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User guide SMC 7904WBRA
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Manual abstract:

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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. SMC Networks, Inc. 38 Tesla Irvine, CA 92618 ii 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 instructions, may cause harmful interference to radio communications.

However, there is no guarantee that the 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/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.



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IMPORTANT STATEMENT 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 cm (8 in) between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. FCC - Part 68 This equipment complies with Part 68 of the FCC rules. This equipment comes with a label attached to it that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company. This equipment uses the following USOC jacks: RJ-11C. iii COMPLIANCES The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0).

To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area. If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary. The telephone company may make changes in its facilities, equipment, operations, or procedures that will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service. If trouble is experienced with this equipment, please contact our company at the numbers shown on back of this manual for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you to remove the equipment from the network until the problem is resolved. No repairs may be done by the customer. This equipment cannot be used on telephone company-provided coin service.

Connection to Party Line Service is subject to state tariffs.

When programming and/or making test calls to emergency numbers: · Remain on the line and briefly explain to the dispatcher the reason for the call. · Perform such activities in off-peak hours such as early morning or late evenings. The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone facsimile machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission the date and time it is sent and an identification of the business, other entity, or individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. In order to program this information into your facsimile, refer to your communications software user manual. 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 Industry Canada.

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 l'Industrie. iv COMPLIANCES Australia AS/NZS 3548 (1995) - Class B ACN 066 352010 442 A.C.N 096 592 SMC contact for products in Australia is: SMC-Australia L9, 123 Epping Rd., North Ryde, NSW Australia Phone: 61-2-88757887 Fax: 61-2-88757777 EC Conformance Declaration SMC contact for these products in Europe is: SMC Networks Europe, Edificio Conata II, Calle Frutuós Gelabert 6-8, 2o, 4a, 08970 - Sant Joan Despí, Barcelona, Spain.

Marking by the above symbol indicates compliance with the Essential Requirements of the R&TTE Directive of the European Union (1999/5/EC). This equipment meets the following conformance standards: EN 300 328-1 December 2001 V1.3.1 EN 300 328-2 December 2001 V1.2.1 EN 301 489-1 September 2001 V1.4.1 EN 301 489-17 September 2000 V1.2.1 EN 60950 January 2000 v COMPLIANCES Safety Compliance 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 Netzanschlussdose soll nahe dem Gerät angebracht und leicht zugänglich sein. 5.

Das Gerät Disable HTTP Proxy

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... C-1 ix TABLE OF CONTENTS x CHAPTER 1 INTRODUCTION Congratulations on your purchase of the ADSL Barricade™, hereafter referred to as the "Barricade". We are proud to provide you with a powerful yet simple communication device for connecting your local area network (LAN) to the Internet. For those who want to surf the Internet in the most secure way, this router provides a convenient and powerful solution. About the Barricade The Barricade provides Internet access to multiple users by sharing a single-user account. Support is provided for both wired and wireless devices. New technology provides wireless security via Wired Equivalent Privacy (WEP) encryption and MAC address filtering. It is simple to configure and can be up and running in minutes. Features and Benefits Internet connection to an ADSL modem via an RJ-11 ADSL port Local network connection via four 10/100 Mbps Ethernet ports On-board IEEE 802.11g wireless network adapter DHCP for dynamic IP configuration, and DNS for domain name mapping 1-1 INTRODUCTION . . . Firewall with Stateful Packet Inspection, client privileges, intrusion detection, and NAT NAT also enables multi-user Internet access via a single user account, and virtual server functionality (providing protected access to Internet services such as web, FTP, e-mail, and Telnet) VPN pass-through (IPSec-ESP Tunnel mode, L2TP, PPTP) User-definable application sensing tunnel supports applications requiring multiple connections Easy setup through a web browser on any operating system that supports TCP/IP Compatible with all popular Internet applications Applications Many advanced networking features are provided by the Barricade: . Wireless and Wired LAN The Barricade provides connectivity to 10/100 Mbps devices, and wireless IEEE 802.11g compatible devices, making it easy to create a network in small offices or homes. . Internet Access This device supports Internet access through an ADSL connection. Since many DSL providers use PPPoE or PPPoA to establish communications with end users, the Barricade includes built-in clients for these protocols, eliminating the need to install these services on your computer.

