-bit encryption is more secure than 64-bit encryption, but has a greater impact on performance.

WEP is enabled with the use of hexadecimal (HEX) keys. There are three methods of generating WEP HEX keys.

> The passphrase method generates all the available HEX keys from a single text string of up to 31 characters. For 64-bit encryption, four keys are generated. For 128-bit encryption, one key is generated.

> The alphanumeric method generates one HEX key for each manual entry. Characters are categorized in groups of five or 13, depending on the level of encryption selected.

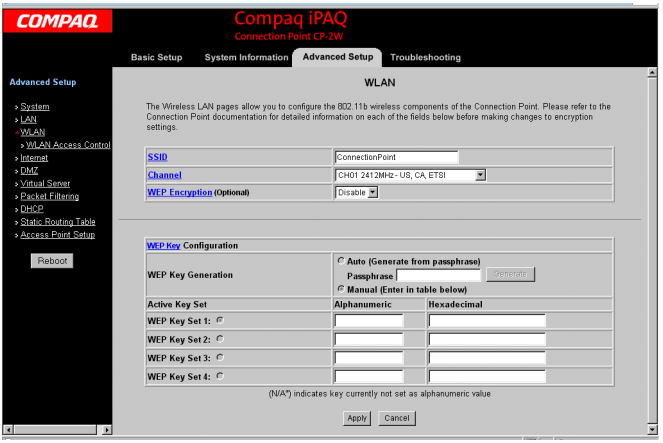
> In the Hexadecimal (HEX) method, you can manually enter the desired HEX codes.

Accessing Security Configuration Options

1. To access the internal web pages, type *cp.home* into the **Address** field of the web browser and login to your Connection Point CP-2W.
2. Click the **Advanced Setup** tab.

Configuring WEP Encryption

1. Click the **WLAN** link at the left of the Advanced Setup tab. The WLAN page is displayed.



2. Select 64-bit or 128-bit from the **WEP Encryption** pick list.

3. Click the **Auto** or **Manual** radio button in the WEP Key Generation section so that the option you want is selected.
   If you select Auto, type a passphrase of up to 31 alpha-numeric characters into the **Passphrase** field and click **Generate** to create HEX key(s).

4. Select the active WEP key set (1, 2, 3, or 4) for 64-bit encryption. The 128-bit encryption creates only one HEX key. Verify that you are using the same active key for all of your wireless network PCs.

5. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

6. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Media Access Control (MAC)

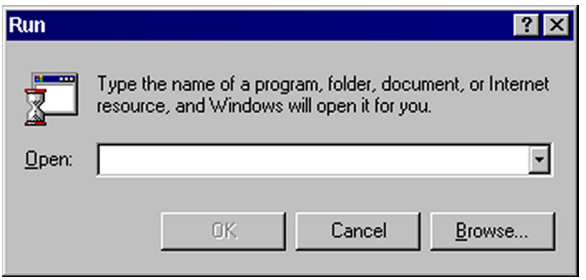
A MAC address is a physical address that uniquely identifies each node of your network. You can use MAC addresses to set up MAC filtering, which allows you to control the Internet access of each wireless PC on the network.

Identify a MAC Address

Before you can set up a MAC filter, you must obtain the MAC address of the PC that is to be filtered.

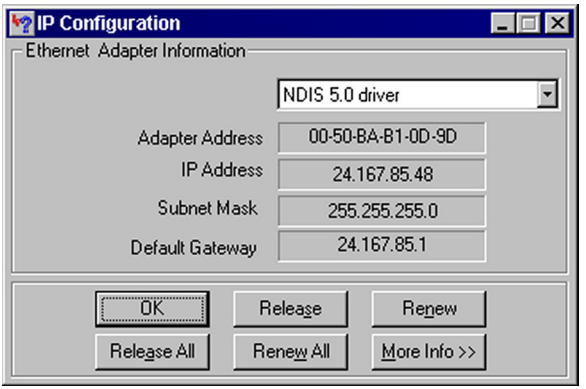
For Windows 98 and ME PCs:

1. Select **Start > Run**.
   The Run window is displayed.



2. Type *winipcfg* into the **Open** field.

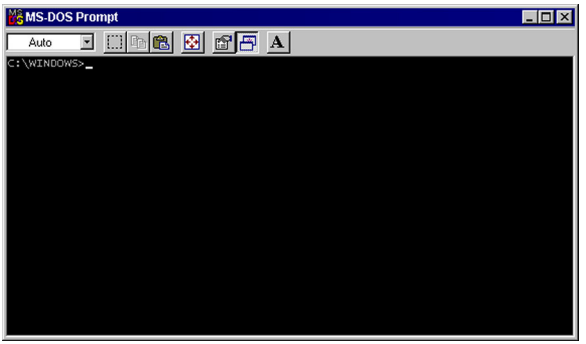
3. Click **OK**.
   The IP Configuration window is displayed.



4. Select the adapter that is connected to the Connection Point CP-2W from the **pick list**.
5. Make note of the address listed in the Adapter Address field.

For Windows 2000 PCs

1. Open a DOS prompt.



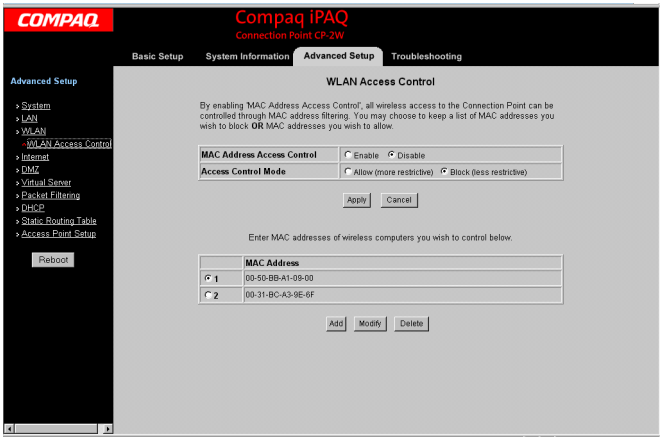
2. Type *ipconfig /all* and press **Enter**.
3. Locate the network adapter connected to the Connection Point CP-2W in the list displayed.
4. Note the address listed next to Physical Address.

Accessing Security Configuration Options

1. To access the internal web pages, type *cp.home* into the **Address** field of the web browser and login to your Connection Point CP-2W.
2. Click the **Advanced Setup** tab.

Enable MAC Filtering

1. Click the **WLAN Access Control** link at the left of the Advanced Setup tab.
   The WLAN Access Control page is displayed.



2. In the MAC Address Access Control section, click the **Enable** radio button so that it is selected.
3. In the Access Control Mode section, click the **Allow** or **Block** radio button so that the option you want is selected. Filtered MAC addresses are either allowed access to *or* blocked from accessing the Connection Point CP-2W wireless network.
4. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.
5. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Add a MAC Filter

1. Click the **WLAN Access Control** link at the left of the Advanced Setup tab.
   The WLAN Access Control page is displayed.

2. Click **Add**.
   The Add MAC Address page is displayed.

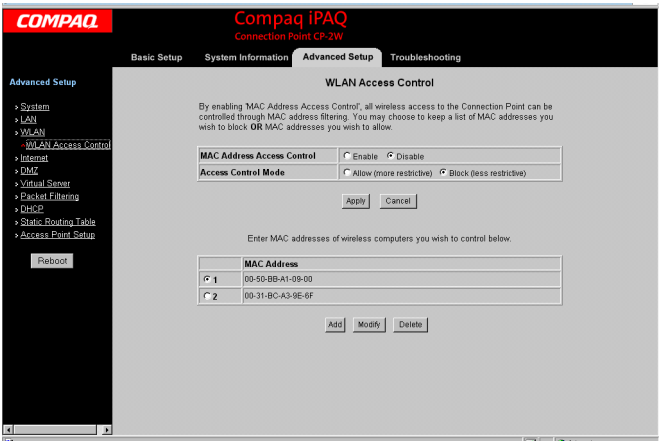
3. Type the MAC address into the **MAC Address** field.

4. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

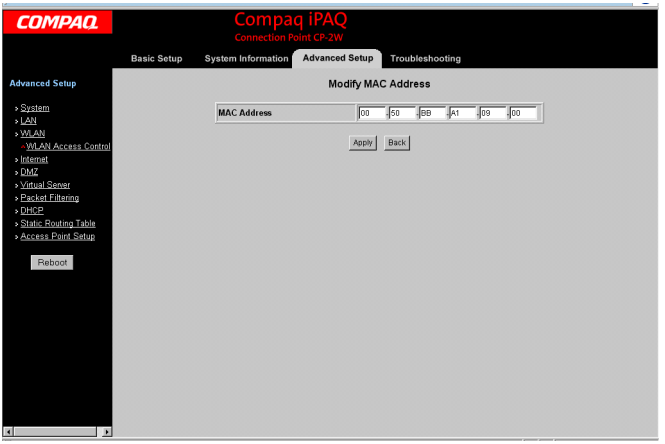
5. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Modify a MAC Filter

1. Click the **WLAN Access Control** link at the left of the Advanced Setup tab.
   The WLAN Access Control page is displayed.



1. Click **Modify**.
   The Modify MAC Address page is displayed.



2. Modify the MAC address as necessary.

3. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

4. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Delete a MAC Filter

1. Click the **WLAN Access Control** link at the left of the Advanced Setup tab.
   The WLAN Access Control page is displayed.

