SMC
N e t w o r k s

BARRICADE™

2.4GHz 54 Mbps Wireless Cable/DSL Broadband Router

User Guide

SMC2804WBR V.2

Barricade™ g 2.4 GHz 54 Mbps Wireless Cable/DSL Broadband Router

From SMC's Barricade line of Broadband Routers

SMC®
N e t w o r k s

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TABLE OF CONTENTS

Table of Contents

ABOUT THE WIRELESS BARRICADE™ G ROUTER

Congratulations on your purchase of the Wireless Barricade™ g Broadband Router. SMC is proud to provide you with a powerful yet simple communication device for connecting your local area network (LAN) to the Internet.

Important Information!

This information is addressed to the DSL-Users without a flat rate contract**.

With your DSL-router you have received a device of high quality, which allows you fast and easy access to the Internet.

The factory default settings of this router have been done in a way to provide you with uninterrupted access and use of the Internet. With this background for cost reasons we recommend that you enter into a "flat rate" - contract with your DSL-line provider.

Why should you do that?

Please consider that a router, an entirely independent working device, does not switch off automatically when shutting off your PC!

You may trigger such an automatic shut-off by setting a so called "idle-time" (for details consult your manual at PPPoE or PPTP WAN access configuration). Depending at the set time (1 to 5 min) the router cuts the DSL-link when idle, indeed. But this still does not provide for 100% security.

This disconnect only happens if there are no more open requests received from either the LAN or the WAN side (here this can be requests from the internet, i.e. initiated through the use of so called file sharing programs like eMule, eDonkey, etc.) that keep the router active.

1

In order to counter such incalculable activity and protect yourself from higher than expected on-line costs we therefore recommend again a flat-rate contract for your DSL-connection. The only safe alternative: **Pull the plug!** That is to disconnect your router from the mains.

Please feel free to contact our SMC-hotline if you have further questions.

** Flat-rate is an offer of your DSL-line provider, which gives you timely unlimited access to the Internet at a defined (flat-) rate.

LED Indicators

The Wireless Barricade™ g Router includes status LED indicators, as described in the following figure and table.
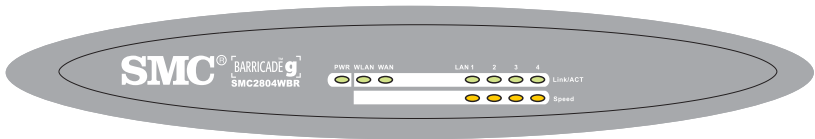
LED	Status	Description
PWR (Green)	On	The Wireless Barricade™ g Router is receiving power.
WLAN (Green)	On	The Wireless Barricade™ g Router has established a valid wireless connection.
WAN (Green)	On	The WAN port has established a valid network connection.
Link/ACT (Green)	On	The indicated LAN port has established a valid network connection.
	Flashing	The indicated LAN port is transmitting or receiving traffic.
Speed (Amber)	Off	The indicated LAN port has established a valid 10 Mbps network connection.
	On	The indicated LAN port has established a valid 100 Mbps network connection.

Features and Benefits

- Internet connection to DSL or cable modem via a 10/100 Mbps WAN port.

- Local network connection via 10/100 Mbps Ethernet ports or 54 Mbps wireless interface (supporting up to 253 mobile users).

- 802.11g – interoperable with multiple vendors and 802.11b clients.

- Advanced security through 64/128-bit WEP encryption, 802.1x, WPA (Wi-Fi Protected Access), SSID broadcast disabled, and MAC address filtering features to protect your sensitve data and authenticate only authorized users to your network.

- Provides seamless roaming within an 802.11g WLAN environment.

- DHCP for dynamic IP configuration, and DNS for domain name mapping.

- Firewall with Stateful Packet Inspection, client privileges, hacker prevention, DoS, and NAT.

- NAT also enables multi-user access with a single-user account, and virtual server functionality (providing protected access to Internet services such as web, mail, FTP, and Telnet).

- Virtual Private Network support using PPTP, L2TP, or IPSec pass-through.

- User-definable application sensing tunnel supports applications requiring multiple connections.

- Parental controls allow the user to restrict web browsing.

- Automatic E-mail alerts when the network is being attacked.

- Easy setup through a web browser on any operating system that supports TCP/IP.

- Compatible with all popular Internet applications.

3

INSTALLING THE WIRELESS BARRICADE™ G ROUTER

Before installing the Wireless Barricade™ g Broadband Router, verify that you have all the items listed under "Package Contents." If any of the items are missing or damaged, contact your local SMC distributor. Also be sure that you have all the necessary cabling before installing the Wireless Barricade™. After installing the Wireless Barricade™, refer to the web-based configuration program in "Configuring the Wireless Barricade™ g Router" on page 29 for information on configuring the Wireless Barricade™.

Package Contents

After unpacking the Wireless Barricade™ g Broadband Router, check the contents of the box to be sure you have received the following components:

• Wireless Barricade™ g Broadband Router.

• Power adapter.

• One CAT-5 Ethernet cable.

• Four rubber feet.

• Installation CD containing this User Guide and EZ 3-Click Installation Wizard.

• Quick Installation Guide.

Immediately inform your dealer in the event of any incorrect, missing or damaged parts. If possible, please retain the carton and original packing materials in case there is a need to return the product.

Please register on SMC's web site at www.smc.com or www.smc-europe.com.The Wireless Barricade™ g Router is covered by a limited lifetime warranty.

Hardware Description

The Wireless Barricade™ can be connected to the Internet or to a remote site using its RJ-45 WAN port. It can be connected directly to your PC or to a local area network using any of the Fast Ethernet LAN ports.

Access speed to the Internet depends on your service type. Full-rate ADSL can provide up to 8 Mbps downstream and 640 Kbps upstream. G.lite (or splitterless) ADSL provides up to 1.5 Mbps downstream and 512 Kbps upstream. Cable modems can provide up to 36 Mbps downstream and 2 Mbps upstream. ISDN can provide up to 128 Kbps when using two bearer channels. PSTN analog connections can now run up to 56 Kbps. However, you should note that the actual rate provided by specific service providers may vary dramatically from these upper limits.

Although access speed to the Internet is determined by the modem type connected to the Wireless Barricade™, data passing between devices connected to your local area network can run up to 100 Mbps over the Fast Ethernet ports.

The Wireless Barricade™ includes an LED display on the front panel for system power and port indications that simplifies installation and network troubleshooting. It also provides four RJ-45 LAN ports and one RJ-45 WAN port on the rear panel.

- 4 RJ-45 ports for connection to a 10BASE-T/100BASE-TX Ethernet Local Area Network (LAN). These ports can auto-negotiate the operating speed to 10/100 Mbps, the mode to half/full duplex, and the pin signals to MDI/MDI-X (i.e., allowing these ports to be connected to any network device with straight- through cable). These ports can be connected directly to a PC or to a server equipped with an Ethernet network interface card, or to a networking device such as an Ethernet hub or switch.

- One RJ-45 port for connection to a DSL or cable modem (WAN). This port also auto-negotiates operating speed to 10/100 Mbps, the mode to half/full duplex, and the pin signals to MDI/MDI-X.

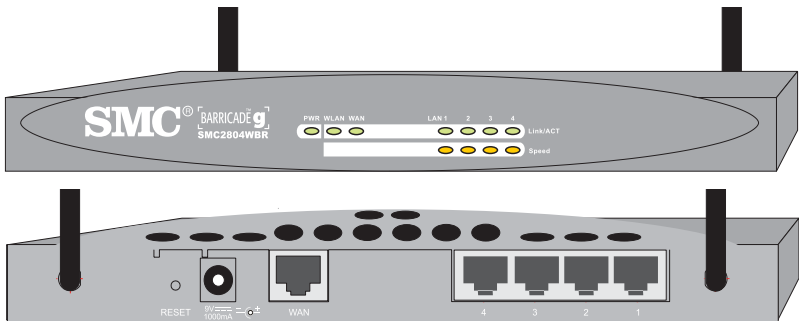The following figure shows the components of the Wireless Barricade™:

Figure 1. Front and Rear Panels

Item	Description
LEDs	Power, WLAN, WAN and LAN port status indicators. (See "LED Indicators" on page 2.)
Reset Button	Use this button to reset the power and restore the default factory settings.
Power Inlet	Connect the included power adapter to this inlet. **Warning**: Using the wrong type of power adapter may damage your router.
WAN Port	WAN port (RJ-45). Connect your cable modem, DSL modem, or an Ethernet router to this port.
LAN Ports	Fast Ethernet ports (RJ-45). Connect devices (such as a PC, hub or switch) on your local area network to these ports.

System Requirements

You must have an ISP that meets the following minimum requirements:

- Internet access from your local telephone company or Internet Service Provider (ISP) using a DSL modem or cable modem.

- A PC using a fixed IP address or dynamic IP address assigned via DHCP, as well as a Gateway server address and DNS server address from your service provider.

- A computer equipped with a 10 Mbps, 100 Mbps, or 10/100 Mbps Fast Ethernet card, or a USB-to-Ethernet converter.

- TCP/IP network protocol installed on each PC that needs to access the Internet.

- A web browser, such as Microsoft Internet Explorer 5.0 or above installed on one PC at your site for configuring the Wireless Barricade™.

Connect the System

The Wireless Barricade™ can be positioned at any convenient location in your office or home. No special wiring or cooling requirements are needed. You should, however comply with the following guidelines:

- Keep the Wireless Barricade™ away from any heating devices.

- Do not place the Wireless Barricade™ in a dusty or wet environment.

You should also remember to turn off the power, remove the power cord from the outlet, and keep your hands dry when you install the Wireless Barricade™.

Basic Installation Procedure

1. **Connect the LAN**: Connect the Wireless Barricade™ to your PC, or to a hub or switch. Run Ethernet cable from one of the LAN ports on the rear of the Wireless Barricade™ to your computer's network adapter or to another network device.

    You may also connect the Wireless Barricade™ to your PC (using a wireless client adapter) via radio signals. Position both antennas on the back of the Wireless Barricade™ into the desired positions. For more effective coverage, position the antennas along different axex. For example, try positioning the antennas around 45 to 90 degress apart.
    (The antennas emit signals along the toroidal plane – and thus provide more effective coverage when positioned along different axes).

2. **Connect the WAN**: Prepare an Ethernet cable for connecting the Wireless Barricade™ to a cable/xDSL modem or Ethernet router.

3. **Power on**: Connect the power adapter to the Wireless Barricade™.
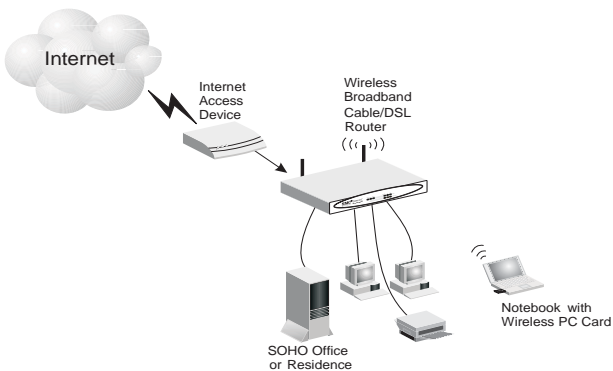
Figure 2. Connecting the Wireless Barricade™ g Router

9

Attach to Your Network Using Ethernet Cabling

The four LAN ports on the Wireless Barricade™ auto-negotiate the connection speed to 10 Mbps Ethernet or 100 Mbps Fast Ethernet, and the transmission mode to half duplex or full duplex.

Use twisted-pair cable to connect any of the four LAN ports on the Wireless Barricade™ to an Ethernet adapter on your PC. Otherwise, you can cascade any of the LAN ports on the Wireless Barricade™ to an Ethernet hub or switch, and then connect your PC or other network equipment to the hub or switch. When inserting an RJ-45 plug, be sure the tab on the plug clicks into position to ensure that it is properly seated.