1-2 APPLICATIONS . Shared IP Address The Barricade provides Internet access for up to 253 users via a single shared IP address. Using only one ISP account, multiple users on your network can browse the web at the same time. . Virtual Server If you have a fixed IP address, you can set the Barricade to act as a virtual host for network address translation. Remote users access various services at your site using a constant IP address. Then, depending on the requested service (or port number), the Barricade can route the request to the appropriate server (at another internal IP address). This secures your network from direct attack by hackers, and provides more flexible management by allowing you to change internal IP addresses without affecting outside access to your network. . DMZ Host Support Allows a networked computer to be fully exposed to the Internet. This function is used when NAT and firewall security prevent an Internet application from functioning correctly. . Security The Barricade supports security features that deny Internet access to specified users, or filter all requests for specific services that the administrator does not want to serve. The Barricade's firewall also blocks 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. WEP (Wired Equivalent Privacy), SSID, and MAC filtering provide security over the wireless network. 1-3 INTRODUCTION . Virtual Private Network (VPN) The Barricade supports three of the most commonly used VPN protocols -- PPTP, L2TP, and IPSec. These protocols allow remote users to establish a secure connection to their corporate network. If your service provider supports VPNs, then these protocols can be used to create an authenticated and encrypted tunnel for passing secure data over the Internet (i.e. , a traditionally shared data network). The VPN protocols supported by the Barricade are briefly described below. . Point-to-Point Tunneling Protocol -- Provides a secure tunnel for remote client access to a PPTP security gateway. PPTP includes provisions for call origination and flow control required by ISPs. L2TP merges the best features of PPTP and L2F -- Like PPTP, L2TP requires that the ISP's routers support the protocol.

IP Security -- Provides IP network-layer encryption. IPSec can support large encryption networks (such as the Internet) by using digital certificates for device authentication. . . 1-4 CHAPTER 2 INSTALLATION Before installing the ADSL Barricade™, verify that you have all the items listed under the Package Contents list. If any of the items are missing or damaged, contact your local distributor. Also be sure that you have all the necessary cabling before installing the Barricade. After installing the Barricade, refer to "Configuring the Barricade" on page 4-1. Package Contents After unpacking the Barricade, check the contents of the box to be sure you have received the following components: Barricade ADSL Router (SMC7904WBRA/WBRB) Power adapter One CAT-5 Ethernet cable (RJ-45) Telephone patch cable (RJ-11) Quick install guide Documentation CD 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.



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2-1 INSTALLATION System Requirements You must meet the following minimum requirements: · · ADSL line installed by your Internet Service Provider. 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 10/100 Mbps network adapter, a USB-to-Ethernet converter or an IEEE 802.11g wireless network adapter. TCP/IP network protocols installed on each PC that will access the Internet. A Java-enabled web browser, such as Microsoft Internet Explorer 5.0 or above installed on one PC at your site for configuring the Barricade. · · · Hardware Description The Barricade contains an integrated ADSL modem and connects to the Internet or to a remote site using its RJ-11 WAN port. It can be connected directly to your PC or to a local area network using any of the four Fast Ethernet LAN ports.

Access speed to the Internet depends on your service type. Full-rate ADSL provides 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. However, you should note that the actual rate provided by specific service providers may vary dramatically from these upper limits. Data passing between devices connected to your local area network can run at up to 100 Mbps over the Fast Ethernet ports and 54 Mbps over the built-in wireless network adapter. 2-2 HARDWARE DESCRIPTION The Barricade includes an LED display on the front panel for system power and port indications that simplifies installation and network troubleshooting.

It also provides the following ports on the rear panel: Figure 2-1. Rear Panel Item LAN Ports Power button Reset Button Description Fast Ethernet ports (RJ-45). Connect devices on your local area network to these ports (i.e., a PC, hub, or switch).

Press this button to turn on/turn off the Barricade. Use this button to reset the power and restore the default factory settings. To reset without losing configuration settings, see "Reset" on page 4-72. Connect the included power adapter to this inlet. Warning: Using the wrong type of power adapter may damage the Barricade. ADSL Port WAN port (RJ-11). Connect your ADSL line to this port. Power Inlet 2-3 INSTALLATION LED Indicators The power and port LED indicators on the front panel are illustrated by the following figure and table. Figure 2-2. Front Panel LED PWR Status On Off DSL On Flashing Off Online Flashing Off WLAN LAN (4 LEDs) Flashing On Flashing Off Description The Barricade is receiving power.