1. Click the radio button of the MAC Address you wish to delete so that it is selected.

2. Click **Delete**.
   The MAC address is deleted.

5. System Information

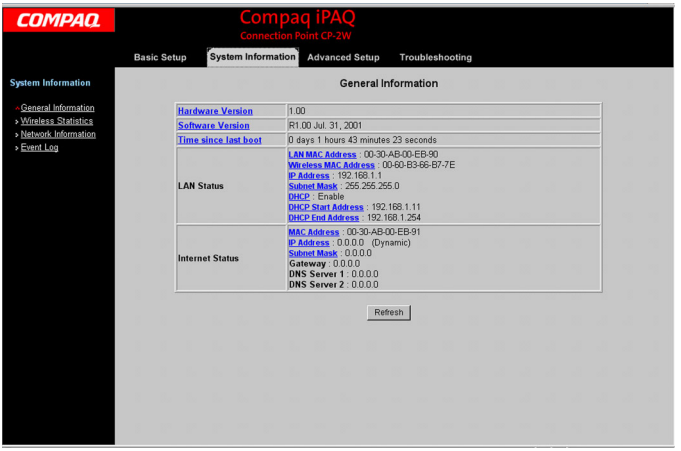
The internal web pages provide system information to help you understand the operating status and network configuration of your Connection Point CP-2W.

Accessing the System Information

The internal web pages are accessed through a web browser from a PC connected to the Ethernet LAN or from a wireless computer on the network.

1. To access the internal web pages, type *cp.home* into the **Address** field of the web browser and login to your Connection Point CP-2W.
2. Click the **System Information** tab.

General Information



This page displays hardware and software version information, as well as the status of the LAN and Internet connections.

Hardware Version: Displays the hardware version of your Connection Point CP-2W.

Software Version: Displays the version of the software installed on the Connection Point CP-2W. This changes whenever you install a software upgrade.

Time since last boot: Displays the time that has elapsed since the Connection Point CP-2W was last restarted.

LAN Status

LAN MAC Address: Displays the Ethernet MAC address of the LAN interface of the Connection Point CP-2W. A MAC address is expressed in six 2-digit hexadecimal number pairs.

Wireless Address: Displays the MAC address of the wireless interface of the Connection Point CP-2W. A MAC address is expressed in six 2-digit hexadecimal number pairs.

IP Address: Displays the IP address of the local LAN interface of the Connection Point CP-2W. This IP address is also used as the LAN gateway address and DNS server address.

Subnet Mask: Displays the local subnet mask of the LAN interface of the Connection Point CP-2W. The default subnet mask is 255.255.255.0.

DHCP: Displays the status (enabled or disabled) of the internal DHCP server.

DHCP Start Address: Displays the first IP address in the DHCP allocation pool. The internal DHCP server allocates IP addresses to client computers with the start address as the low end of the address range.

DHCP End Address: Displays the last IP address in the DHCP allocation pool. The internal DHCP server allocates IP addresses to client computers with the end address as the high end of the range.

Internet Status

MAC Address: Displays the Ethernet MAC address of the Internet interface of the Connection Point CP-2W. A MAC address is expressed with six 2-digit hexadecimal number pairs. You may have to provide this value to your ISP to establish a connection to the Internet (especially for certain cable ISPs).

IP Address: Displays the IP Address of the CP-2W as seen by devices outside your network (including your ISP and other devices on the Internet). The IP address is provided by your ISP.

Subnet Mask: Displays the local subnet mask of the internet interface of the Connection Point. The default subnet mask is 255.255.255.0.

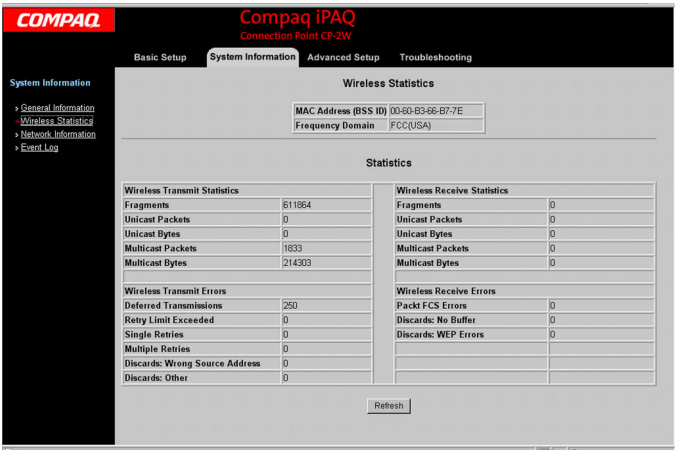
Gateway: Displays the IP address of the current internet gateway. The gateway address is provided by your ISP.

DNS Server 1: Displays the IP address of the primary domain name server for internet access. The DNS address is provided by your ISP.

DNS Server 2: Displays the IP address of the secondary domain name server for Internet access. The DNS address is provided by your ISP.

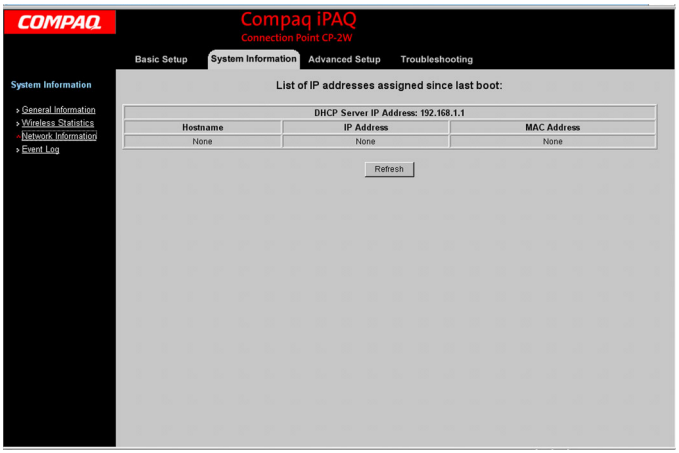
Wireless Statistics

Displays information related to the status of the wireless local area network and Internet connection.



Network Information

This page displays the IP address of the internal DHCP server. It also lists the hostname, LAN IP address and MAC address for each PC on the LAN that has been assigned since the last boot of the Connection Point CP-2W.



> Click **Refresh** to update the list and display any changes that may have occurred.

Event Log

This screen displays a list of operating events and exceptions (in chronological order) that have occurred recently during the operation of the Connection Point CP-2W. Each event is listed with a time stamp (time since the last restart of the unit) to indicate when the event or exception occurred.

The event log records such occurrences as:

> System restart (power-on or reboot)

> Failure to get an IP address from the DHCP server of the ISP

> Failure to log in to a PPPoE connection (usually due to an incorrect user name or password)

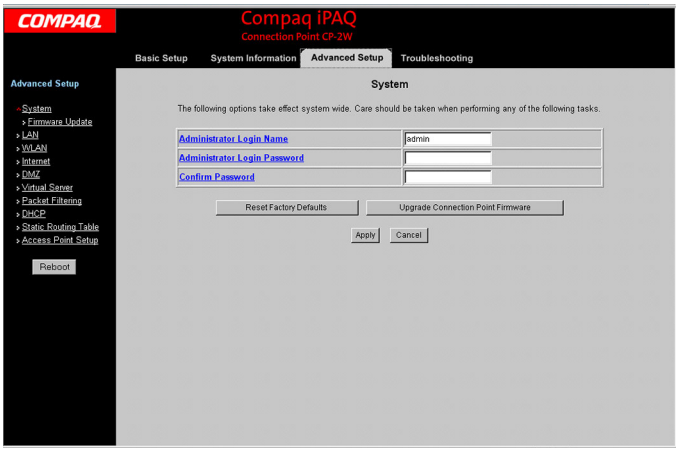
6. Advanced Configuration

The advanced configuration options of the Connection Point CP-2W allow you to perform configuration and maintenance tasks.

Accessing Advanced Configuration Options

1. To access the internal web pages, type *cp.home* into the **Address** field of the web browser and login to your Connection Point CP-2W.
2. Click the **Advanced Setup** tab.

System Settings



On the System page, you can change your login name and password, and restore the default factory settings.

Changing Administrator Login Name and Password

The default login name for the Connection Point CP-2W is *admin*, with the password field left blank.

Note: You should change the administrator's user name and password from the default setting immediately for security reasons. Make note of the new user name and password so that you can access the internal web pages of the Connection Point CP-2W in the future.

1. To change the default user name, type a new user name into the **Administrator Login Name** field.

2. To set a password, type the new password once into the **Administrator Login Password** field, and again into the **Confirm Password** field.

Note: Passwords are case-sensitive. Each time you log in, you must use upper and lower-case letters exactly as you entered them when you created the password.

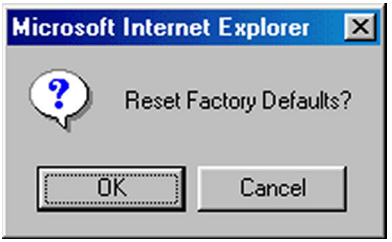
3. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

4. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

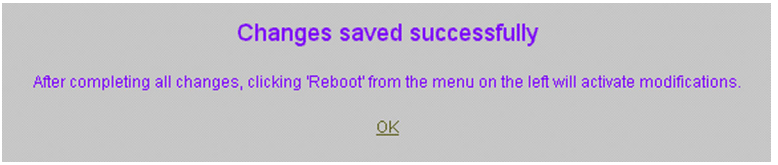
Resetting to Factory Default

This procedure restores all factory defaults to the Connection Point CP-2W. Any configuration changes you have made will be lost.

1. Click **Reset Factory Defaults**.
   A confirmation dialog box is displayed.

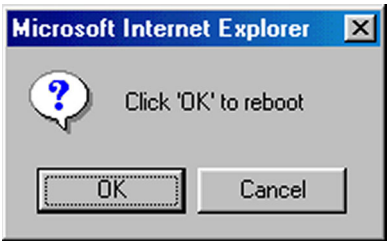


2. Click **OK**.
   The default factory settings are restored.
   A Changes Saved message is displayed.



3. Click **OK**.

4. Click the **Reboot** button at the left of the Advanced Setup tab. A confirmation message is displayed.



5. Click **OK**.
   The system restarts, then resumes operation with the new configuration. This takes a few seconds.

LAN Configuration

The LAN page allows you to adjust the TCP/IP settings of the Connection Point CP-2W.

The default network IP address of the Connection Point CP-2W is 192.168.1.1. This IP address is also the default gateway and DNS server that local clients use to access the Internet, leaving 253 IP addresses to be assigned to LAN computers by the DHCP server.