Warning: Do not plug a phone jack connector into any RJ-45 port. This may damage the Wireless Barricade™. Instead, use only twisted-pair cables with RJ-45 connectors that conform with FCC standards.
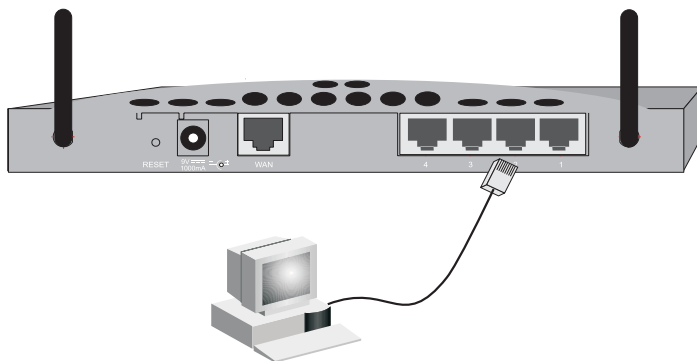
Figure 3. Making the LAN Connections

Attach to Your Network Using Radio Signals

Install a wireless network adapter in each computer that will be connected to the Internet or your local network via radio signals. SMC currently offers several wireless network cards, including the SMC2802W and SMC2835W wireless cards.

Rotate both antennas on the back of the Wireless Barricade™ to the desired position. For more effective coverage, position the antennas around 45 to 90 degrees apart. Try to place the Wireless Barricade™ in a position that is located in the center of your wireless network. Normally, the higher you place the antenna, the better the performance. Ensure that the Wireless Barricade™'s location provides optimal reception throughout your home or office.

Computers equipped with a wireless adapter can communicate with each other as an independent wireless LAN by configuring each computer to the same radio channel. However, the Wireless Barricade™ can provide access to your wired/wireless LAN or to the Internet for all wireless workstations. Each wireless PC in this network infrastructure can talk to any computer in the wireless group via a radio link, or access other computers or network resources in the wired LAN infrastructure or over the Internet via the Wireless Barricade™.

The wireless infrastructure configuration not only extends the accessibility of wireless PCs to the wired LAN, but also increases the effective wireless transmission range for wireless PCs by retransmitting incoming radio signals through the Wireless Barricade™.

A wireless infrastructure can be used for access to a central database, or for connection between mobile workers, as shown in the following figure:
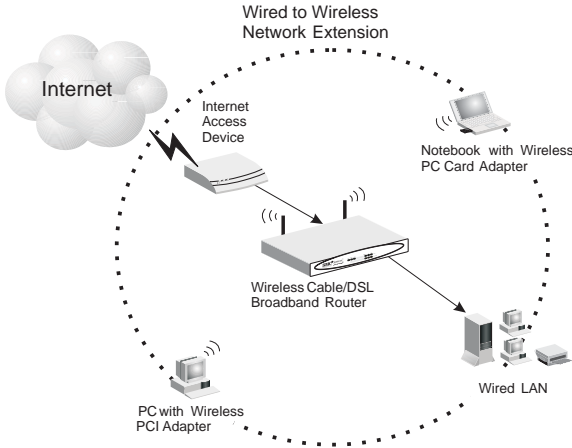
Figure 4. Making the WLAN Connections

Attach the Wireless Barricade™ g Router to the Internet

If Internet services are provided through an xDSL or cable modem, use unshielded or shielded twisted-pair Ethernet cable (Category 3 or greater) with RJ-45 plugs to connect the broadband modem directly to the WAN port on the Wireless Barricade™.
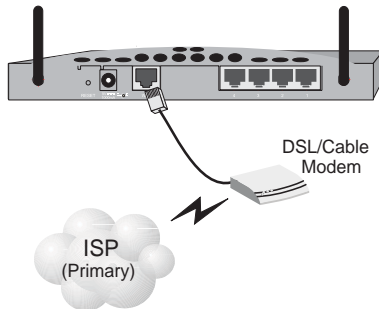
Figure 5. Making the WAN Connection

12

Note: When connecting to the WAN port, use 100-ohm Category 3, 4, or 5 shielded or unshielded twisted-pair cable with RJ-45 connectors at both ends for all connections.

Connecting the Power Adapter

Plug the power adapter into the power socket on the Wireless Barricade™, and the other end into a power outlet. Check the indicator marked "PWR" on the front panel to be sure it is on. If the power indicator does not light, refer to "Troubleshooting" on page 79.

CONFIGURING CLIENT TCP/IP

If you have not previously installed the TCP/IP protocols on your client PCs, refer to the following section. If you need information on how to configure a TCP/IP address on a PC, refer to "Setting Up TCP/IP" on page 18.

Installing TCP/IP

Windows 95/98/Me

1. Click Start/Settings/Control Panel.

2. Double-click the Network icon and select the Configuration tab in the Network window.

3. Click the Add button.

4. Double-click Protocol.
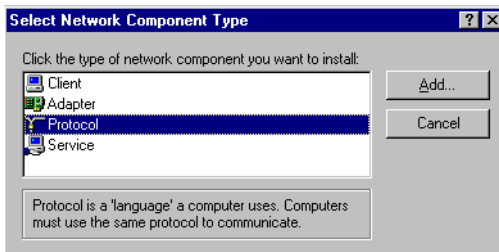
5. Select Microsoft in the manufacturers list. Select TCP/IP in the Network Protocols list. Click the OK button to return to the Network window.
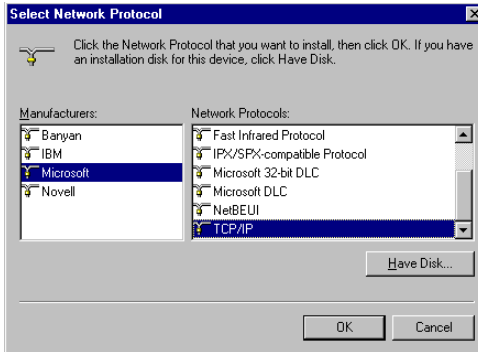
6. The TCP/IP protocol will be listed in the Network window. Click OK. The operating system may prompt you to restart your system. Click Yes and the computer will shut down and restart.

Windows 2000

1. Click the Start button and choose Settings, then click the Network and Dial-up Connections icon.

2. Double-click the Local Area Connection icon, and click the Properties button on the General tab.

3. Click the install... button.

4. Double-click Protocol.
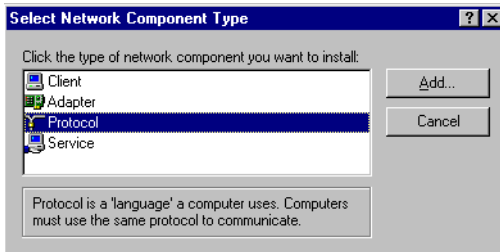
5. Choose Internet Protocol (TCP/IP). Click the OK button to return to the Network window.
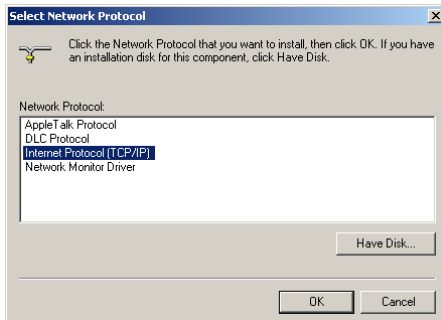
6. The TCP/IP protocol will be listed in the Network window. Click OK to complete the installation procedure.

Setting Up TCP/IP

To access the Internet through the Wireless Barricade™, you must configure the network settings of the computers on your LAN to use the same IP subnet as the Wireless Barricade™. The default network settings for the Wireless Barricade™ are:

Gateway IP Address: 192.168.2.1
Subnet Mask: 255.255.255.0

Note: These settings may be changed to suit your network requirements, but you must first configure at least one computer as described in this chapter to access the Wireless Barricade™'s web configuration interface. See "Configuring the Wireless Barricade™ g Router" on page 29 for information on configuring the Wireless Barricade™.

If you have not previously configured TCP/IP for your computer, refer to"Configuring Client TCP/IP" on page 15. The IP address of the connected client PC should be 192.168.2.x (where x means 2–254). You can set the IP address for client PCs either by automatically obtaining an IP address from the Wireless Barricade™'s DHCP service or by manual configuration.

Configuring Your Computer in Windows 95/98/Me

You may find that the instructions here do not exactly match your version of Windows. This is because these steps and screenshots were created in Windows 98. Windows 95 and Windows Millennium Edition are very similar, but not identical, to Windows 98.

1. From the Windows desktop, click Start/Settings/ Control Panel.

2. In the Control Panel, locate and double-click the Network icon.

3. On the Network window Configuration tab, double-click the TCP/IP entry for your network card.
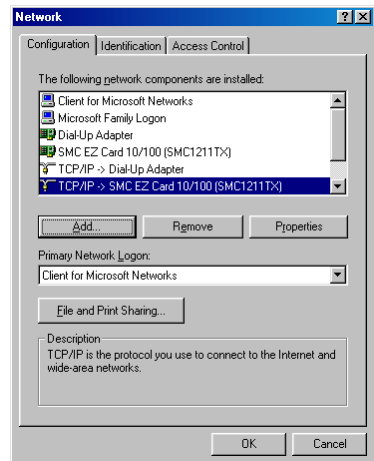
4. Click the IP Address tab.
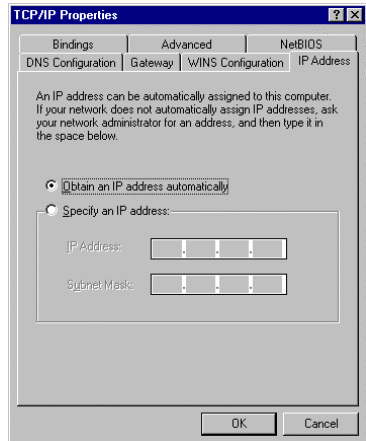
5. Click the "Obtain an IP address" option.

6. Next click on the Gateway tab and verify the Gateway field is blank. If there are IP addresses listed in the Gateway section, highlight each one and click Remove until the section is empty.

7. Click the OK button to close the TCP/IP Properties window.

19

8. On the Network Properties Window, click the OK button to save these new settings.

Note: Windows may ask you for the original Windows installation disk or additional files. Check for the files at c:\windows\options\cabs, or insert your Windows CD-ROM into your CDROM drive and check the correct file location, e.g., D:\win98, D:\win9x. (if D is the letter of your CD-ROM drive).

9. Windows may prompt you to restart the PC. If so, click the Yes button. If Windows does not prompt you to restart your computer, do so to insure your settings.

Obtain IP Settings from Your Wireless Barricade™ g Router

Now that you have configured your computer to connect to your Wireless Barricade™, it needs to obtain new network settings. By releasing old IP settings and renewing them with settings from your Wireless Barricade™, you will also verify that you have configured your computer correctly.

1. Click Start/Run.

2. Type WINIPCFG and click OK.

3. From the drop-down menu, select your network card. Click Release and then Renew. Verify that your IP address is now 192.168.2.xxx, your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168. 2.1. These values confirm that the Wireless Barricade™ is functioning. Click OK to close the IP Configuration window.

20
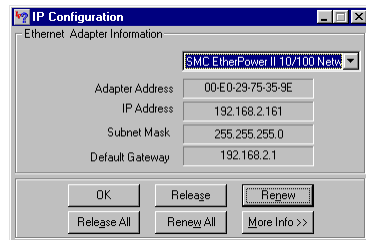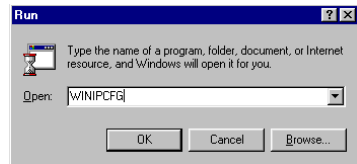
Configuring Your Computer in Windows NT 4.0

1. From the Windows desktop click Start/Settings/Control Panel.

2. Double-click the
Network icon.
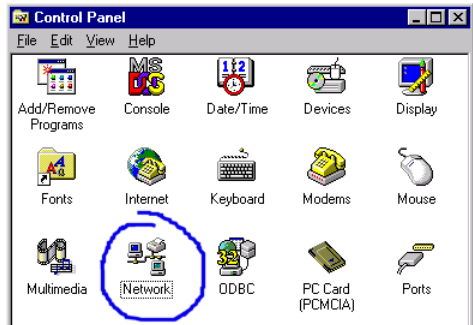
3. Click on the
Protocols tab.

4. Double-click
TCP/IP Protocol.
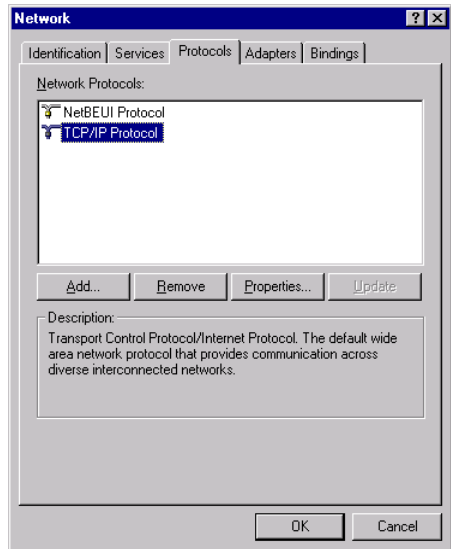
5. Click on the IP
Address tab.

6. In the Adapter drop-down list, be sure your Ethernet adapter
is selected.

21
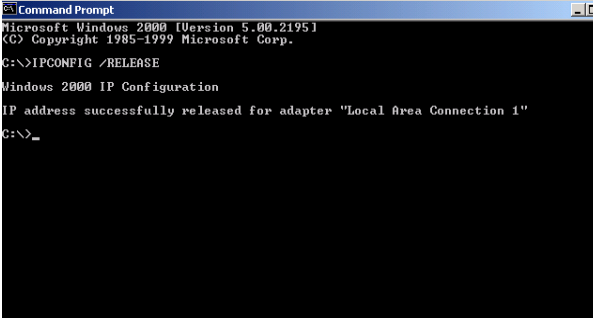
7. Click on "Obtain an IP address from a DHCP server."