Normal operation. Power off or failure. ADSL connection is functioning correctly. The Barricade is establishing an ADSL link. ADSL connection is not established. PPPoE/PPPoA line is sending or receiving data. There is no data transmission on the PPPoE/PPPoA connection. The WLAN port is sending or receiving data. Ethernet connection is established. The indicated LAN port is sending or receiving data.

There is no LAN connection on the port. 2-4 ISP SETTINGS ISP Settings Please collect the following information from your ISP before setting up the Barricade: · · · ISP account user name and password Protocol, encapsulation and VPI/VCI circuit numbers DNS server address IP address, subnet mask and default gateway (for fixed IP users only) Connect the System The 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 Barricade away from any heating devices.

Do not place the 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 Barricade. Connect the ADSL Line Connect the supplied RJ-11 cable from the ADSL Microfilter/Splitter to the ADSL port on your Barricade. When inserting an ADSL RJ-11 plug, be sure the tab on the plug clicks into position to ensure that it is properly seated. 2-5 INSTALLATION Phone Line Configuration Installing a Full-Rate

Connection If you are using a full-rate (G.dmt) connection, your service provider will attach the outside ADSL line to a data/voice splitter.

In this case you can connect your phones and computer directly to the splitter as shown below: Plain Old Telephone System (POTS) Voice Residential Connection Point [Network Interface Device (NID)] Voice & Data Filter Voice & Data Data ADSL Router or Ethernet hub or switch Figure 2-3. Installing with a Splitter 2-6 CONNECT THE SYSTEM Installing a Splitterless Connection If you are using a splitterless (G.lite) connection, then your service provider will attach the outside ADSL line directly to your phone system. In this case you can connect your phones and computer directly to the incoming ADSL line, but you will have to add low-pass filters to your phones as shown below: Plain Old Telephone System (POTS) Voice Residential Connection Point [Network

Interface Device (NID)] Voice & Data Filter Voice & Data Data ADSL Router or Ethernet hub or switch Figure 2-4. Installing without a Splitter 2-7 INSTALLATION Attach to Your Network Using Ethernet Cabling The four LAN ports on the Barricade auto-negotiate the connection speed to 10 Mbps Ethernet or 100 Mbps Fast Ethernet, as well as the transmission mode to half duplex or full duplex. Use RJ-45 cables to connect any of the four LAN ports on the Barricade to an Ethernet adapter on your PC. Otherwise, cascade any of the LAN ports on the 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 connector, be sure the tab on the connector clicks into position to ensure that it is properly seated. Warning: Do not plug a phone jack connector into an RJ-45 port. This may damage the Barricade.

Notes: 1. Use 100-ohm shielded or unshielded twisted-pair cable with RJ-45 connectors for all Ethernet ports. Use Category 3, 4, or 5 for connections that operate at 10 Mbps, and Category 5 for connections that operate at 100 Mbps. 2. Make sure each twisted-pair cable length does not exceed 100 meters (328 feet). Connect the Power Adapter Plug the power adapter into the power socket on the rear of the Barricade, and the other end into a power outlet. Check the power indicator on the front panel is lit. If the power indicator is not lit, refer to "Troubleshooting" on page A-1. In case of a power input failure, the Barricade will automatically restart and begin to operate once the input power is restored. 2-8 CHAPTER 3 CONFIGURING CLIENT PC After completing hardware setup by connecting all your network devices, you need to configure your computer to connect to the Barricade.

See: "Windows 98/Me" on page 3-2 "Windows NT 4.



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0" on page 3-7 "Windows 2000" on page 3-11 "Windows XP" on page 3-14 or "Configuring Your Macintosh Computer" on page 3-16 depending on your operating system. 3-1 CONFIGURING CLIENT PC TCP/IP Configuration To access the Internet through the Barricade, you must configure the network settings of the computers on your LAN to use the same IP subnet as the Barricade. The default IP settings for the Barricade are: IP Address: 192.168.