You can change the IP address of the LAN interface on the Connection Point CP-2W. You can also change the subnet mask, but if you do, you must ensure that the new subnet includes the addresses your DHCP server uses.

Note: If you choose a LAN interface subnet that doesn't include the current range of the DHCP server, the DHCP server is automatically disabled. The current DHCP server range is listed at the bottom of the page (DHCP Start Address and DHCP End Address).

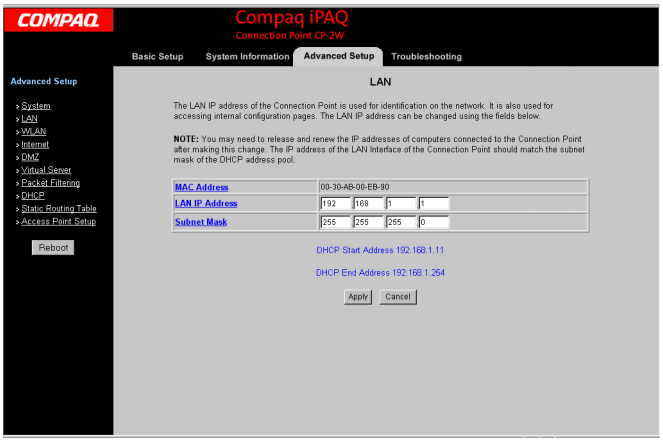
MAC Address: Displays the Ethernet Media Access Control (MAC) address of the LAN interface on the Connection Point CP-2W. It is expressed in six 2-digit hexadecimal number pairs (set at the factory) and cannot be changed.

LAN IP Address: Displays the current IP address assigned to the LAN interface on the Connection Point CP-2W. The IP address is written in dotted decimal notation (four octets separated by decimal points). This IP address serves as the DNS server/relay and the default gateway for computers on the local network.

Subnet Mask: Displays the subnet mask that determines which parts of the IP address are used in the packet routing process. The default subnet mask of the LAN interface on the Connection Point CP-2W is 255.255.255.0. The first three octets of the subnet mask are unchangeable. A zero entry for the fourth octet defines a full Class C local network. You can scale the network down from a full Class C by entering a number other than zero in the fourth octet in the mask.

Changing the Subnet

1. Click the **LAN** link at the left of the Advanced Setup tab.
   The LAN page is displayed



2. To change the IP address of the LAN interface, type new octets into the **LAN IP Address** field.

3. To change the subnet mask, type new octets into the S**ubnet Mask** field.

4. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

5. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Internet Configuration

The settings in the Internet Configuration section affect the WAN interface of the Connection Point CP-2W, which is used to connect to the Internet. There are three possible configurations: dynamic IP (which uses DHCP), static IP, and PPPoE.

Dynamic IP

The integrated DHCP client can be used to automatically obtain an IP address each time the Connection Point CP-2W is started. DHCP is the standard for most ISPs. No changes are required from the default configuration to use dynamic IP assignment.

MAC Address: Displays the Ethernet MAC address of the WAN interface on the Connection Point CP-2W. It is expressed in six 2-digit hexadecimal number pairs and cannot be changed.

Domain Name: Displays the domain name you specify for the Connection Point CP-2W. This is used in conjunction with the host or computer name.

Computer Name: Displays the computer name you specify for the Connection Point CP-2W.

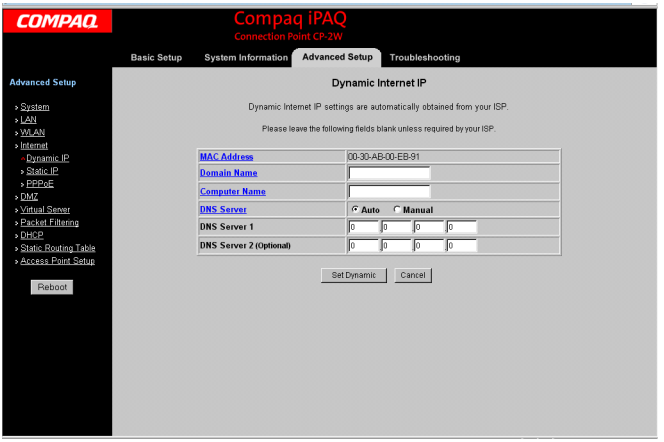
DNS Server: Displays the IP address of the DNS server. In *Auto* mode, the DNS servers are retrieved from the DHCP server maintained by your ISP. If you wish to use a different DNS server, set the DNS Server option to *Manual* and enter your own DNS server.

DNS Server 1: Displays the IP address of the primary DNS server. This option is only used if you set the DNS Server option to *Manual*.

DNS Server 2: Displays the IP address of the secondary DNS server. This server is used if DNS Server 1 is unavailable. This field is used only if you set the DNS Server option to *Manual*.

Changing Dynamic IP Settings

1. Click the **Dynamic IP** link under *Internet* at the left of the Advanced Setup tab.
   The Dynamic Internet IP page is displayed.



2. Type the information you wish to add or change into the relevant field.

3. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

4. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Static IP

If your ISP provided a static IP address, subnet mask, and gateway, use the static IP configuration. All fields are required except for the secondary DNS server.

MAC Address: Displays the Ethernet MAC address of the WAN interface on the Connection Point CP-2W. It is expressed in six 2-digit hexadecimal number pairs and cannot be changed.

IP Address: Displays the IP address assigned to you by your ISP. This is the public IP address that is accessible from the Internet.

Subnet Mask: Displays the corresponding subnet mask to the IP address entered into the first field, also provided by your ISP.

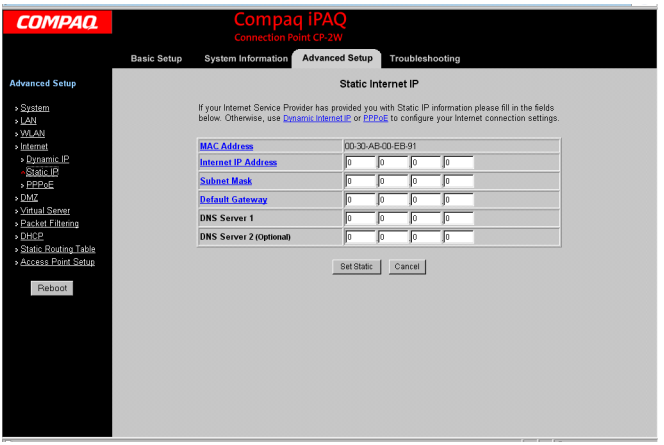
Default Gateway: Displays the gateway IP address that your ISP provided. This is the IP address to which all IP packets are forwarded by default.

DNS Server 1: Displays the IP address of the primary DNS server. This is used to resolve host and domain names to IP addresses. All DNS requests are forwarded to this IP address.

DNS Server 2: Displays the IP address of the secondary DNS server. This address is used if the primary DNS server is unavailable.

Changing Static IP Settings

1. Click the **Static IP** link under *Internet* at the left of the Advanced Setup tab.
   The Static Internet IP page is displayed.



2. Type the information you wish to add or change into the relevant field.

3. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

4. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

PPPoE

If your Internet service provider uses the PPPoE protocol, use the integrated client to connect to the Internet. Only your user name and password are required.

MAC Address: Displays the Ethernet MAC address of the WAN interface on the Connection Point CP-2W. It is expressed in six 2-digit hexadecimal number pairs and cannot be changed.

User Name: Displays the PPPoE user name assigned to you by your ISP for use with the PPPoE connection.

Password: Displays the PPPoE password provided by your ISP for use with the PPPoE connection.

Confirm Password: Displays the same password as in the Password field, used to verify accurate typing.

Service Name: Displays the service name your ISP provided for use with PPPoE connection. Your ISP may not provide you with a service name, in which case the field can be left blank.

Idle Duration: Displays the amount of time, in minutes, before an active PPPoE connection is terminated because of inactivity of traffic.

DNS Servers: In automatic mode the DNS servers are retrieved from the PPPoE server maintained by your ISP. If you have a different DNS server you would like to use, you can set the **DNS Servers** option to *manual* and enter your own DNS server address.

DNS Server 1: Displays the IP address of the primary DNS server. This option is only used if you set the **DNS Servers** option to *manual*.

DNS Server 2: Displays the IP address of the secondary DNS server. This server is used if the primary server is unavailable. This field is only used if you set **DNS Server** to *manual*.

Changing PPPoE Settings

1. Click the **PPPoE** link under *Internet* at the left of the Advanced Setup tab.
   The PPPoE page is displayed.

2. Type the information you wish to add or change into the relevant field.

3. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

4. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

DMZ

The De-Militarized Zone (DMZ) allows you to specify the IP address of one PC on your local network to be exposed to the Internet. This is commonly used for Internet gaming or video conferencing. It also opens potential security holes on your local network.

Designating a DMZ Host

1. Click the **DMZ** link at the left of the Advanced Setup tab. The DMZ Host page is displayed.

2. Type the last octet of the network PC's IP address of the DMZ computer into the **DMZ Host** field.

3. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

4. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Virtual Server

Virtual servers allow you to redirect incoming data on a specific port to a server on the local network. You can configure multiple servers on your local network, such as HTTP and FTP servers, and make them accessible to users on the Internet without fully removing them from behind the Connection Point CP-2W firewall.

Server Status: Displays the status of the virtual server, either enabled or disabled.

Global Port: Displays the TCP or UDP port number that is visible to external users on the Internet. This is also known as the external port number. The port is mapped to a computer on your LAN.

Local IP: Displays the IP address on the local network to which the incoming data from the Internet should be redirected.