8. Click OK to close the window.

9. Windows may copy files and will then prompt you to restart your system. Click Yes and your computer will shut down and restart.

Obtain IP Settings From Your Wireless Barricade™ g Router

Now that you have configured your computer to connect to the Wireless Barricade™, it needs to obtain new network settings. By releasing old IP settings and renewing them with settings from the Wireless Barricade™, you will also verify that you have configured your computer correctly.

1. On the Windows desktop, click Start/Programs/Command Prompt.

2. In the Command Prompt window, type IPCONFIG /RELEASE and press the <ENTER> key.

3. Type IPCONFIG /RENEW and press the <ENTER> key. Verify that your IP Address is now 192.168.2.xxx, your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168.2.1. These values confirm that the Wireless Barricade™ is functioning.

4. Type EXIT and press <ENTER> to close the Command Prompt window.

Configuring Your Computer in Windows 2000

1. Access your Network settings by clicking Start, then choose Settings and then select Control Panel.

2. In the Control Panel, locate and double-click the Network and Dial-up Connections icon.

3. Locate and double-click the Local Area Connection icon for the Ethernet adapter that is connected to the Wireless Barricade™. When the Status dialog box window opens, click the Properties button.
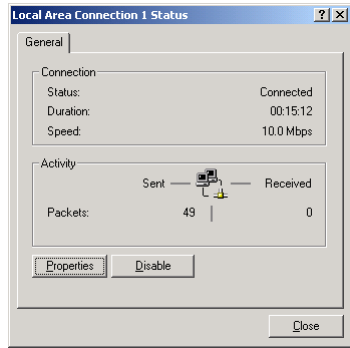
4. In the Local Area Connection Properties box, verify the box next to Internet Protocol (TCP/IP) is checked. Then highlight the Internet Protocol (TCP/IP), and click the Properties button.

5. Select "Obtain an IP address automatically" to configure your computer for DHCP. Click the OK button to save this change and close the Properties window.

6. Click the OK button again to save these new changes.

7. Reboot your PC.

8. To obtain new network settings see "Obtain IP Settings from Your Wireless Barricade™ g Router" on page 20.

Configuring Your Computer in Windows XP

The following instructions assume you are running Windows XP with the default interface. If you are using the Classic interface (where the icons and menus look like previous Windows versions), please follow the instructions for Windows 2000 outlined above.

1. Access your Network settings by clicking Start, choose Control Panel, select Network and Internet Connections and then click on the Network Connections icon.

2. Locate and double-click the Local Area Connection icon for the Ethernet adapter that is connected to the Wireless Barricade™. Next, click the Properties button.
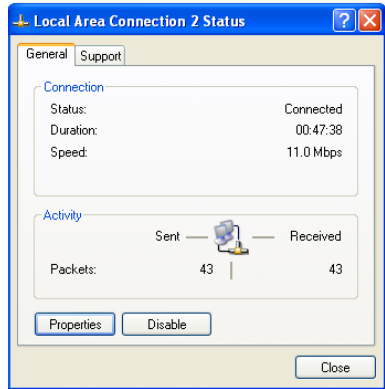
3. In the Local Area Connection Properties box, verify the box next to Internet Protocol (TCP/IP) is checked. Then highlight the Internet Protocol (TCP/IP), and click the Properties button.

4. Select "Obtain an IP address automatically" to configure your computer for DHCP. Click the OK button to save this change and close the Properties window.

5. Click the OK button again to save these new changes.

6. Reboot your PC.

Configuring a Macintosh Computer

You may find that the instructions here do not exactly match your screen. This is because these steps and screenshots were created using Mac OS 10.2. Mac OS 7.x and above are all very similar, but may not be identical to Mac OS 10.2.

1. Pull down the Apple Menu. Click System Preferences and select Network.

25

2. Make sure that Built-in Ethernet is selected in the Show field.

3. On the TCP/IP tab, select Using DHCP in the Configure field.

4. Close the TCP/IP dialog box.
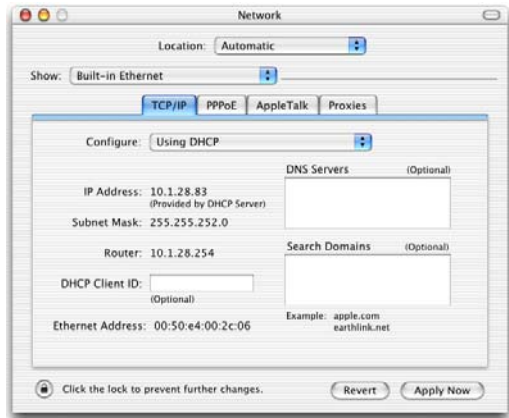
Manual IP Configuration (for all Windows OS)

1. Check Specify an IP address on the IP Address tab. Enter an IP address based on the default network 192.168.2.x (where x is between 2 and 254), and use 255.255.255.0 for the subnet mask.
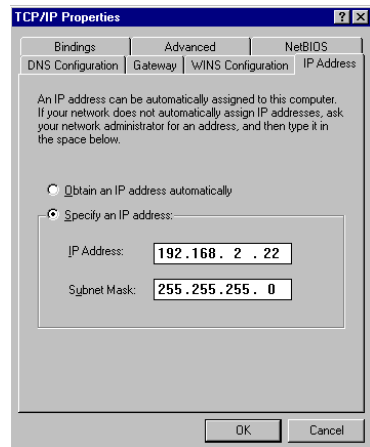
2. In the Gateway tab, add the IP address of the Wireless Barricade™ (default: 192.168.2.1) in the New gateway field and click Add.
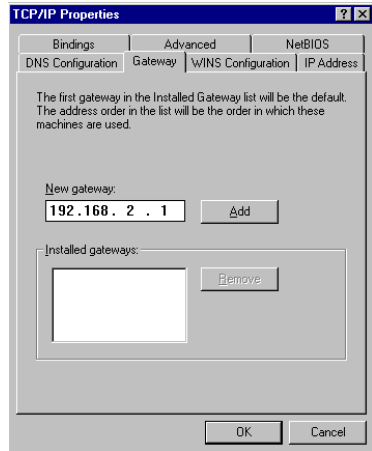
3. On the DNS Configuration tab, add the IP address for the Wireless Barricade™ and click Add. This automatically relays DNS requests to the DNS server(s) provided by your ISP. Otherwise, add specific DNS servers into the DNS Server Search Order field and click Add.

4. After finishing TCP/IP setup, click OK, and then reboot the computer. After that, set up other PCs on the LAN according to the procedures described above.

27
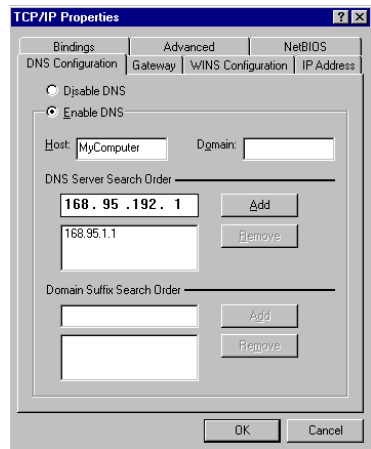
Verifying Your TCP/IP Connection

After installing the TCP/IP communication protocols and configuring an IP address in the same network as the Wireless Barricade™, use the Ping command to check if your computer has successfully connected to the Wireless Barricade™. The following example shows how the Ping procedure can be executed in an MS-DOS window. First, execute the Ping command:

```
ping 192.168.2.1
```

If a message similar to the following appears:

```
Pinging 192.168.2.1 with 32 bytes of data:
Reply from 192.168.2.1: bytes=32 time=2ms TTL=64
```

a communication link between your computer and the Wireless Barricade™ has been successfully established.

If you get the following message,

```
Pinging 192.168.2.1 with 32 bytes of data:
Request timed out.
```

there may be something wrong in your installation procedure. Check the following items in sequence:

1. Is the Ethernet cable correctly connected between the Wireless Barricade™ and the computer?

The LAN LED on the Wireless Barricade™ and the Link LED of the network card on your computer must be on.

2. Is TCP/IP properly configured on your computer?

If the IP address of the Wireless Barricade™ is 192.168.2.1, the IP address of your PC must be from 192.168.2.2 - 192.168.2.254 and the default gateway must be 192.168.2.1.

If you can successfully Ping the Wireless Barricade™ you are now ready to connect to the Internet!

CONFIGURING THE WIRELESS BARRICADE™ G ROUTER

The Wireless Barricade™ g Router can be configured by Internet Explorer 5.0 or above. Using the web management interface, you can configure the Wireless Barricade™ and view statistics to monitor network activity.

Note: Before you attempt to configure your router, if you have access to the Internet please visit www.smc.com or www.smc-europe.com and download the latest firmware update to ensure your Wireless Barricade™ is running the latest firmware.

Before you attempt to log into the web-based Administration, please verify the following.

1. Your browser is configured properly (see below).

2. Disable any firewall or security software that may be running.

3. Confirm that you have a good link LED where your computer is plugged into the Wireless Barricade™. If you don't have a link light, then try another cable until you get a good link.

Browser Configuration

Confirm your browser is configured for a direct connection to the Internet using the Ethernet cable that is installed in the computer. This is configured through the options/preference section of your browser.

Disable Proxy Connection

You will also need to verify that the HTTP Proxy feature of your web browser is disabled. This is so that your web browser will be able to view the Wireless Barricade™ configuration pages. The following steps are for Internet Explorer.

Internet Explorer 5 or above (For Windows)

1. Open Internet Explorer. Click Tools, and then select Internet Options.

2. In the Internet Options window, click the Connections tab.

3. Click the LAN Settings button.

4. Clear all the check boxes and click OK to save these LAN settings changes.

5. Click OK again to close the Internet Options window.

Internet Explorer (For Macintosh)

1. Open Internet Explorer. Click Explorer/Preferences.

2. In the Internet Explorer Preferences window, under Network, select Proxies.

3. Uncheck all check boxes and click OK.

Navigating the Web Browser Interface

To access the
Wireless Barricade™'s
management interface,
enter the Wireless
Barricade™ IP address in
your web browser http://
192.168.2.1 Then enter
the password and click
LOGIN. (Default: smcadmin.)

Note: Passwords can contain from 3–12 alphanumeric
characters and are case sensitive.

The home page displays the Setup Wizard and Advanced
Setup options.

The Wireless Barricade™'s management interface features a Setup Wizard and an Advanced Setup section. Use the Setup Wizard if you want to quickly set up the Wireless Barricade™ for use with a cable modem or DSL modem.

Advanced setup supports more advanced functions like hacker attack detection, IP and MAC address filtering, intrusion detection, virtual server setup, virtual DMZ hosts, and other advanced functions.

Making Configuration Changes

Configurable parameters have a dialog box or a drop-down list. Once a configuration change has been made on a page, be sure to click the APPLY or NEXT button at the bottom of the page to enable the new setting.

Note: To ensure proper screen refresh after a command entry, ensure that Internet Explorer 5.0 is configured as follows: Under the menu Tools/Internet Options/ General/Temporary Internet Files/Settings, the setting for "Check for newer versions of stored pages" should be "Every visit to the page".