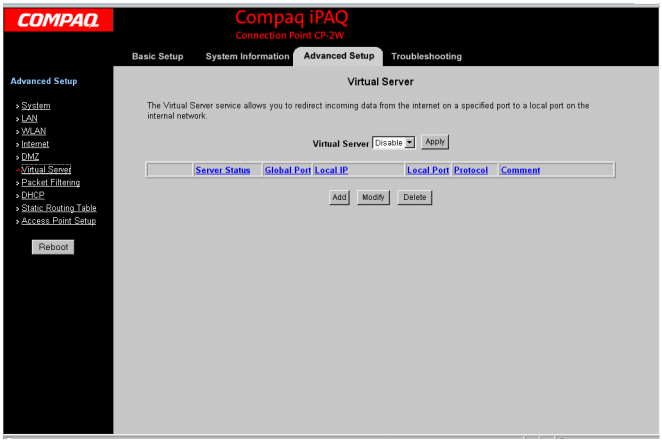
Local Port: Displays the IP port number to which incoming data is redirected. This port is mapped to the global port.

Protocol: Displays the protocol used on the specified port.

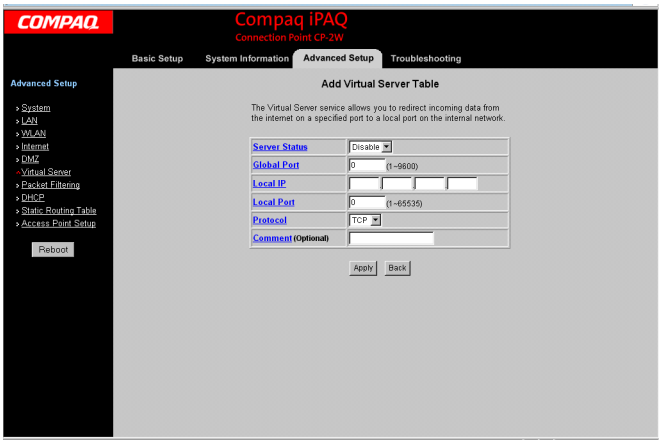
Comment: Displays a user-defined description of the virtual server. This field is optional.

Adding a Virtual Server

1. Click the **Virtual Server** link at the left of the Advanced Setup tab.
   The Virtual Server page is displayed.



2. Click **Add**.
   The Add Virtual Server Table page is displayed.



3. Type the information you wish to add or change into the relevant fields.

4. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

5. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Packet Filtering

Packet filtering allows you to block specific services, applications, and Internet locations by IP addresses and port numbers. For example, you can deny users access to SMTP/POP3 email services on the Internet, while allowing them access to Web/HTTP services. You can add new packet filtering rules based on the destination IP address. Packets en route from the LAN or private network to the WAN or public network are evaluated against these rules.

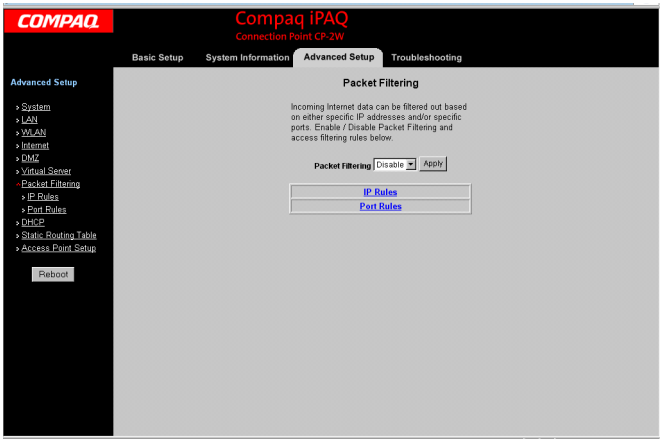
Packet Filtering: Enable or disable all packet filtering processes. This affects IP and port filtering rules.

IP Rules: The IP Rules Status page shows destination IP addresses that are blocked. Packets that have destinations matching any of these addresses are discarded.

Port Rules: The Port Rules page displays port and protocol combinations that are blocked. Packets of the matching port number and protocol type are discarded. You can add new port/protocol filtering combinations. Several predefined port mappings are included.

Enabling or Disabling Packet Filtering

1. Click the **Packet Filtering** link at the left of the Advanced Setup tab.
   The Packet Filtering page is displayed.



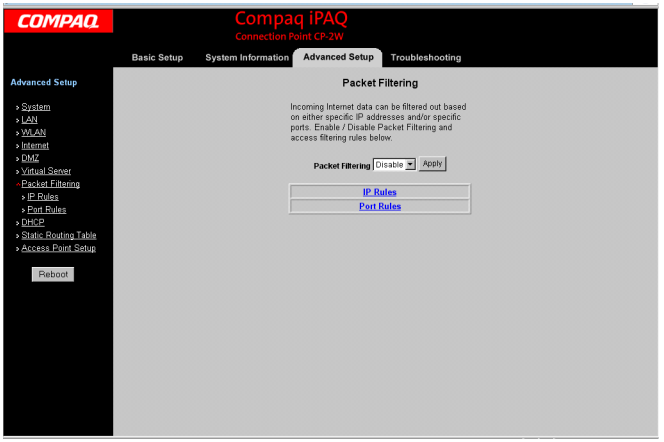
2. Select Enabled or Disabled from the **Packet Filtering** pick list.

3. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

4. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

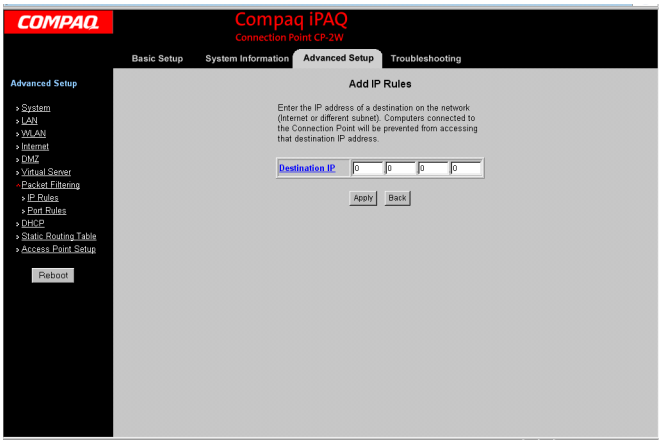
Adding an IP Rule

1. Click the **Packet Filtering** link at the left of the Advanced Setup tab.
   The Packet Filtering page is displayed.



2. Click the **IP Rules** link.
   The IP Rules page is displayed.

3. Click **Add**.
   The Add IP Rules page is displayed.



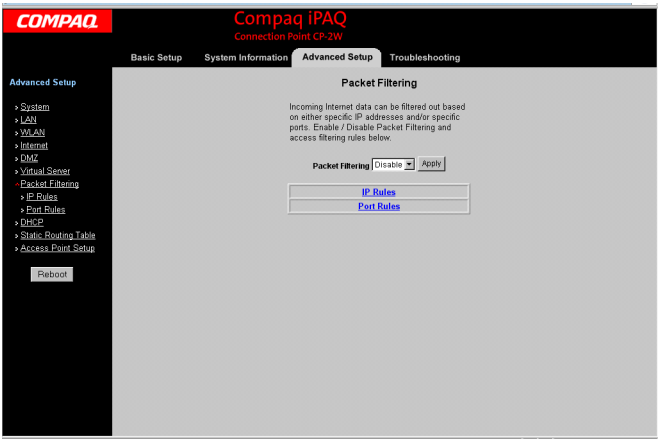
4. Type the IP address of the public network device to be filtered out into the **Destination IP** field.

5. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

6. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Adding Port Rules

1. Click the **Packet Filtering** link at the left of the Advanced Setup tab.
   The Packet Filtering page is displayed.



1. Click the **Port Rules** link.
   The Port Rules page is displayed.

2. Click **Add**.
   The Add Port Rules page is displayed.

3. Select the protocol (or application) from the **Protocol** pick list. If you select a pre-defined protocol from the list, the corresponding port number and service type are automatically set. The Port edit box is disabled unless you choose the User-Defined option at the bottom of the protocol list. This allows you to enter a port number that is not on the pre-defined protocol list.

4. For user-defined protocols, select the **Service Type** (TCP or UDP) to block.
   This will not block all TCP or UDP traffic, just that traffic of the matching protocol type or port number.

5. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

6. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

DHCP

The Connection Point CP-2W has an integrated DHCP server that allows you to automatically configure TCP/IP settings on computers attached to the local network. The DHCP server can provide the following settings to PCs on the local network:

> IP address

> Subnet mask

> Default gateway (which is the LAN interface IP address of the Connection Point CP-2W)

> DNS server

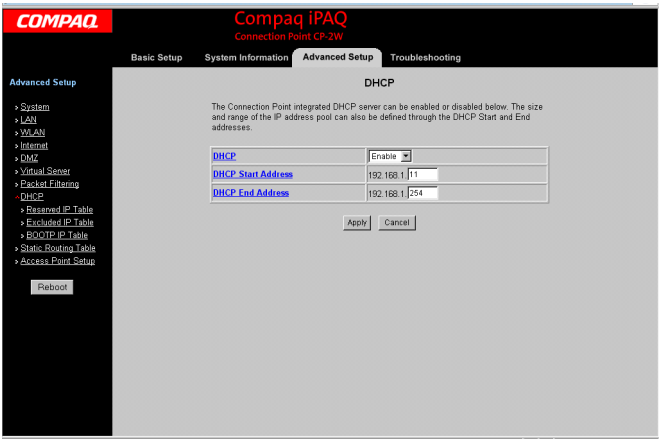
DHCP: Displays the status (enabled or disabled) of the integrated DHCP server. If you disable the integrated DHCP server, you must configure the TCP/IP networking settings on each of your PCs manually.

DHCP Start Address: Displays the first IP address to be leased out by the DHCP server. The default is 192.168.1.11.

DHCP End Address: Displays the last address to be leased out by the DHCP server. The default is 192.168.1.254.

Changing DHCP Server Settings

1. Click the **DHCP** link at the left of the Advanced Setup tab. The DHCP page is displayed.



2. Type the information you wish to change into the relevant fields.

3. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

4. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

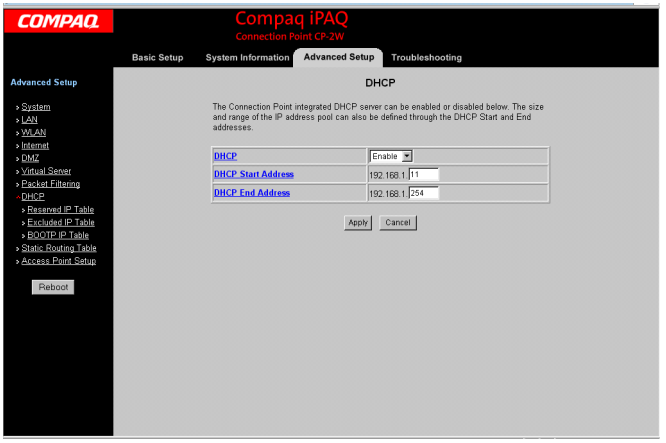
Reserved IP Table

The Reserved IP Table allows you to assign a specific IP address to a PC on your local network based on its MAC address. The DHCP server assigns the same IP address to the PC every time a new address is requested by the PC. The main page shows IPs that are mapped to specific MAC addresses.

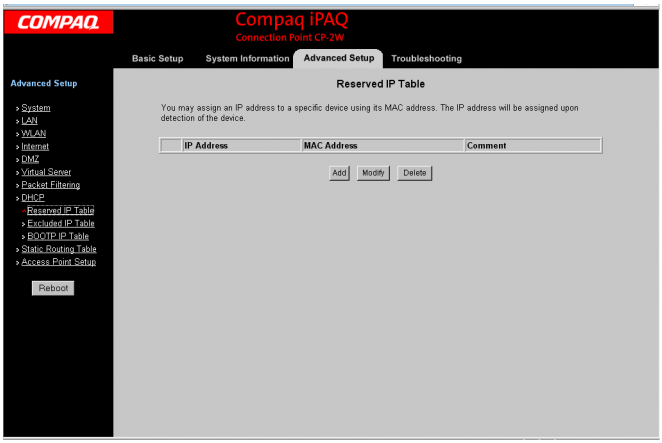
You can add reserved IP addresses; however, you must have the MAC address of each client PC for which you wish reserve an IP address.

Adding a Reserved IP Address

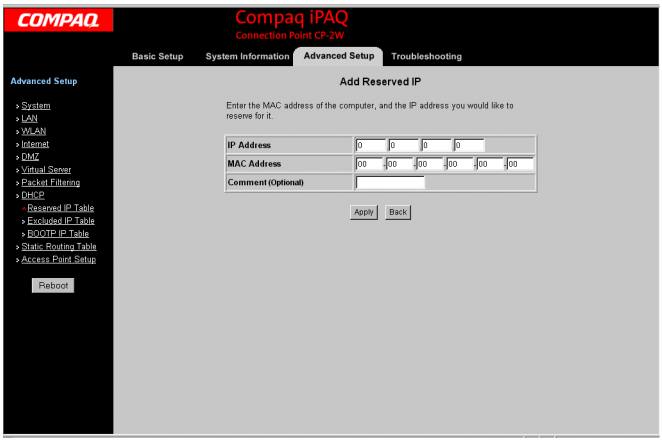
1. Click the **DHCP** link at the left of the Advanced Setup tab.
   The DHCP page is displayed.



1. Click the **Reserved IP Table** link.
   The Reserved IP Table page is displayed.



2. Click **Add**.
   The Add Reserved IP page is displayed.



3. Type the IP address that you wish to reserve into the **IP Address** field.
   The IP address you specify must be within the pool of valid IPs available to the integrated DHCP server.

4. Type the MAC address of the PC on the local network for which you wish to reserve the specified IP address into the **MAC Address** field.

5. If you wish, you can type a brief description into the **Comment** field.

6. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

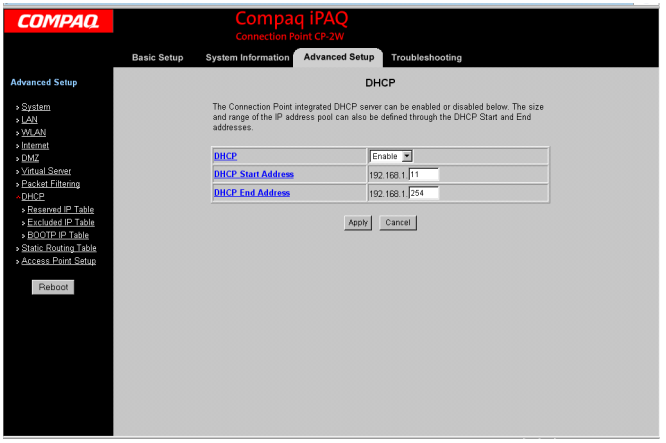
7. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Excluded IP Addresses

You can exclude a specific IP address within the DHCP server leasing pool from being leased out. This is useful for assigning static IP addresses to devices on the local network. IP addresses listed in the Excluded IP Table are not assigned to client devices by the DHCP server.

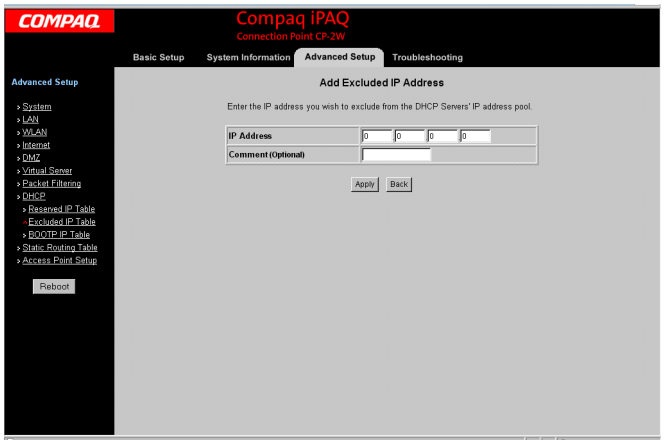
Adding an Excluded IP Address

1. Click the **DHCP** link at the left of the Advanced Setup tab.
   The DHCP page is displayed.



1. Click **Excluded IP Table**.
   The Excluded IP Table page is displayed.

2. Click **Add**.
   The Add Excluded IP Address page is displayed.



3. Type the IP address that you wish to exclude into the **IP Address** field.

4. If you wish, you can type a brief description into the **Comment** field.

5. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

6. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

BOOTP IP Table

The BOOTP IP Table allows you to reserve IP addresses for devices that use the BOOTP protocol for TCP/IP network configuration. These values are based on MAC addresses.

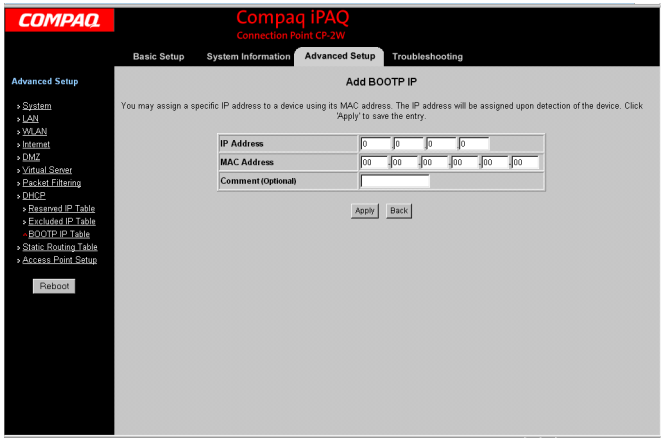
You must have the MAC address of each client device for which you wish reserve an IP address.

Adding a BOOTP IP Address

1. Click the **DHCP** link at the left of the Advanced Setup tab.
   The DHCP page is displayed.

1. Click **BOOTP IP Table**.
   The BOOTP IP Table page is displayed.

2. Click **Add**.
   The Add BOOTP IP page is displayed.



3. Type the IP address that you wish to assign to the specified MAC address into the **IP Address** field.
   The IP Address you specify must be within the pool of valid IPs available to the integrated DHCP Server.

4. Type the MAC address of the PC to which you wish to assign the specified IP address into the **MAC Address** field.

5. If you wish, you can type a brief description into the **Comment** field.

6. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

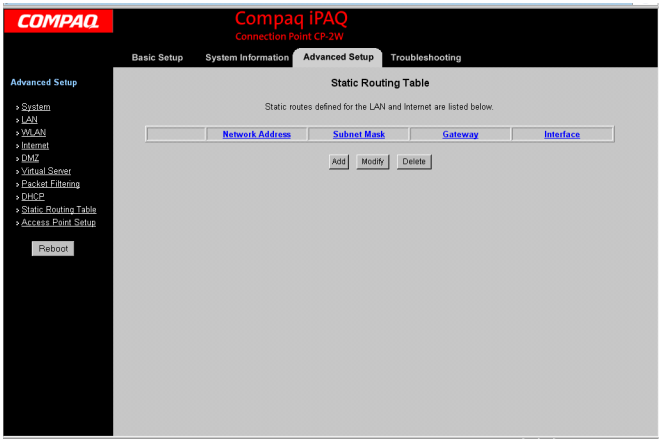
7. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Static Routing Table

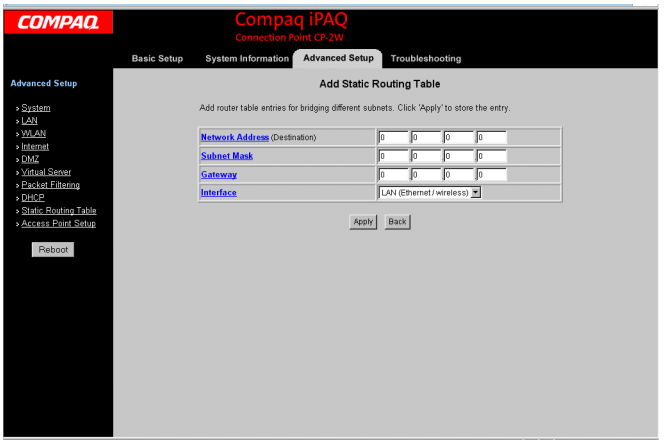
The Static Routing Table defines pre-determined routes that Internet data packets use when they are addressed to specific destination computers. These entries are based on the IP address of the destination computer. It may be necessary to define static routes when your Connection Point CP-2W is connected to more than one local network, or when a site on the Internet cannot be reached because too many hops are needed to route the IP packet dynamically.