Setup Wizard

Time Zone

Click on the Setup Wizard picture. The first item in the Setup Wizard is Time Zone setup.
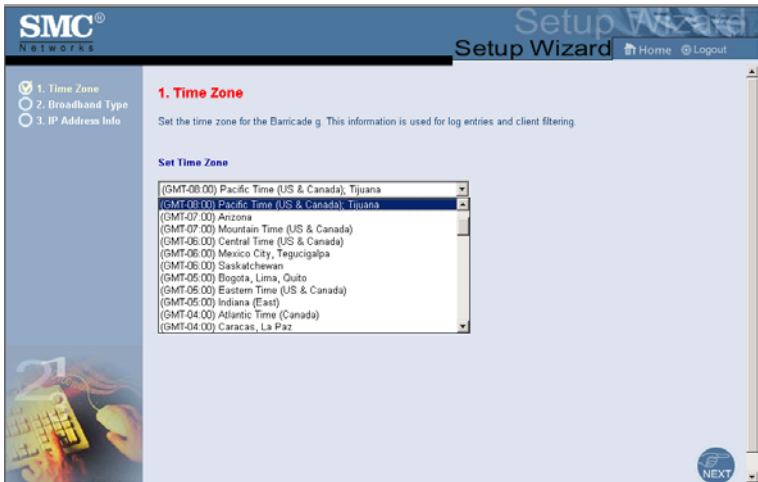
For accurate timing of client filtering and log events, you need to set the time zone. Select your time zone from the drop-down list, and click NEXT.
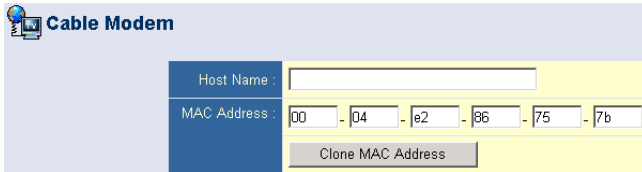
Broadband Type

Select the type of broadband connection you have.

For a cable modem connection see the following page. For a Fixed-IP xDSL connection see "Fixed-IP xDSL" on page 35, for a PPPoE xDSL connection, see "PPPoE xDSL" on page 36, for a PPTP connection, see "Point-to-Point Tunneling Protocol (PPTP)" on page 37, and for BigPond connection, see "BigPond" on page 38.
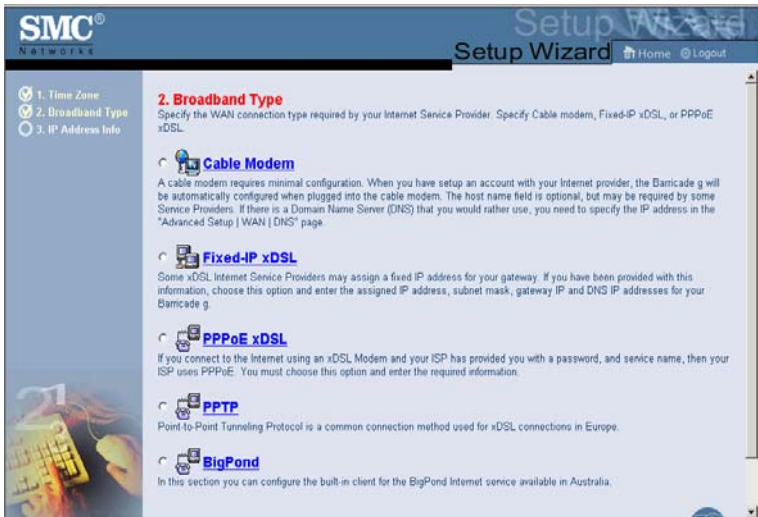
Cable Modem
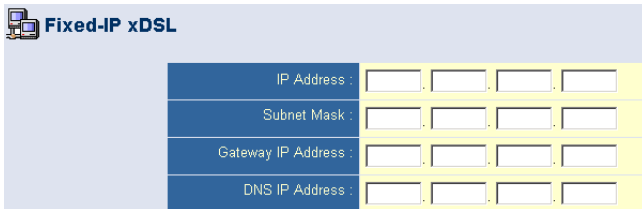
Your Internet Service Provider may have given you a host name. If so, enter it into the field.

Click Finish to complete the setup. The Status page will open to allow you to view the connection status, as well as other information. See "Status" on page 78 for details.

Fixed-IP xDSL

Some xDSL Internet Service Providers may assign a fixed (static) IP address. If you have been provided with this information, choose this option and enter the assigned IP address, gateway IP address, DNS IP addresses, and subnet mask. Click FINISH to complete the setup.

PPPoE xDSL

Enter the PPPoE User Name and Password assigned by your Service Provider. The Service Name is normally optional, but may be required by some service providers.

Leave the Maximum Transmission Unit (MTU) at the default value (1454) unless you have a particular reason to change it.

Enter a Maximum Idle Time (in minutes) to define a maximum period of time for which the Internet connection is maintained during inactivity. If the connection is inactive for longer than the Maximum Idle Time, it will be dropped. (Default: 10).

Enable the Auto-reconnect option to automatically re-establish the connection as soon as you attempt to access the Internet again. Click FINISH to complete the setup.

Note: Please be aware that the setting of [Maximum Idle Time] to "0" and/or [Auto-Reconnect] enabled can cause an increase of your telephone bill if you don't have signed a flatrate.

Point-to-Point Tunneling Protocol (PPTP)

Point-to-Point Tunneling Protocol is a common connection method used for xDSL connections in Europe. It can be used to join different physical networks using the Internet as an intermediary.

If you have been provided with the information as shown on the screen, enter the PPTP Account name and password, Host Name, Service IP Address, the assigned IP address, and subnet mask.

Leave the Maximum Transmission Unit (MTU) at the default value (1460) unless you have a particular reason to change it.

Enter a Maximum Idle Time (in minutes) to define a maximum period of time for which the Internet connection is maintained during inactivity. If the connection is inactive for longer than the Maximum Idle Time, it will be dropped. (Default: 10).

Enable the Auto-reconnect option to automatically re-establish the connection as soon as you attempt to access the Internet again. Click FINISH to complete the setup.

Note: Please be aware that the setting of [Maximum Idle Time] to "0" and/or [Auto-Reconnect] enabled can cause an increase of your telephone bill if you don't have signed a flatrate.

BigPond

If you use the BigPond Internet Service which is available in Australia, enter the the user name, password and service name for BigPond authentication. Click FINISH to complete the setup.

Advanced Setup

Use the web management interface to define system parameters, manage and control the Wireless Barricade™ and its ports, or monitor network conditions. The following table outlines the selections available from this program.

Menu	Description
System	• Sets the local time zone, the password for administrator access, the Internet security of ZoneAlarm Pro (optional), system log server, and the IP address of a PC that will be allowed to manage the Wireless Barricade™ remotely. • Sets enhanced security policy for the network using Zone Labs, Inc "ZoneAlarm Pro."
WAN	• Specifies the Internet connection type: (1) Dynamic IP host configuration and the physical MAC address of each media interface, (2) PPPoE configuration, (3) PPTP, (4) Static IP and ISP gateway address, or (5) BigPond (Internet service available in Australia). • Specifies DNS servers to use for domain name resolution.
LAN	Sets the TCP/IP configuration of the Wireless Barricade™'s LAN interface and all DHCP clients.
NAT	Shares a single ISP account with multiple users, sets up virtual servers.

Menu	Description
Wireless	Configures the radio frequency, SSID, WPA/WEP encryption, and 802.1x for wireless communications.
Firewall	Configures a variety of security and specialized functions, including: Access Control, Hacker Prevention, and DMZ.
DDNS	Dynamic DNS provides users on the Internet with a method to tie their domain name to a computer or server.
UPnP	With Universal Plug and Play, a device can automatically and dynamically join a network, obtain an IP address, communicate its capabilities, and learn about the presence and capabilities of other devices. Devices can then directly communicate with each other. This further enables peer-to-peer networking.
Tools	Contains options to back up & restore the current configuration, restore all configuration settings to the factory defaults, update system firmware, or reset the system.
Status	Provides WAN connection type and status, firmware and hardware version numbers, system IP settings, as well as DHCP, NAT, and Firewall information.
	Displays the number of attached clients, the firmware versions, the physical MAC address for each media interface, and the hardware version and serial number.
	Shows the security and DHCP client log.

System

Time Zone

Set the time zone and time server for the Wireless Barricade™. This information is used for log entries and client access control.

• Set your local time zone settings

Select your time zone from the drop-down list, and set the start and end dates if your area requires daylight savings.

To automatically update the Wireless Barricade™'s internal clock by synchronizing with a public time server over the Internet, choose one of the methods below.

• Get date and time by online time servers (Network Time Protocol)

Choose the online standard time server of your area from the drop-down menu, or enter the IP address of the time server on your network.

• Set date and time using PC's date and time

Click on the radio button for synchronizing the Wireless Barricade™'s internal clock with the host PC.

• Set date and time manually

For manually setting the date and time, configure the date by selecting the options from the drop-down list, and enter the digits for the time.

Password Settings

Use this menu to restrict access based on a password. For security you should assign your own password before exposing the Wireless Barricade™ to the Internet. (Default: smcadmin.)

Passwords can contain from 3 –12 alphanumeric characters and are case sensitive.

Note: If your password is lost, or you cannot gain access to the user interface, press the Reset button on the rear panel (holding it down for at least five seconds) to restore the factory defaults.

Enter a maximum Idle Time Out (in minutes) to define a maximum period of time for which the login session is maintained during inactivity. If the connection is inactive for longer than the maximum idle time, it will perform system logout, and you have to log into the web management system again. (Default: 9 minutes.)

Remote Management
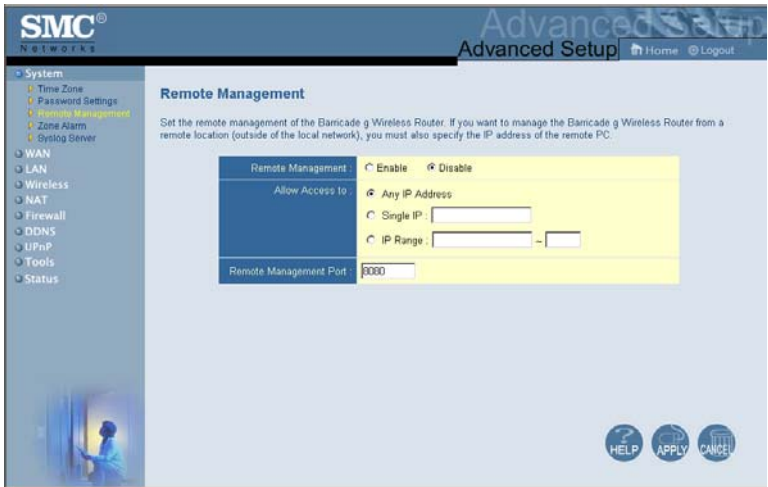
Remote Management allows a remote PC to configure, manage, and monitor the Wireless Barricade™ using a standard web browser. Check Enable and set the IP address (range) of the remote host. Click APPLY. (Default: Disable.)

Note: If you select Any IP Address in the Allow Access to field, any host can manage the Wireless Barricade™.

ZoneAlarm Pro® with Web Filtering Setup

Every PC connected to the Internet is a potential target. Even a novice hacker can easily initiate tens of thousands of pings and port scans per hour, scanning far and wide for unprotected systems. Once hackers find your PC, they attempt to compromise it and deposit malicious software such as remote-access Trojans, spy-ware, viruses, or Internet worms.

Your Wireless Barricade™ now includes a new "Client Enforcement" feature from Zone Labs, Inc. Client Enforcement provides end to end security by ensuring that only protected endpoint PC's have access to the network. Simply configure your Wireless Barricade™ to restrict the network access of endpoint PCs that are not in compliance with security requirements. This easy-to-use feature allows you to ensure each of your PCs is safe from Trojan horse and Spy-ware style attacks.

ZoneAlarm® Pro protects your PC from both known and unknown threats with a combination of:

- **Stealth firewall** that protects each individual computer in your network, and it travels with that computer wherever it goes. Mobile endpoint protection is a must for traveling laptops.

- **Program Control** to manage which applications are connecting to the Internet, blocking spy-ware and other malicious software from sending your personal information out from your computer.

- **MailSafe** to identify and quarantine potentially harmful email attachments (coming in and going out) to prevent e-mail viruses, worms and Trojans disguised as attachments from getting onto to your machine and mass-e-mail worms from sending viruses out to the people in your address book. And

- **Privacy protection** to keep your identity and web-surfing habits confidential with features such as cookie control, 3rd-party spy protection and cache cleaner to protect your privacy while you surf and ad-blocking and parental control keep your surfing safe and distraction-free.

By refusing Internet or WAN access to any workstation not running ZoneAlarm Pro security of your network is greatly increased. You can easily make exceptions for individual workstations at your discretion. When an Internet request is rejected, the user will be routed to http://smc.zonelabs.com where (s)he will be given the option to purchase ZoneAlarm Pro or upgrade to the proper version required by the policy.

The option does not significantly affect system performance, so we advise enabling it to protect your network users. Select Enable and click the APPLY button.

Note: When you select the Enable radio button of the Enable or Disable ZoneAlarm® Pro Security field, be sure to press the APPLY button.
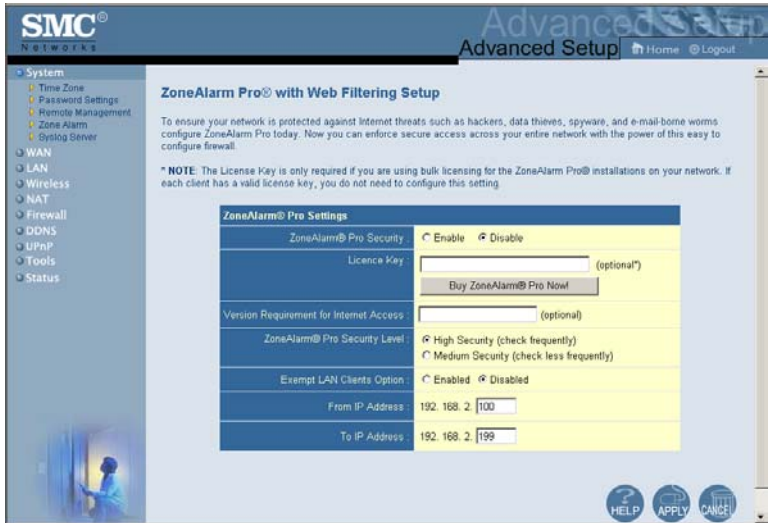
- License Key

The License Key field is optional. To input your ZAP License Number, type in or paste the license number you received at the time of purchase.

Note: Only Licenses for ZoneAlarm Pro with Web Filtering 4.x and higher, purchased through http://smc.zonelabs.com, can be inserted directly into this field.

Click the Buy ZoneAlarm Pro Now! to purchase a license. You will be directed to http://smc.zonelabs.com website, where you can complete your product purchase.

- Version Requirement for Internet Access

The Version Requirement for Internet Access field is an optional setting. This field gives you even tighter control of the enforcement of ZoneAlarm Pro software. In addition to requiring ZoneAlarm Pro software for network access, you can also specify what version of ZoneAlarm Pro users need to run, to ensure that users always run the most up to date version of the software.

45

- ZoneAlarm Pro Security Level

The overhead for communication between the router and Zone Alarm Pro with Web Filtering on your PCs is very minimal. The communication packets are small and infrequent. However, if you do feel it is causing a delay on your network, you have some control over the frequency the packets are sent to and from ZoneAlarm Pro and the Wireless Barricade™.

On the ZoneAlarm Pro (ZAP) Settings Panel on the Wireless Barricade™, the ZAP Security Level option tells the Wireless Barricade™ and ZoneAlarm Pro how often they should communicate. This communication tells the Wireless Barricade™ that ZoneAlarm Pro is still running on the PC.

If you set this option to High Security (Check Frequently), the exchange will occur at smaller intervals. Though we feel this should not impact your network performance, you do have the option to select Medium Security (Check Less Frequently) to increase the interval.

- Exempt LAN Clients Option

This option allows you to Enable or Disable creation a range of IP Addresses for PCs which are non–Windows or require exemption from this enforcement policy.

Note: This option is set as Disabled by default. When you select the Enabled radio button of the Exempt LAN Client Option field, be sure to press the APPLY button.

- From IP Address

Input the last three digits of the first IP Address from the range of IP address that you would like to exempt from this policy enforcement.

Note: The default IP address of the Wireless Barricade™ is 192.168.2.1. The IP address that can be assigned to a PC workstation on the network is 192.168.2.x (where x means 2–254). See "Configuring Client TCP/IP" on page 15.

• To IP Address

Input the last three digits of the last IP Address from the range of IP addresses that you would like to exempt from this policy enforcement.

Note: You also need to make sure that Exempt LAN Client Option is set to Enable. Be sure to press the APPLY button after completing the entry.

Syslog Server
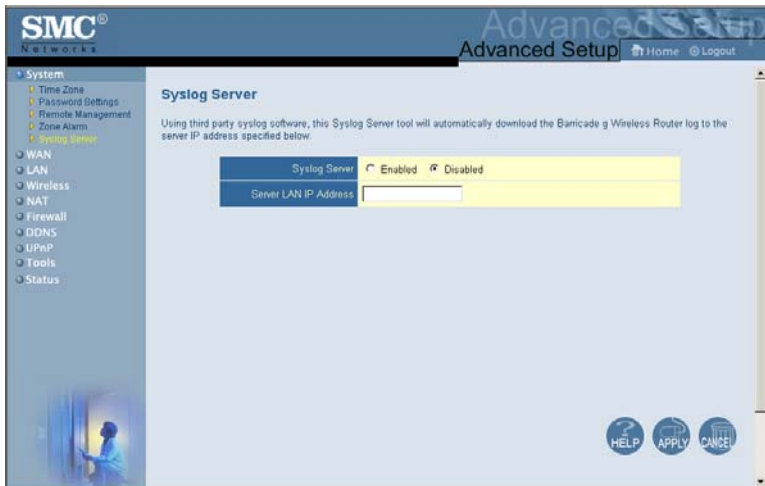
The Syslog Server downloads the Wireless Barricade™'s log file to the server with the IP address specified on this screen. (Default: disabled.)

WAN

Specify the WAN connection type provided by your Internet Service Provider, then click More Configuration to enter detailed configuration parameters for the selected connection type.

Dynamic IP
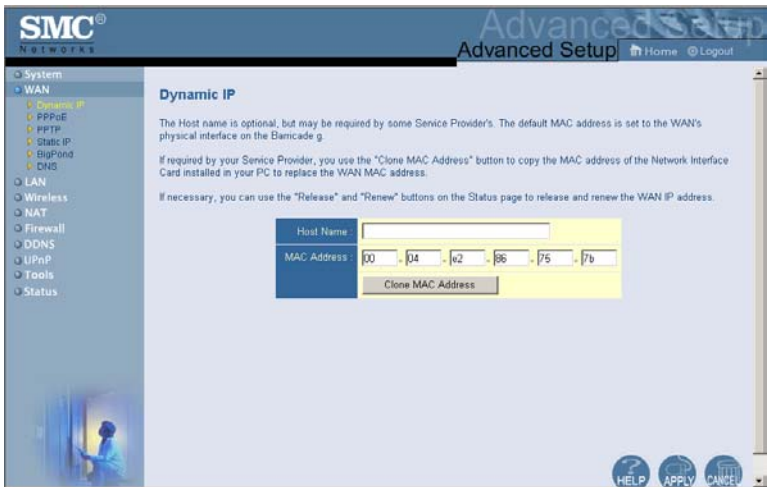
The Host Name is optional, but may be required by some ISPs. The default MAC address is set to the WAN's physical interface on the Wireless Barricade™. Use this address when registering for Internet service, and do not change it unless required by your ISP. If your ISP used the MAC address of an Ethernet card as an identifier when first setting up your broadband account, only connect the PC with the registered MAC address to the Wireless Barricade™ and click the Clone MAC Address button. This will replace the current Wireless Barricade™ MAC address with the already registered Ethernet card MAC address. If you are unsure of which PC was originally set up by the broadband technician, call your ISP and request that they register a new MAC address for your account. Register the default MAC address of the Wireless Barricade™.

Point-to-Point Over Ethernet (PPPoE)

Enter the PPPoE User Name and Password assigned by your Service Provider. The Service Name is normally optional, but may be required by some service providers.

The MTU (Maximum Transmission Unit) governs the maximum size of the data packets. Leave this on the default value (1454) unless you have a particular reason to change it.

Enter a Maximum Idle Time (in minutes) to define a maximum period of time for which the Internet connection is maintained during inactivity. If the connection is inactive for longer than the Maximum Idle Time, it will be dropped. (Default: 10 minutes).

Enable the Auto-reconnect option to automatically re-establish the connection as soon as you attempt to access the Internet again.

Note: Please be aware that the setting of [Maximum Idle Time] to "0" and/or [Auto-Reconnect] enabled can cause an increase of your telephone bill if you don't have signed a flatrate.

Point-to-Point Tunneling Protocol (PPTP)

Point-to-Point Tunneling Protocol (PPTP) can be used to join different physical networks using the Internet as an intermediary. Using the above screen allows client PCs to establish a normal PPTP session and provides hassle-free configuration of the PPTP client on each client PC.

Enter the PPTP Account, Password, Host Name, and then Service IP Address (usually supplied by your ISP), the assigned IP address, and subnet mask.

Leave the Maximum Transmission Unit (MTU) at the default value (1460) unless you have a particular reason to change it.

Enter a maximum Idle Time Out (in minutes) to define a maximum period of time for which the PPTP connection is maintained during inactivity. If the connection is inactive for longer than the Maximum Idle Time, it will be dropped. (Default: 0 minutes.)

Note: Please be aware that the setting of [Maximum Idle Time] to "0" and/or [Auto-Reconnect] enabled can cause an increase of your telephone bill if you don't have signed a flatrate.

50

Static IP Address

If your Internet Service Provider has assigned a fixed IP address, enter the assigned address and subnet mask for the Wireless Barricade™, then enter the gateway address of your ISP.

You may need a fixed address if you want to provide Internet services, such as a web server or FTP server.

51

BigPond

BigPond is a service provider in Australia that uses a heartbeat system to maintain the Internet connection. Configure the built-in client with your user name, password and service name to get online.

DNS
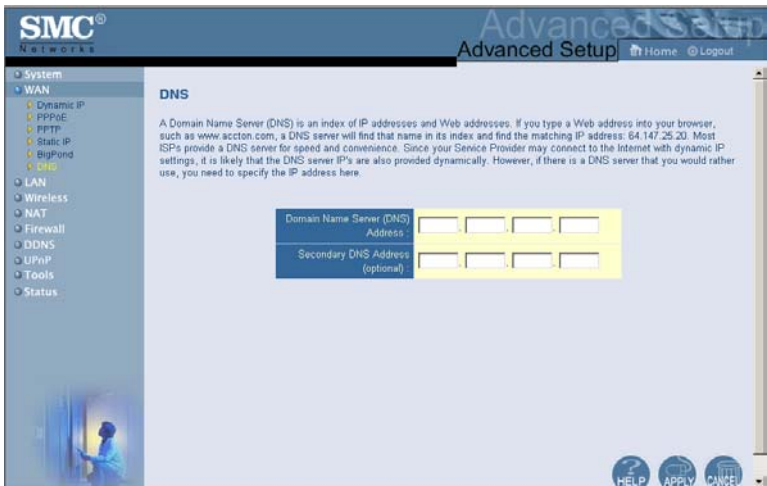
Domain Name Servers map numerical IP addresses
to the equivalent domain name (e.g., www.smc.com or
www.smc-europe.com). Your ISP should provide the
IP address of one or more domain name servers.
Enter those addresses in this screen.

LAN
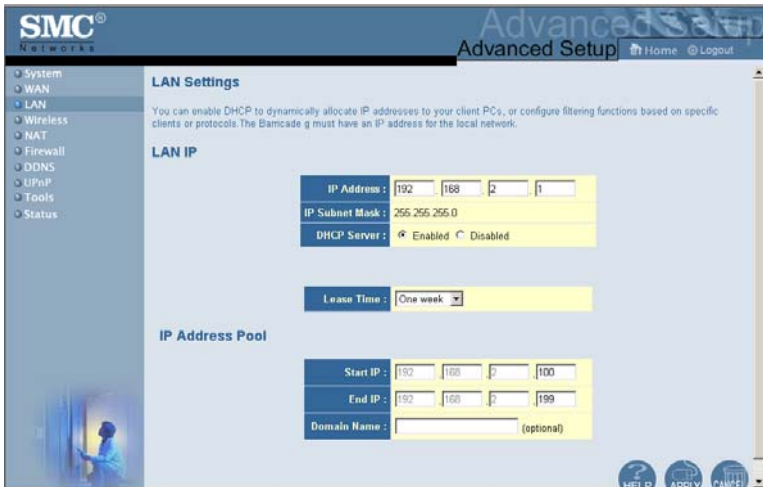
- LAN IP – Use the LAN menu to configure the LAN IP address for the Wireless Barricade™ and to enable the DHCP server for dynamic client address allocation.