Adding a Static Route

1. Click the **Static Routing Table** link at the left of the Advanced Settings tab.
   The Static Routing Table page is displayed.



2. Click **Add**.
   The Add Static Routing Table page is displayed.



3. Type the destination IP address to which you wish to assign a specified route into the **Network Address** field.

4. Type the subnet mask associated with the destination IP address into the **Subnet Mask** field.
   This determines which part of the destination IP address is the network portion, and which is the host portion.

5. Type the IP address of the gateway device that is used to contact the destination IP address into the **Gateway** field.
   If the destination address is on the LAN, this gateway IP address must be in the range of the assigned DHCP addresses for the LAN.

6. Select the LAN Ethernet or WAN from the **Interface** pick list.
   If you are connecting to a local subnet, select LAN. If you are connecting to another computer through the internet, select WAN.

Note: The LAN Ethernet setting includes Ethernet and 802.11b wireless devices.

7. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

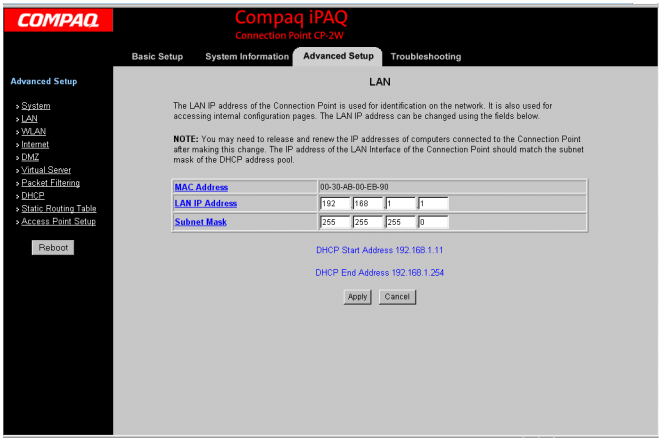
8. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

Access Point and Internet Router Configuration

You can link your Connection Point CP-2W to an Internet router in your network by configuring the Connection Point CP-2W as an access point. This allows PCs connected to the Connection Point CP-2W to function as though connected directly to the Internet router. The PCs will behave as a single network, rather than multiple subnets.

Configuring as an Access Point

1. Click the **LAN** link at the left of the Advanced Setup tab. The LAN page is displayed.



2. Type a new IP address into the **LAN IP Address** field. The address must be on the same subnet as your Internet router. For example, if the IP address of your Internet router is 192.168.111.1 the IP address you enter here must be in the range of 192.168.111.xxx, where xxx is replaced with a valid number not in use by another device (normally 2 through 253). You may need to refer to your Internet router documentation to determine valid numbers for your Internet router.

Note: If you have home networking software installed, the computer that shares the Internet connection will also often behave as a router, and the settings may need to be obtained from that software.

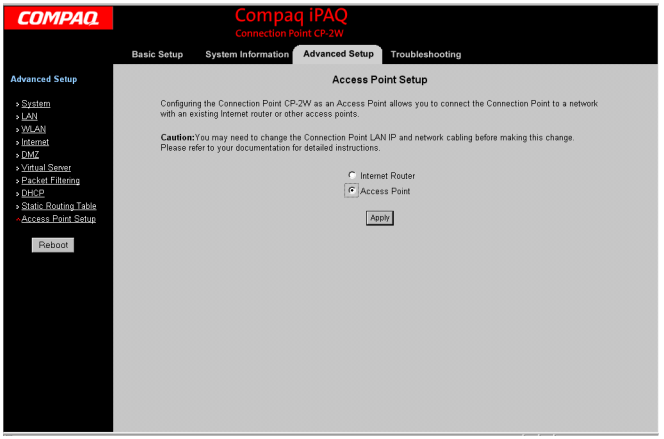
3. Make a record of the new IP address you have assigned to the Connection Point CP-2W, as the internal web pages will be accessed by this new address, rather than cp.home.

Note: Do not change the subnet mask.

4. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

5. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

6. Click the **Access Point** link at the left of the Advanced Setup tab.
   The Access Point Setup Page is displayed.



7. Click the **Access Point** radio button so that it is selected.

8. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

9. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

10. Click the **Reboot** button at the left of the Advanced Setup tab.
    The Reboot dialog box is displayed. The Connection Point CP-2W must be rebooted for applied changes to take effect.

11. Click **OK**.
    The system restarts, then resumes operation with the new configuration. This takes a few seconds.

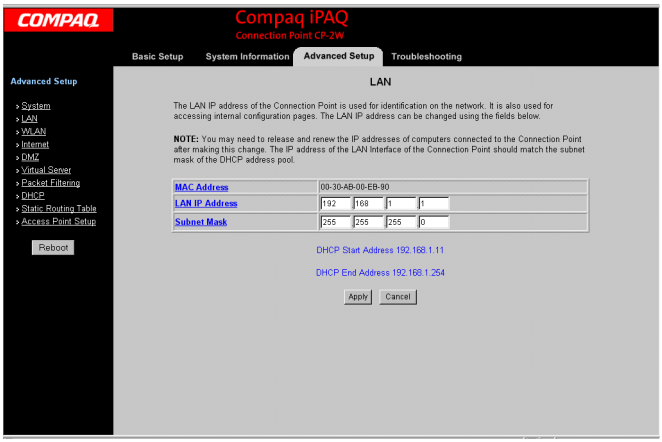
12. Connect a cable from the Internet router to a LAN port on the Connection Point CP-2W.

13. Verify that all cables are correctly connected and, using the appropriate IP utility for your operating system (winipcfg.exe for Windows 95, 98 or ME; ipconfig.exe for Windows 2000 or NT), release and renew the IP address for the network adapter card connected to your Connection Point CP-2W. Your new IP address will be assigned by the router instead of the Connection Point CP-2W.

14. Repeat Step 13 for all computers that were previously connected to the Connection Point CP-2W.

Changing From Access Point Back to Internet Router

1. Access the internal configuration pages by typing the IP address of the Connection Point CP-2W (as recorded in step 3 of "Configuring as an Access Point") in the **Address** field of your browser and pressing **Enter**.
2. Click the **LAN** link at the left of the Advanced Setup tab. The LAN page is displayed.



3. Type a new IP address into the **LAN IP Address** field. The default IP address for your Connection Point CP-2W is 192.168.1.1. If this address does not duplicate the address of another router on your network, set it back to this default address. If there are other routers on your network, you will need to select an IP address in the range of 192.168.xxx.1, where xxx is replaced with a valid number not currently used by another router (normally 1 through 254).

Note: If you have home networking software installed, the computer that shares the Internet connection will also often behave as a router.

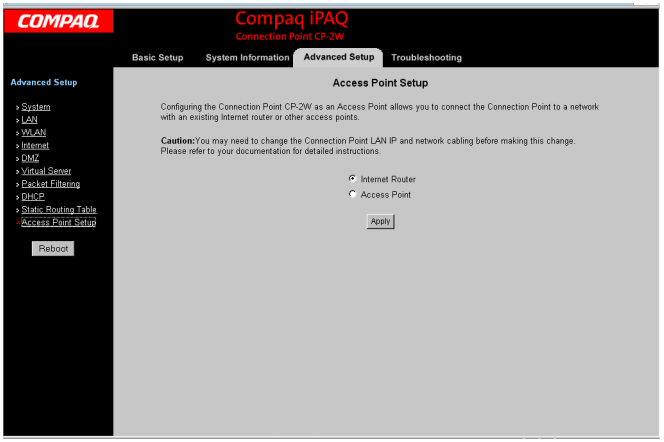
4. When you have assigned the Connection Point CP-2W its own unique subnet, you can access to the internal web pages again by typing *cp.home* into the **Address** field of a web browser on any PC connected directly to the Connection Point CP-2W.

5. Reset the default subnet mask to 255.255.255.0 if it was changed.

6. Click **Apply**.
   The Connection Point CP-2W must be rebooted for applied changes to take effect.

7. Click **OK**.
   You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

8. Click the **Access Point** link at the left of the Advanced Setup tab.
   The Access Point Setup Page is displayed.



9. Click the **Internet Router** radio button so that it is selected.

10. Click **Apply**.
    The Connection Point CP-2W must be rebooted for applied changes to take effect.

11. Click **OK**.
    You can reboot the Connection Point CP-2W at any time by clicking the **Reboot** button at the left of the Advanced Setup tab.

12. Connect an Ethernet cable from the cable or DSL modem to the Internet port of the Connection Point CP-2W.
13. Verify that all cables are correctly connected and, using the appropriate IP utility for your operating system (winipcfg.exe for Windows 95, 98 or ME; ipconfig.exe for Windows 2000 or NT), release and renew the IP address for the network adapter card connected to your Connection Point CP-2W. Your new IP address will be assigned by the Connection Point CP-2W instead of the Internet router.
14. Repeat step 12 for all computers that were previously connected to the Connection Point CP-2W.

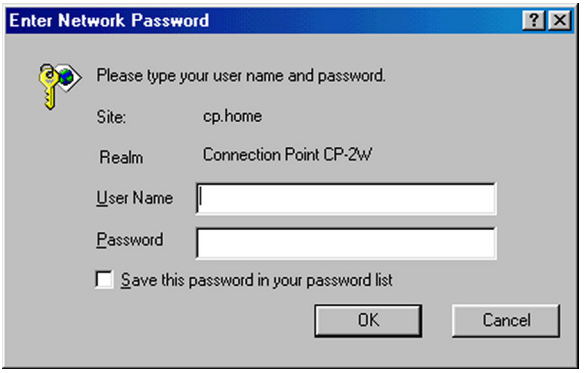
7. System Update and Recovery

There are two methods for updating the firmware. You can use the internal web pages of your Connection Point CP-2W, or the Firmware Update Utility. The Connection Point CP-2W Firmware Update Utility allows you to update the firmware to its latest version and perform emergency recovery in case of critical system failure.