- Set a period for the lease time if required. For home networks this may be set to Forever, which means there is no time limit on the IP address lease.

- IP Address Pool – A dynamic IP address range may be specified (192.168.2.2–254). IP addresses running from 192.168.2.100 to 192.168.2.199 are the default value. Once the IP addresses, e.g. 192.168.2.100–199, have been assigned, these IP addresses will be part of the dynamic IP address pool. IP addresses from 192.168.2.2 to 192.168.2.99, and 192.168.2.200 to 192.168.2.254 will be available as static IP addresses.

Remember not to include the address of the Wireless Barricade™ in the client address pool. Also remember to configure your client PCs for dynamic IP address allocation.

Wireless

To configure the Wireless Barricade™ as a wireless access point for wireless clients (either stationary or roaming), all you need to do is define the radio channel, the Service Set identifier (SSID), and encryption options.

Channel and SSID

You must specify a common radio channel and SSID (Service Set ID) to be used by the Wireless Barricade™ and all of your wireless clients. Be sure you configure all of your clients to the same values.

SSID: The Service Set ID. This should be set to the same value as the other wireless devices in your network. (Default: SMC.)

Note: The SSID is case sensitive and can consist of up to 32 alphanumeric characters.

SSID Broadcast: Broadcasting the SSID on the wireless network for easy connection with client PCs. For security reason, disable SSID broadcast. (Default: Enable.)

55

Wireless Mode: Set the communication mode for the Wireless Barricade™. Default: Long Range Mixed (11b+11g).

g Nitro: In a crowded 2.4 MHz frequency, the connection speed is much lower than the promised 54 Mbps. The g Nitro implemented by Intersil's Prism Nitro technology dramatically enhances your wireless network speeds. It provides up to 50% more throughput in 11g only environment, and improves network throughput by 3 times in mixed mode. (Default: Enable.)

Transmission Rate: Set the rate of data transmitted from the Wireless Barricade™. The lower the data rate, the longer the transmission distance. (Default: Auto.)
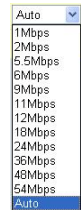
Channel: The radio channel through which the Wireless Barricade™ communicates with PCs in its BSS. (Default: 6)

Note: The available channel settings are limited by local regulations.
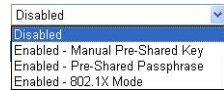
Security
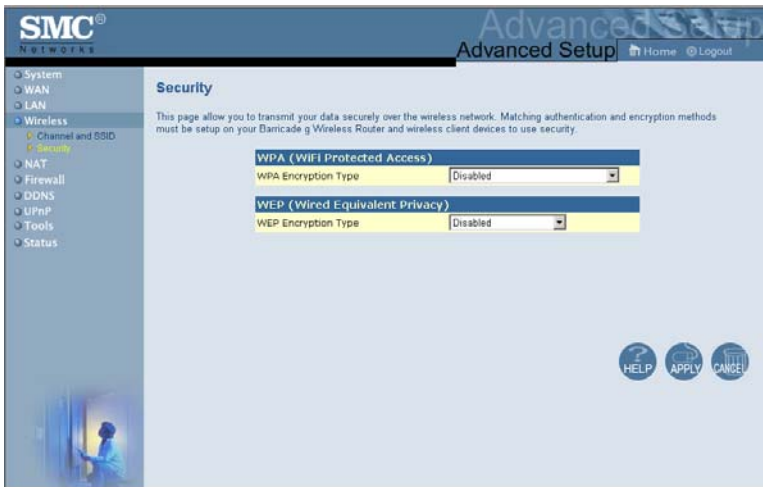
If you are transmitting sensitive data across wireless channels, you should enable Wi-Fi Protected Access (WPA) or Wired Equivalent Privacy (WEP) encryption. Encryption security requires you to use the same set of protocol (WPA or WEP) and encryption/decryption keys for the Wireless Barricade™ and all of your wireless clients.

WPA Encryption Type

WPA is a stronger wireless security solution than WEP. It uses a combination of 802.1x authentication and open system.

- Pre-Shared Key/Passphrase
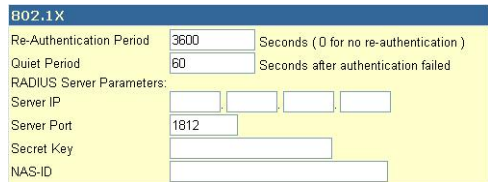
If there is no authentication server on your SOHO network, you can issue the Pre-Shared Key to the clients that connect to the Wireless Barricade™. Be sure to use the same key for the Wireless Barricade™ and the connected clients.

Notes: 1. Manual Pre-Shared Key supports up to 64-Hex characters.

      2. Type 8~63 Hex characters for the Pre-Shared Passphrase.

      3. Do not use a key that is long and complex for your clients not being able to type accurately.

      4. A Hex (hexadecimal) digit is a number or letter in the range 0-9 or A-F.

- 802.1X Mode

The Wireless Barricade™ allows you to use 802.1x authentication for an enterprise network environment with a RADIUS server installed. In 802.1x mode, the management access will be checked against the authentication database stored on the Wireless Barricade™. You must specify the authentication period values, and the corresponding parameters in the RADIUS Server Parameters field for the remote authentication protocol.

WEP Encryption Type
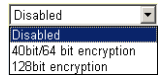
You can choose between standard 40-bit/64-bit or the more robust 128-bit encryption.

You may manually enter the keys or automatically generate encryption keys. To manually configure the keys, enter five hexadecimal pairs for each 40/64-bit key, or enter 13 pairs for the single 128-bit key. For automatic 64-bit security, enter a passphrase and click Generate. Four keys will be generated (as shown below). Choose a key from the drop-down list or accept the default key. Automatic 128-bit security generates a single key.

Note: Active ASCII Keys must be exactly 5 characters for 40/64-bit WEP.
Active ASCII Keys Keys must be exactly 13 characters for 128-bit WEP.

If you use encryption, configure the same keys used for the Wireless Barricade™ on each of your wireless clients. Note that Wired Equivalent Privacy (WEP) protects data transmitted between wireless nodes, but does not protect any transmissions over your wired network or over the Internet.

NAT - Network Address Translation

From this section you can configure the Address Mapping, Virtual Server, and Special Application features that provide control over the TCP/UDP port openings in the router's firewall. This section can be used to support several Internet based applications such as web, E-mail, FTP, and Telnet.

Address Mapping

Allows one or more public IP addresses to be shared by multiple internal users. Enter the Public IP address you wish to share into the Global IP field. Enter a range of internal IPs that will share the global IP.

Virtual Server

If you configure the Wireless Barricade™ as a virtual server, remote users accessing services such as web or FTP at your local site via public IP addresses can be automatically redirected to local servers configured with private IP addresses. In other words, depending on the requested service (TCP/UDP port number), the Wireless Barricade™ redirects the external service request to the appropriate server (located at another internal IP address).

For example, if you set Type/Public Port to TCP/80 (HTTP or web) and the Private IP/Port to 192.168.2.2/80, then all HTTP requests from outside users will be transferred to 192.168.2.2 on port 80. Therefore, by just entering the IP Address provided by the ISP, Internet users can access the service they need at the local address to which you redirect them.

The more common TCP service ports include:
HTTP: 80, FTP: 21, Telnet: 23, and POP3: 110

Special Applications

Some applications, such as Internet gaming, videoconferencing, Internet telephony and others, require multiple connections. These applications cannot work with Network Address Translation (NAT) enabled. If you need to run applications that require multiple connections, use the following screen to specify the additional public ports to be opened for each application.

Specify the public port number normally associated with an application in the Trigger Port field. Set the protocol type to TCP or UDP, then enter the ports that the application requires.

Popular applications requiring multiple ports are listed in the Popular Applications field. From the drop-down list, choose the

application and then choose a row number to copy this data into.
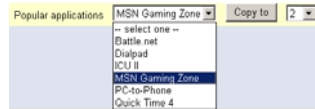
Note: Choosing a row that already contains data will overwrite the current settings.

Example:

ID	Trigger Port	Trigger Type	Public Port	Public Type	Comment
1	6112	UDP	6112	UDP	Battle.net
2	28800	TCP	2300-2400, 47624	TCP	MSN Game Zone

For a full list of ports and the services that run on them, see www.iana.org/assignments/port-numbers.

Firewall

The Wireless Barricade™ firewall can provide access control of connected client PCs, block common hacker attacks, including IP Spoofing, Land Attack, Ping of Death, IP with zero length, Smurf Attack, UDP port loopback, Snork Attack, TCP null scan, and TCP SYN flooding. The firewall does not significantly affect system performance, so we advise leaving it enabled to protect your network users.

Access Control

Using this option allows you to specify different privileges based on IP address for the client PCs.

Note: Click on Add PC and define the appropriate settings for client PC services (as shown in the following screen).

MAC Filtering Table
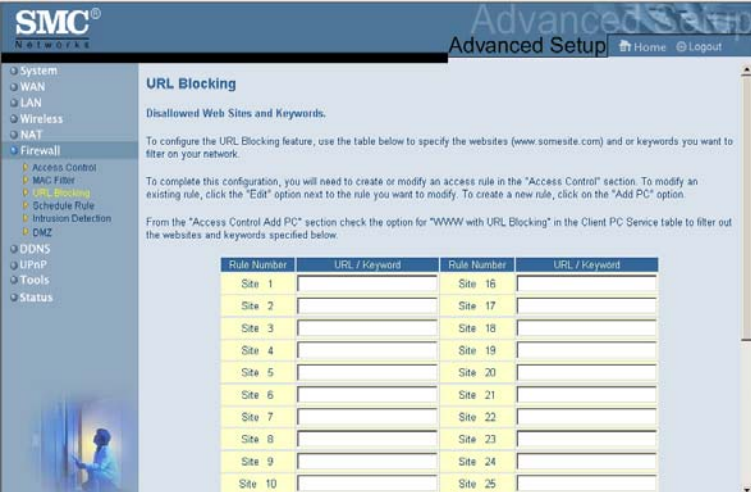
The MAC Filtering feature of the Wireless Barricade™ allows you to control access to your network for up to 32 clients based on the MAC (Media Access Control) Address of the client machine. This ID is unique to each network adapter. If the MAC address is listed in the table, that client machine will have access to the network.

URL Blocking

To configure the URL Blocking feature, use the table below to specify the web sites (www.somesite.com) and/or keywords you want to filter on your network.

To complete this configuration, you will need to create or modify an access rule in "Access Control" on page 65. To modify an existing rule, click the Edit option next to the rule you want to modify. To create a new rule, click on the Add PC option.

From the Access Control Add PC section check the option for "WWW with URL Blocking" in the Client PC Service table to filter out the web sites and keywords specified below.
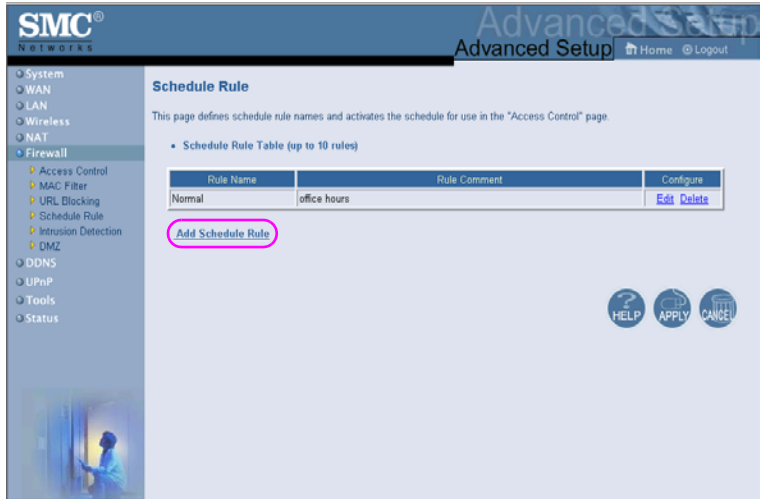
Use the above screen to block access to web sites or to web URLs containing the keyword specified in the table.

Schedule Rule

The Schedule Rule feature allows you to configure specific rules based on Time and Date. These rules can then be used to configure more specific Access Control.

Enables Schedule-based Internet access control.

1. Click Add Schedule Rule.

2. Define the settings for the schedule rule (as shown on the following screen).

3. Click OK and then click the APPLY button to save your settings.

69

Intrusion Detection

- **SPI and Anti-DoS (Denial-of-Service) firewall protection (Default: Enable)**
  The Intrusion Detection Feature limits access for incoming traffic at the WAN port. When the SPI (Stateful Packet Inspection) feature is turned on, all incoming packets will be blocked except for those types marked with a check in the Stateful Packet Inspection section.

- **Discard Ping from WAN (Default: Enable)**
  Prevents the router from responding to any PING request on the WAN port.

- **E-mail Alert Configuration**
  Enter your E-mail address. Specify your SMTP and POP3 servers, user name, and password.

DMZ (Demilitarized Zone)

If you have a client PC that cannot run an Internet application properly from behind the firewall, then you can open the client up to unrestricted two-way Internet access. Enter the IP address of a DMZ host to this screen. Adding a client to the DMZ may expose your local network to a variety of security risks, so only use this option as a last resort.

DDNS (Dynamic DNS) Settings

Dynamic DNS (DDNS) provides users on the Internet with a method to tie their domain name to the router or server. DDNS allows your domain name to follow your IP address automatically by having your DNS records changed when your IP address changes. (Default: Disable)

The DDNS service dynamically updates DNS information to a static hostname, provided by the DDNS service provider, as clients' IP addresses change.

Note: Please visit the web sites of the DDNS providers for details.

DDNS Service Provider	Web Site
DynDNS.org	http://www.dyndns.org
No-IP.com	http://www.no-ip.com
TZO.com	http://www.tzo.com
DYNDNS.COM	http://www.dyndns.com

For using DDNS, click on the enable radio button, select the DDNS Service type, and then enter the user name, pass key (password), host name or server IP, and E-mail address.

Mail Exchanger (MX) and Backup MX provides you with flexible E-mail configurations. It allows you to control the delivery of your mail for a specified domain or a subdomain. The Wildcard keeps your hostname pointing to your IP address.

The TZO.com powered DNS allows you to host your own web site, E-mail server, FTP site, and more at your own location even if you have a dynamic IP address. The Server Configuration section automatically opens the port options checked in the Virtual Server section.

UPnP (Universal Plug and Play) Setting
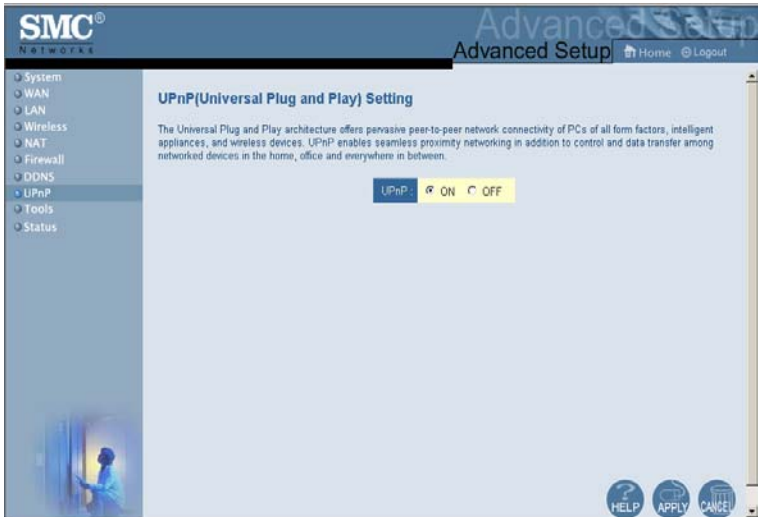
Enable UPnP by checking ON in the screen above. UPnP allows the device to automatically:

- Dynamically join a network.

- Obtain an IP address.

- Convey its capabilities and learn about the presence and capabilities of other devices.

Tools

Use the Tools menu to back up the current configuration, restore a previously saved configuration, restore factory settings, update firmware, and reset the Wireless Barricade™.

Tools – Configuration Tools

- Backup Router Settings – Saves the Wireless Barricade™'s configuration to a file.

- Restore Router Settings – Restores settings from a saved backup configuration file.

    a. Select the saved file by clicking on the browse button.

    b. Click the Restore from config file.

- Restore to factory defaults – Restores the Wireless Barricade™ settings back to the factory defaults.

Tools – Firmware Upgrade
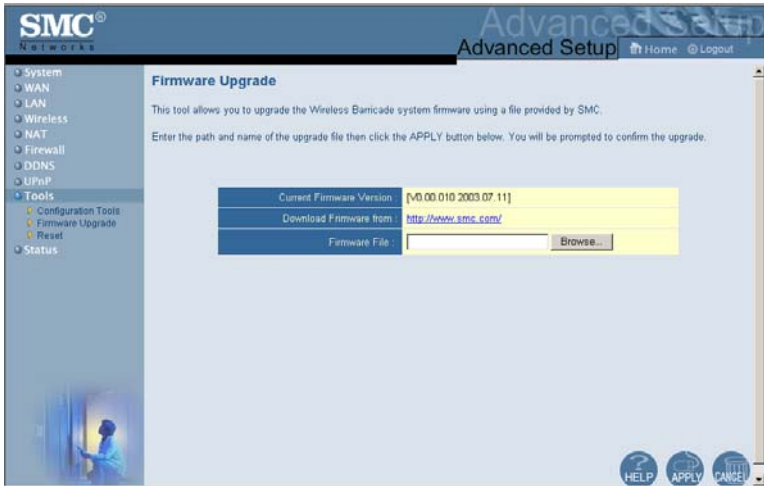
Use this screen to update the firmware or user interface to the latest versions. Download the upgrade file from the SMC web site (www.smc.com or www.smc-europe.com) and save it to your hard drive. In the Firmware File field, click Browse to look for the previously downloaded file. Click APPLY. Check the Status page Information section to confirm that the upgrade process was successful.

Tools – Reset

Click APPLY to reset the Wireless Barricade™. The reset
will be complete when the power LED stops blinking.

Note: If you use the Reset button on the rear panel, the
Wireless Barricade™ performs a power reset. If the
button is held depressed for over five seconds,
all the LEDs will illuminate and the factory settings
will be restored.

77

Status

The Status screen displays WAN/LAN connection status, firmware, and hardware version numbers, illegal attempts to access your network, as well as information on DHCP clients connected to your network.
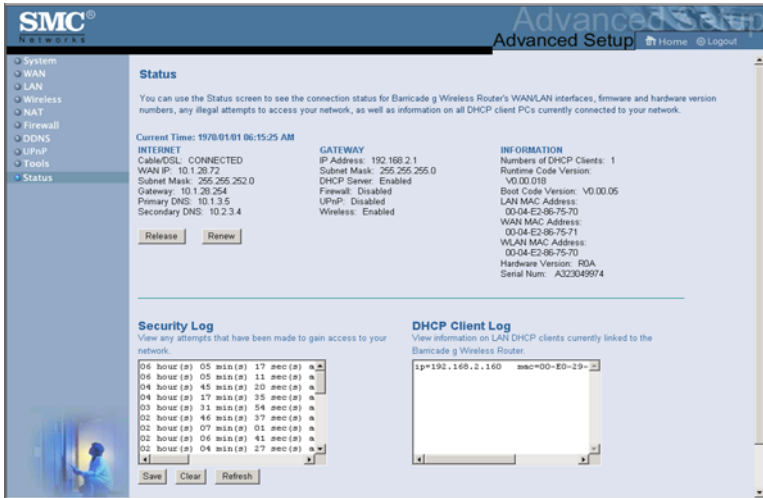
The following items are included on this screen:

Section	Description
INTERNET	Displays WAN connection type and status.
GATEWAY	Displays system IP settings, as well as DHCP and Firewall status.
INFORMATION	Displays the number of attached clients, the firmware versions, the physical MAC address for each media interface, as well as the hardware version and serial number.
Security Log	Displays illegal attempts to access your network.
Save	Click on this button to save the security log file.
Clear	Click on this button to delete the access log.
Refresh	Click on this button to refresh the screen.
DHCP Client Log	Displays information on all DHCP clients on your network.

TROUBLESHOOTING

The information outlined in this section describes some useful steps for getting your computer and the Wireless Barricade™ online.

A. Verify your connection to the Wireless Barricade™
If you are unable to access the Wireless Barricade™'s web-based administration pages then you may not be properly connected or configured. The screen shots in this section were taken on a Windows 2000 machine, but the same steps will apply to Windows 95/98/Me/XP.

To determine your TCP/IP configuration status please follow the steps below:

1. Click Start then choose Run.

2. Type cmd or command to open a DOS prompt.

3. In the DOS window, type ipconfig and verify the information that is displayed.

4. If your computer is set up for DHCP, then your TCP/IP configuration should be similar to the information displayed:

- IP Address: 192.168.2.X (x is number between 100 and 199 by default).

- Subnet: 255.255.255.0.

- Gateway: 192.168.2.1.
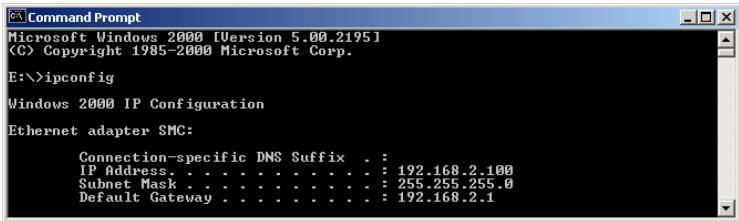
If you have an IP address that starts with 169.254.XXX.XXX then see the next section.

If you have another IP address configured, then see section C.

B. I am getting an IP Address that starts with 169.254.XXX.XXX
If you are getting this IP Address, then you need to check that you are properly connected to the Wireless Barricade™.

Confirm that you have a good link light on the Wireless Barricade™ for the port this computer is connected to. If not, please try another cable.

If you have a good link light, please open up a DOS window as described in the previous section and type ipconfig/renew.

If you are still unable to get an IP Address from the Wireless Barricade™, reinstall your network adapter. Please refer to your adapter manual for information on how to do this.
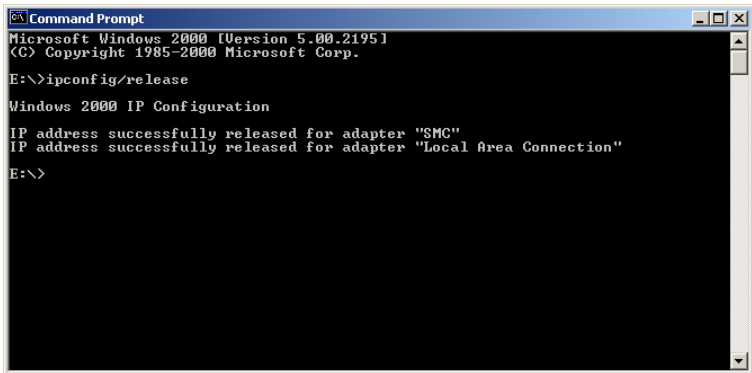
C. I have another IP Address displayed
If you have another IP address listed then the PC may not be configured for a DHCP connection. Please refer to "Configuring Client TCP/IP" on page 15 for information.

Once you have confirmed your computer is configured for DHCP, then please follow the steps below.

1. Open a DOS window as described above.

2. Type ipconfig/release.
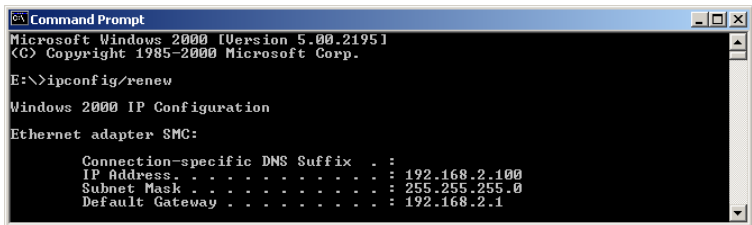
```
Command Prompt                                                    _ □ ×
Microsoft Windows 2000 [Version 5.00.2195]
<C> Copyright 1985-2000 Microsoft Corp.

E:\>ipconfig/release

Windows 2000 IP Configuration

IP address successfully released for adapter "SMC"
IP address successfully released for adapter "Local Area Connection"

E:\>
```

3. Then type ipconfig/renew.

```
Command Prompt                                                    _ □ ×
Microsoft Windows 2000 [Version 5.00.2195]
<C> Copyright 1985-2000 Microsoft Corp.

E:\>ipconfig/renew

Windows 2000 IP Configuration

Ethernet adapter SMC:

        Connection-specific DNS Suffix  . :
        IP Address. . . . . . . . . . . . : 192.168.2.100
        Subnet Mask . . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . . : 192.168.2.1
```

D. The 10/100 LED does not light after a connection is made

1. Check that the host computer and the Wireless Barricade™ are both powered on.

2. Be sure the network cable is connected to both devices.

3. Verify that Category 5 cable is used if you are operating at 100 Mbps, and that the length of any cable does not exceed 100 m (328 ft).