Using the System Update Page

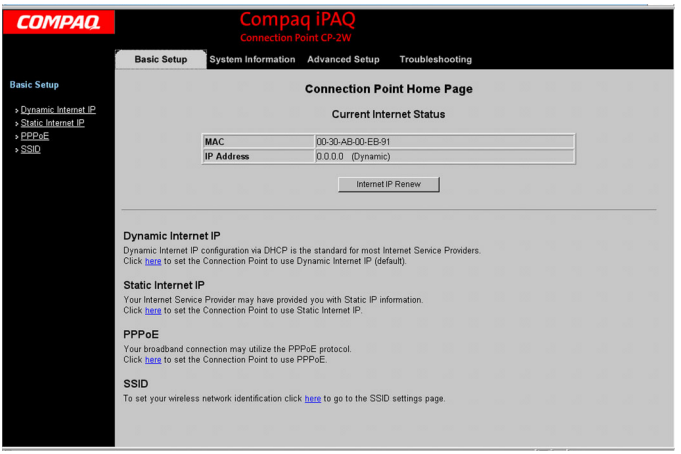
The system update page can be used under most circumstances.

1. Open a web browser.
2. Locate and download the latest firmware update from **www.compaq.com/athome/support/internetdevices** and save it to a temporary folder on your system.
3. Type *cp.home* into the **Address** field and press **Enter**.
   The Enter Network Password window is displayed.



4. If you established a personal user name, type it into the **User Name** field. Otherwise, type *admin* into the **User Name** field.
5. If you established a password, type it into the **Password** field. Otherwise, leave this field blank.

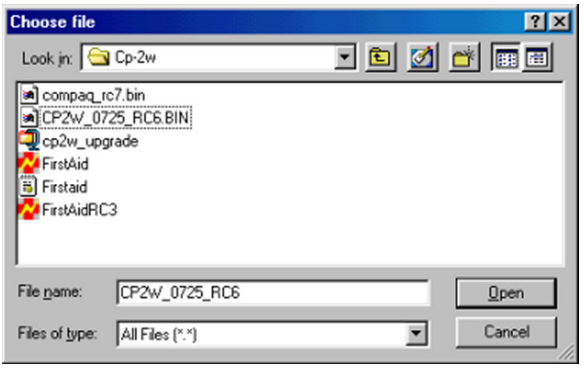
6. Click **OK**.
   The Basic Setup tab is displayed.



7. Click the **Advanced Setup** tab.
   The Advanced Setup page is displayed.

8. Click the **Firmware Update** link at the left of the Advanced tab. The Firmware Update page is displayed.

9. Click **Browse**.
   A Choose File window is displayed.



10. Locate and select the updated file that you downloaded to a temporary folder in Step 2.
11. Click **Open**.
12. Click **Update**.
13. Follow the on-screen instructions.

Using the Firmware Update Utility

To update the firmware or perform emergency recovery using the Firmware Update Utility, locate and download the latest firmware update from the **www.compaq.com/athome/support/**

internetdevices website and save it to a temporary folder. If Internet access is unavailable to obtain the latest firmware, the default factory firmware will automatically be used for emergency recovery.

1. From the Windows taskbar, select **Start>Programs> Connection Point>CP-2W Firmware Update Utility**. The Welcome window is displayed.

2. Click **Next**. The Firmware Update Utility detects whether a normal firmware update or emergency recovery is required.

Note: If prompted for a filename, locate and select the update file.

3. Follow the wizard directions.

Restore Factory Defaults

There are three ways to restore factory defaults:

> Use the firmware update procedure described above.

> Click the **Reset Factory Defaults** button on the *System* page of the Advanced Setup tab. Refer to Chapter 6 for more information.

> Hold down the reset button on the back of the Connection Point CP-2W for ten seconds. Refer to Chapter 1 for the location of the reset button.

Each of these procedures restores all factory defaults to the Connection Point CP-2W. Any configuration changes you have made will be lost.

8. Troubleshooting

Symptom	***Possible Cause***	***Solution***
Cannot access internal web pages.	Connection Point CP-2W not working properly. The 'Test' light stays on.	Reset factory defaults: Press the reset button for 10 seconds. If this does not fix the problem, use update/recovery utility to reinstall firmware.
	Network adapter on PC not properly installed.	Verify that network adapter is properly installed and has TCP/IP bound to it.
	PC does not have IP address.	For Windows 9x, select ***Start > Run*** and type ***winipcfg***. Select the adapter that is connected to the Connection Point CP-2W. Click ***Release***, then ***Renew***. Verify that the PC gets an address in the appropriate range (192.168.1.xxx) and a subnet of 255.255.255.0 (assuming that the default IP of the router was not changed). For Windows 2000, open a DOS prompt. Type ***ipconfig /release*** and press ***Enter***. Type ***ipconfig /renew*** and press ***Enter***. Type ***ipconfig*** and press ***Enter*** to verify address.
	Proxy settings enabled on browser.	Disable browser proxy settings.

Symptom	*Possible Cause*	*Solution*
Cannot access Connection Point CP-2W configuration pages through an Ethernet adapter.	Network cables not properly connected to the PC or the Connection Point CP-2W.	Verify that network cables are properly connected at both ends and that Connection Point CP-2W is plugged in. The Connection Point CP-2W act LEDs should be flickering on corresponding cable connections when PCs are on and connected.
Cannot access the Connection Point CP-2W configuration pages through a wireless adapter.	SSID and WEP code on PC and Connection Point CP-2W are different.	From a PC connected through Ethernet, connect to the web-based configuration page. Click the Advanced Setup tab. Verify that SSID and WEP key values on the web page match wireless configuration utility values. To access your wireless adapter utility, refer to wireless adapter documentation. Change the value(s) of SSID or WEP on the PC or Connection Point CP-2W so that the values match.
	Wireless card not receiving radio signal.	Check signal strength indicator provided with your wireless LAN card. See network card documentation for more information. If no signal exists or signal very low, try moving adapter or Connection Point CP-2W to improve the signal strength.

Symptom	*Possible Cause*	*Solution*
Cannot access access Internet (external web pages) on my PC through the Connection Point CP-2W (but ***can*** access the configuration pages).	Modem is not on.	Turn on DSL or cable modem.
	No valid IP address on Connection Point CP-2W.	Go to Connection Point CP-2W configuration pages. Click ***Renew Internet IP*** under the ***Current Internet Status*** section of the Basic Setup tab.
	ISP service is down.	Verify that DSL or cable modem is on and working properly by checking the modem's LEDs. Consult modem documentation or ISP for information regarding modem status.
	Previous MAC address was not released by cable or DSL modem.	Reset the cable or DSL modem: unplug power to modem for anywhere from several minutes to several hours. Contact ISP for more information.
	Connection Point CP-2W Internet settings not properly configured.	ISP may require additional configuration information: PPPoE account user name and password, DNS, device name, or MAC address. Contact ISP for specific requirements and add them to your configuration.
	ISP requires MAC address of device connected to Internet.	Found on System Information tab of internal web page in the ***Internet Status*** section in field labeled ***MAC Address***.

Symptom	***Possible Cause***	***Solution***
Cannot see other users on network.	Operating system database that tracks names of machines has not been synchronized, or an update to the database is pending.	Select ***Start > Run***. Type ***//<computername>*** or ***//<PC IP address>*** (replacing "computername" and "PC-IP-address" with actual values). Click ***OK***. When the operating system database updates (usually less than an hour) this may no longer be necessary.
	Firewall on PC prevents access to other systems on network.	Disable firewall. Connection Point CP-2W provides firewall protection for PCs connected to it.
Cannot access files or printers of other computers on the network.	File and printer sharing not enabled.	Open ***Control Panel***. Double-click ***Network*** icon. Click ***Add Service***. Select ***File and printer sharing***. Click ***OK***. Reboot as required.
	No files or printers are shared.	Go to PC with resource you want to share. Right-click resource. Select ***Sharing***. Select ***Share this folder or printer*** and create share name. Apply appropriate permissions to folder.
	Users not entered in Windows 2000 user list.	Open ***Control Panel*** on WIndows 2000 PC. Double-click ***Users and Passwords*** icon. Add each user name that should have access to resources on Windows 2000 PC. On PCs attempting to access Windows 2000 PC, log on using one of the user names that was added for resource access on the Windows 2000 PC.

9. Regulatory Compliance

Federal Communications Commission Notice

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.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

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.

Appendix A: Specifications

Standard features	• NAT • DHCP server (up to 253 IP addresses) • Supports dynamic IP, static IP and PPPoE Internet connections • 802.11b wireless • MAC address verification for wireless network access • 64-bit and 128-bit WEP encryption • Access point roaming • Built-in 4-port Fast Ethernet switch • Auto Sensing 10/100 ports • Auto Sensing MDI/MDI-X cabling • Secure VPN pass-through (IPSec & PPTP) • Internet protocol and port filtering • Web DMZ • Virtual server • HTML-based management pages
Ports	WAN Internet interface: Qty 1 -RJ 45 10/100Mbps (10/100 BaseT-Ethernet) LAN interface: Qty 4 -RJ 45 10/100Mbps (10/100 BaseT-Ethernet), MDI/MDI-X, 802.11b wireless antenna

RF specification	• IEEE802.11b • Support 2.4GHz ISM band • 64 & 128 bit WEP encryption • Access point roaming • Range coverage Indoors • 30m (100 ft) @ 11Mbps • 50m (165 ft) @ 5.5Mbps • 70m (230 ft) @ 2Mbps Outdoors • 150m (495 ft) @ 11Mbps • 270m (885 ft) @ 5.5Mbps • 392m (1300 ft) @ 2Mbps
Environment	Operating temperature 0 ~ 55 ° C Storage temperature -20 ~ 70 ° C Humidity (non-condensing) 5 ~ 80%
Power	12VDC 1.2A wall adapter
Dimensions and weights	Unit: 113 x 54 x 5.3 mm (1.1lbs.) Package: 340 x 188 x 65 mm (2.9 lbs.)