4. Check the network card connections.

5. The 10BASE-T/100BASE-TX port, network card, or cable may be defective.

SPECIFICATIONS

Below is an outline of the technical specifications for the SMC2804WBR.

Standards
IEEE 802.3 10BASE-T Ethernet
IEEE 802.3u 100BASE-TX Fast Ethernet
IEEE 802.11b
IEEE 802.11g

WAN Interface
10BASE-T/100BASE-TX

LAN Interfaces
10BASE-T/100BASE-TX
4 RJ-45 ports: LAN data transfer rate is up to 10/20 Mbps
(10BASE-T half/full duplex) or 100/200 Mbps (100BASE-TX
half/full duplex)

Antenna
2 detachable antennas with reversed SMA connectors

Management
Browser-based management
Both DHCP Server and Client provided

Advanced Features
Dynamic IP Address Configuration – DHCP, DNS
Wireless Security – WPA, 802.1x, 40/64/128-bit WEP encrption,
SSID broadcast disabled, MAC address filtering
Firewall – Access Control, hacker prevention, logging
Virtual Server via NAT & NAPT
Virtual Private Network – PPTP, L2TP, IPSec pass-through
Intrusion Detection, E-mail Alerts, Parental Control

Indicator Panel
Power, WLAN, WAN (Link, Activity), LAN (Link/Activity,
Speed - 10/100 Mbps)

Dimensions
130 x 85 x 32 mm

Weight
370 g

Input Power
9 V, 1 A

Maximum Current
0.04 A_{RMS} max. @ 110 V/240 V

Power Consumption
5 Watts max. @ 100-240 VAC

Internet Standards
RFC 826 ARP, RFC 791 IP, RFC 792 ICMP, RFC 768 UDP, RFC
793 TCP, RFC 854-859 TELNET, RFC 1321 MD5, RFC 1497
BOOTP Extension, RFC 1570 PPP LCP Extension, RFC 1631
NAT, RFC1661 PPP, RFC 1700 Assigned Numbers, RFC 1866
HTML, RFC 1945 HTTP, RFC 1994 CHAP, RFC 2131 DHCP,
RFC 2637 PPTP

Temperature
Operating 0 to 40 °C (32 to 104 °F)
Storage -40 to 70 °C (-40 to 158 °F)

Humidity
5% to 95% (noncondensing)

Compliances
CE Mark
Emissions
  FCC Class B
  VCCI Class B
  Industry Canada Class B
  EN55022 (CISPR 22) Class B
  C-Tick - AS/NZS 3548 (1995) Class B
Immunity
  EN 61000-3-2/3
  EN 61000-4-2/3/4/5/6/8/11
Safety
CSA/NRTL (UL1950, CSA 22.2.950)
GS (EN60950)
CB (IEC60950)

COMPLIANCES

Federal Communication Commission Interference Statement

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 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/TV technician for help

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices) any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. 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.

IMPORTANT NOTE:
FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters (8 inches) between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

EC Conformance Declaration - Class B

SMC contact for these products in Europe is:

SMC Networks Europe,
Edificio Conata II,
Calle Fructuós Gelabert 6-8, 2º, 4ª,
08970 - Sant Joan Despí,
Barcelona, Spain.

This information technology equipment complies with the requirements of the Council Directive 89/336/EEC on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility and 73/23/EEC for electrical equipment used within certain voltage limits and the Amendment Directive 93/68/EEC. For the evaluation of the compliance with these Directives, the following standards were applied:

RFI	* Limit class B according to EN 55022:1998
Emission:	* Limit class B for harmonic current emission according to EN 61000-3-2/1995
	* Limitation of voltage fluctuation and flicker in low-voltage supply system according to EN 61000-3-3/1995
Immunity:	* Product family standard according to EN 55024:1998
	* Electrostatic Discharge according to EN 61000-4-2:1995 (Contact Discharge: ±4 kV, Air Discharge: ±8 kV)
	* Radio-frequency electromagnetic field according to EN 61000-4-3: 1996 (80 - 1000 MHz with 1 kHz AM 80% Modulation: 3 V/m)
	* Electrical fast transient/burst according to EN 61000-4-4:1995(AC/DC power supply: ±1 kV, Data/Signal lines: ±0.5 kV)
	* Surge immunity test according to EN 61000-4-5:1995(AC/DC Line to Line: ±1 kV, AC/DC Line to Earth: ±2 kV)
	* Immunity to conducted disturbances, Induced by radio-frequency fields: EN 61000-4-6:1996(0.15 - 80 MHz with 1 kHz AM 80% Modulation: 3 V/m)
	* Power frequency magnetic field immunity test according to EN 61000-4-8:1993(1 A/m at frequency 50 Hz)
	* Voltage dips, short interruptions and voltage variations immunity test according to EN 61000-4-11:1994(>95% Reduction @10 ms, 30% Reduction @500 ms, >95% Reduction @5000 ms)
LVD:	* EN60950(A1/1992; A2/1993; A3/1993; A4/1995; A11/1997)
MDD:	* IEC 60601-1

Industry Canada - Class B

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled Digital Apparatus" ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: « Appareils Numériques » NMB-003 édictée par le ministère des Communications.

Australia AS/NZS 3548 (1995) - Class B

ACN 069 351 613

SMC contact for products in Australia is:

SMC Communications Pty. Ltd.
Suite 18, 12 Tryon Road,
Lindfield NSW2070,
Phone: 61-2-8875-7887
Fax: 61-2-8875-7777

Safety Compliance

Underwriters Laboratories Compliance Statement

Important! Before making connections, make sure you have the correct cord set. Check it (read the label on the cable) against the following:

Operating Voltage	Cord Set Specifications
120 Volts	UL Listed/CSA Certified Cord Set
	Minimum 18 AWG
	Type SVT or SJT three conductor cord
	Maximum length of 15 feet
	Parallel blade, grounding type attachment plug rated 15 A, 125 V
240 Volts (Europe only)	Cord Set with H05VV-F cord having three conductors with minimum diameter of 0.75 mm^2
	IEC-320 receptacle
	Male plug rated 10 A, 250 V

The unit automatically matches the connected input voltage. Therefore, no additional adjustments are necessary when connecting it to any input voltage within the range marked on the rear panel.

iii

Compliances

Wichtige Sicherheitshinweise (Germany)

1. Bitte lesen Sie diese Hinweise sorgfältig durch.

2. Heben Sie diese Anleitung für den späteren Gebrauch auf.

3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie keine Flüssigoder Aerosolreiniger. Am besten eignet sich ein angefeuchtetes Tuch zur Reinigung.

4. Die Netzanschlu ßsteckdose soll nahe dem Gerät angebracht und leicht zugänglich sein.

5. Das Gerät ist vor Feuchtigkeit zu schützen.

6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Beschädigungen hervorrufen.

7. Die Belüftungsöffnungen dienen der Luftzirkulation, die das Gerät vor Überhitzung schützt. Sorgen Sie dafür, daß diese Öffnungen nicht abgedeckt werden.

8. Beachten Sie beim Anschluß an das Stromnetz die Anschlußwerte.

9. Verlegen Sie die Netzanschlußleitung so, daß niemand darüber fallen kann. Es sollte auch nichts auf der Leitung abgestellt werden.

10. Alle Hinweise und Warnungen, die sich am Gerät befinden, sind zu beachten.

11. Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.

12. Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw. elektrischen Schlag auslösen.

13. Öffnen sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von authorisiertem Servicepersonal geöffnet werden.

14. Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu überprüfen:

    a. Netzkabel oder Netzstecker sind beschädigt.
    b. Flüssigkeit ist in das Gerät eingedrungen.
    c. Das Gerät war Feuchtigkeit ausgesetzt.
    d. Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
    e. Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
    f. Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.

15. Stellen Sie sicher, daß die Stromversorgung dieses Gerätes nach der EN 60950 geprüft ist. Ausgangswerte der Stromversorgung sollten die Werte von AC 7,5-8 V, 50-60 Hz nicht über oder unterschreiten sowie den minimalen Strom von 1 A nicht unterschreiten.

    Der arbeitsplatzbezogene Schalldruckpegel nach DIN 45 635 Teil 1000 beträgt 70 dB(A) oder weniger.

iv

LEGAL INFORMATION AND CONTACTS

SMC's Limited Warranty Statement

SMC Networks Europe ("SMC") warrants its products to be free from defects in workmanship and materials, under normal use and service, for the applicable warranty term. All SMC products carry a standard 2 year limited warranty from the date of purchase from SMC or its Authorized Reseller. SMC may, at its own discretion, repair or replace any product not operating as warranted with a similar or functionally equivalent product, during the applicable warranty term. SMC will endeavour to repair or replace any product returned under warranty within 30 days of receipt of the product. As new technologies emerge, older technologies become obsolete and SMC will, at its discretion, replace an older product in its product line with one that incorporates these newer technologies

The standard limited warranty can be upgraded to a 5 year Limited Lifetime * warranty by registering new products within 30 days of purchase from SMC or its Authorized Reseller. Registration can be accomplished via the enclosed product registration card or online via the SMC web site. Failure to register will not affect the standard limited warranty. The Limited Lifetime warranty covers a product during the Life of that Product, which is defined as a period of 5 years from the date of purchase of the product from SMC or its authorized reseller.

All products that are replaced become the property of SMC. Replacement products may be either new or reconditioned. Any replaced or repaired product carries, either a 30-day limited warranty or the remainder of the initial warranty, whichever is longer. SMC is not responsible for any custom software or firmware, configuration information, or memory data of Customer contained in, stored on, or integrated with any products returned to SMC pursuant to any warranty. Products returned to SMC should have any customer-installed accessory or add-on components, such as expansion modules, removed prior to returning the product for replacement. SMC is not responsible for these items if they are returned with the product.

Customers must contact SMC for a Return Material Authorization number prior to returning any product to SMC. Proof of purchase may be required. Any product returned to SMC without a valid Return Material Authorization (RMA) number clearly marked on the outside of the package will be returned to customer at customer's expense. Customers are responsible for all shipping charges from their facility to SMC. SMC is responsible for return shipping charges from SMC to customer.

WARRANTIES EXCLUSIVE: IF A SMC PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, CUSTOMER'S SOLE REMEDY SHALL BE REPAIR OR REPLACEMENT OF THE PRODUCT IN QUESTION, AT SMC'S OPTION. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE,

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LIMITATION OF LIABILITY: IN NO EVENT, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), SHALL SMC BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE, LOSS OF BUSINESS, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCTS, EVEN IF SMC OR ITS AUTHORIZED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

SOME COUNTRIES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR THE LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR CONSUMER PRODUCTS, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM COUNTRY TO COUNTRY. NOTHING IN THIS WARRANTY SHALL BE TAKEN TO AFFECT YOUR STATUTORY RIGHTS.

* Under the limited lifetime warranty, internal and external power supplies, fans, and cables are covered by a standard one-year warranty from date of purchase.

Full Installation Manual

Full installation manuals are provided on the Installation CD-Rom. Manuals in other languages than those included on the CD-Rom are provided on www.smc-europe.com (section support).

Firmware and Drivers

For latest driver, technical information and bug-fixes please visit www.smc-europe.com (section support).

Contact SMC

Contact details for your relevant countries are available on www.smc-europe.com and www.smc.com.

Statement of Conditions

In line with our continued efforts to improve internal design, operational function, and/or reliability, SMC reserves the right to make changes to the product(s) described in this document without notice. SMC does not assume any liability that may occur due to the use or application of the product(s) described herein. In order to obtain the most accurate knowledge of installation, bug-fixes and other product related information we advise to visit the relevant product support page at www.smc-europe.com before you start installing the equipment. All information is subject to change without notice.

Limitation of Liability

In no event, whether based in contract or tort (including negligence), shall SMC be liable for incidental, consequential, indirect, special or punitive damages of any kind, or for loss of revenue, loss of business or other financial loss arising out of or in connection with the sale, installation, maintenance, use, performance, failure or interruption of its products, even if SMC or its authorized reseller has been adviced of the possiblity of such damages.

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Model Number: SMC2804WBR V.2