Glossary

This glossary provides a brief list of commonly used technical terms and their definitions.

10BaseT/100BaseT. Standard local area networking protocols, which run at speeds of 10Mbps and 100Mbps, respectively. Most older networks use 10BaseT, while newer networks use 100BaseT.

Access point. The bridge between a wired network and wireless devices.

Access rate. The speed at which users connect to the network. This is generally measured in bits per second, kilobits per second, or megabits per second.

Adapter card. A device that provides network communication capaibilites when installed in a computer. Sometimes called a "network interface card."

Bit. A single unit of data. See byte and gigabyte.

BOOTP (Bootstrap Protocol). An Internet protocol that allows a diskless workstation to discover its own IP address.

Broadband. A high-speed connection to the Internet, typically defined as starting at 384 Kbps. It allows large files and rich media content (content that uses video, audio or complex graphics like those used in high-end computer games) to quickly flow across the network to and from the user's computer.

Browser. A computer program that opens and displays Web pages, including Microsoft® Internet Explorer and Netscape Communicator. You need a Web browser to access the Web.

Byte. On almost all modern computers, a byte is equal to 8 bits. Large amounts of memory are indicated in terms of kilobytes (1,024 bytes), megabytes (1,048,576 bytes), and gigabytes (1,073,741,824 bytes). See bit and gigabyte.

Data stream. A sequence of digitally encoded signals used to represent information in transmission.

DHCP (dynamic host configuration protocol). A protocol for assigning dynamic IP addresses to devices on a network that allows a device to have a different IP address every time it connects to the network.

Dial-up. An Internet connection made via a telephone line.

Download. To copy a file from a computer on the Internet to your personal computer. All Web pages are downloaded from the Internet. When you enter a URL into your Web browser, the files that accompany that URL are copied and sent to your computer, where they are displayed using your Web browser.

Driver. Software that enables the operating system to recognize and operate devices installed in or attached to the computer, such as a printer.

DSL (digital subscriber line). A technology that takes advantage of standard copper telephone lines to provide high-speed Internet access.

DSSS (direct sequence spread spectrum). A transmission technology used in wireless LAN transmissions where a data signal combines with a higher data rate bit sequence, or chipping code, that divides the user data according to a spreading ratio.

Ethernet. A local area network protocol used to connect devices within a single building or campus at speeds up to 10 Mbps.

Fast Ethernet. A local area network protocol used to connect devices within a single building or campus at speeds up to 100 Mbps.

Firewall. A set of related programs located at the gateway server of a network that protects information contained within the network from users outside the network (on the Internet). A company with an intranet that also allows workers to access to the wider Internet installs a firewall to prevent outsiders from accessing its data resources.

FTP (file transfer protocol). A protocol used to send files over the Internet.

Gateway. A combination of hardware and software that links two different types of networks.

Gbps (gigabits per second). A measure of bandwidth capacity or transmission speed. It represents a billion bits per second.

Gigabyte. A billion bytes of data.

HPNA. Home Phone Network Alliance.

Hub. A common connection point for devices on a network.

IEEE. The Institute of Electrical and Electronics Engineers. An organization of engineers, scientists, and students best known for developing standards for the computer and electronics industry.

IEEE 802.11b. 802.11 is the family of specifications developed by the IEEE for wireless LAN technology. 802.11b applies to wireless local area networks operating at 11 Mbps transmission rate.

ISDN (integrated services digital network). A set of standards for digital transmission capable of carrying data, voice, and video over ordinary telephone copper wire as well as over other media. ISDN protocols are used worldwide for connections to public ISDN networks or to attach ISDN devices to ISDN-capable PBX systems (ISPBXs).

Interface. A point of connection between two systems, networks, or devices.

Internet. The world's largest computer network, which originated from a research effort initiated by the U.S. Government and was initially used to connect defense contractors and U.S. universities. Today, its nature is more commercial, and it is becoming the preferred method of linking business and individual computers to one another.

Internet access. The physical connection between the subscriber and the nearest Internet access node.

ISP (internet service provider). A single computer network, connected to the Internet, that provides access for individual computers to the Internet. ISPs provide local dial-up and broadband Internet access for personal computers.

Intranet. A local network with internal Web servers that are accessible to computers in the office, but not accessible from outside the company. Many intranets are protected from exterior access by security devices such as firewalls.

IP Address. The 32-bit numeric address that identifies a computer or device on a TCP/IP network. An IP address is written as four numbers separated by periods. For example, 1.160.10.240 could be an IP address.

IPX (internetwork packet exchange). A networking protocol used for connectionless communications.

Kbps (kilobits per second). A measure of bandwidth capacity or transmission speed representing a thousand bits per second.

Kilobit. 1,024 bits for technical purposes, such as data storage. 1,000 for general purposes. Data transfer rates are measured in kilobits per second, abbreviated as Kbps, and count a kilo as 1,000 bits.

Kilobytes. In decimal systems, kilo stands for 1,000, but in binary systems, a kilo is 1,024 (2 to the 10th power). Technically, therefore, a kilobyte is 1,024 bytes, but it is often used loosely as a synonym for 1,000 bytes. In computer literature, kilobyte is usually abbreviated as K or KB. To distinguish between a decimal K (1,000) and a binary K (1,024), the IEEE has suggested following the convention of using a small k for a decimal kilo and a capital K for a binary kilo, but this convention is by no means strictly followed.

LAN (local area network). A data communications network covering a small area, usually within the confines of a building or floors within a building. Common LAN protocols are Ethernet and Token Ring.

LED (light-emitting diode). An electronic device that lights up when electricity is passed through it.

Line sharing. Allows a consumer to use his or her existing phone line for both normal phone service provided by the local phone company and high-speed digital subscriber line (DSL) Internet access through another provider.

MAC (media access control) Address. A unique hardware address that identifies each node of a network.

Mbps (megabits per second). A measure of bandwidth capacity or transmission speed. It represents a million bits per second.

MBps (megabytes per second). A measure of bandwidth capacity or transmission speed. It represents a million bytes per second.

Megabit. When used to describe data storage, 1,024 kilobits. When used to describe data transfer rates, it refers to one million bits. Network speeds are often measured in megabits per second.

Megabyte. When used to describe data storage, 1,048,576 bytes. Megabyte is frequently abbreviated as M or MB. When used to describe data transfer rates, as in MBps, it refers to one million bytes.

Microsoft Windows®. A computer operating system by Microsoft Corporation,

Modem (MOdulator/DEModulator). Equipment that converts digital signals to analog signals and vice versa. Modems are used to send data signals (digital) over the telephone network, which is usually analog.

NDIS (network driver interface specification). A Windows device driver interface that enables a single network interface card to support multiple network protocols.

NetBEUI (NetBIOS enhanced user interface). An enhanced version of the NetBIOS protocol used by network operating systems such as LAN Manager, LAN Server, Windows for Workgroups, Windows 95, and Windows NT.

NIC (network interface controller). The circuit board or other form of computer hardware that serves as the interface between a computer (or other form of data terminal equipment) and the communications network. In DSL, a common NIC is an Ethernet NIC, which serves as the interface to the DSL modem from the computer.

Node. A processing location such as a computer or other device. Every node has a unique network address.

OS (operating system). The interface that permits a person and a computer to "talk" to one another. Microsoft Windows, the most popular operating system, displays icons, menus, and dialog boxes to find out what you want. You use a mouse and keyboard to reply. See Microsoft Windows.

Packet. A sub-unit of a data stream.

Packet switched network. A network that transmits data in units called packets in a connectionless manner. Data streams are broken into packets at the front end of a transmission, sent over the best available network connection, and then reassembled in their original order at the destination endpoint.

PCMCIA (Personal Computer Memory Card International Association). The organization responsible for developing the standard for small, credit card-sized devices, called PC Cards.

PDF (portable document format). A file format that has captured all the elements of a printed document as an electronic image, which you can view, navigate, print, or forward to someone else. PDF files are created using Adobe Acrobat, Acrobat Capture, or similar products. To open the files, you need the free Acrobat Reader, which you can easily download. Once you have downloaded the reader, it starts automatically whenever you want to open a PDF file.

Router. A device used to connect other devices on a network. A router provides intelligent paths for data to flow between devices and provides identification for these devices through IP addresses.

Server. A fast, high-power computer that is used as the repository and distributor of data, and to control various applications. Servers can be used for a variety of applications including hosting websites, email databases, and other types of database applications.

SPX (sequenced packet exchange). A transport layer protocol used in Novell Netware networks to provide connection-oriented services between two nodes on the network. Used primarily by client/server applications.

STP (Shielded Twisted Pair). A type of cable that consists of two shielded wires twisted around each other. It is used extensively for local area networks and telephone connections.

Switch. A switch is essentially an intelligent hub. When a packet arrives at the switch, it looks at the packet, determines which computer the packet is directed to, and forwards the packet to that computer. By contrast, a hub regenerates the packet and broadcasts it to every computer connected through it.

TCP/IP (transmission control protocol/Internet protocol). A networking protocol that provides communication across interconnected networks, between computers with diverse hardware

architectures and various operating systems. TCP and IP are only two protocols in the family of Internet protocols. However, TCP/IP is used to denote the family of common Internet protocols.

Telnet. Terminal emulation program for TCP/IP networks that runs on your computer and connects your PC to a server on the network.

Traffic. A measure of the quantity of data transferred from one computer to another computer per unit of time. Traffic is normally measured in megabytes.

Upload. To transmit files from your computer to another through a network.

UTP (Unshielded Twisted Pair). A type of cable that consists of two unshielded wires twisted around each other. It is used extensively for local area networks and telephone connections.

WECA. Wireless Ethernet Compatibility Alliance. WECA's mission is to certify interoperability of Wi-Fi (IEEE 802.11) products and to promote Wi-Fi as the global wireless LAN standard across all market segments.

WLAN (wireless local area network). A type of local area network that uses high-frequency radio waves instead of wires to communicate.

Wi-Fi™ (wireless fidelity). The standard for wireless fidelity. Certifies interoperability with all other Wi-Fi-certified products.