2.1 Subnet Mask: 255.255.255.0 Note: These settings can be changed to fit your network requirements, but you must first configure at least one computer to access the Barricade's web configuration interface in order to make the required changes.

(See "Configuring the Barricade" on page 4-1 for instruction on configuring the Barricade.) Windows 98/Me You may find that the instructions in this section do not exactly match your version of Windows. This is because these steps and screen shots were created from Windows 98. Windows Millennium Edition is similar, but not identical, to Windows 98. 1. On the Windows desktop, click Start/Settings/Control Panel. 3-2 WINDOWS 98/ME 2. In Control Panel, double-click the Network icon. 3. In the Network window, under the Configuration tab, double-click the TCP/IP item listed for your network card.

4. In the TCP/IP window, select the IP Address tab. If "Obtain an IP address automatically" is already selected, your computer is already configured for DHCP. If not, select this option. 3-3 CONFIGURING CLIENT PC 5. Windows may need your Windows 95/98/Me CD to copy some files. After it finishes copying, it will prompt you to restart your system. Click Yes and your computer will restart. TCP/IP Configuration Setting Primary DNS Server Secondary DNS Server Default Gateway Host Name _____.

_____ Disable HTTP Proxy You need to verify that the "HTTP Proxy" feature of your web browser is disabled. This is so that your browser can view the Barricade's HTML configuration pages. The following steps are for Internet Explorer. Internet Explorer 1. Open Internet Explorer. 2. Click the Stop button, then click Tools/Internet Options. 3-4 WINDOWS 98/ME 3. In the Internet Options window, click the Connections tab. Next, click the LAN Settings.

.. button. 4. Clear all the check boxes. 5. Click OK, and then click OK again to close the Internet Options window. 3-5 CONFIGURING CLIENT PC Obtain IP Settings from Your Barricade Now that you have configured your computer to connect to your Barricade, it needs to obtain new network settings. By releasing old DHCP IP settings and renewing them with settings from your Barricade, you can also verify that you have configured your computer correctly. 1.

On the Windows desktop, click Start/Run... 2. Type "WINIPCFG" and click OK.

It may take a second or two for the IP Configuration window to appear. 3. In the IP Configuration window, select your network card from the drop-down menu. Click Release and then click 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 your Barricade is functioning.

Click OK to close the IP Configuration window. 3-6 WINDOWS NT 4.0 Windows NT 4.0 1. On the Windows desktop, click Start/Settings/Control Panel. 2. Double-click the Network icon. 3-7 CONFIGURING CLIENT PC 3. In the Network window, Select the Protocols tab. Double-click TCP/IP Protocol. 4. When the Microsoft TCP/IP Properties window open, select the IP Address tab. 5. In the Adapter drop-down list, be sure your Ethernet adapter is selected. 6.

If "Obtain an IP address automatically" is already selected, your computer is already configured for DHCP. If not, select this option and click "Apply." 7. Click the DNS tab to see the primary and secondary DNS servers. Record these values, and then click "Remove."

"Click "Apply", and then "OK." 3-8 WINDOWS NT 4.0 8. Windows may copy some files, and will then prompt you to restart your system. Click Yes and your computer will shut down and restart. TCP/IP Configuration Setting Default Gateway Primary DNS Server Secondary DNS Server Host Name _____.

_____ Disable HTTP Proxy You need to verify that the "HTTP Proxy" feature of your web browser is disabled. This is so that your browser can view the Barricade's HTML configuration pages. Determine which browser you use and refer to "Internet Explorer" on page 3-4.

Obtain IP Settings from Your Barricade Now that you have configured your computer to connect to your Barricade, it needs to obtain new network settings. By releasing old DHCP IP settings and renewing them with settings from your Barricade, you will verify that you have configured your computer correctly. 1. On the Windows desktop, click Start/Programs/ Command Prompt. 3-9 CONFIGURING CLIENT PC 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 192.168.254. These values confirm that your Barricade is functioning. 4. Type "EXIT" and press the ENTER key to close the Command Prompt window.

Your computer is now configured to connect to the Barricade. 3-10 WINDOWS 2000 Windows 2000 1. On the Windows desktop, click Start/Settings/Network and Dial-Up Connections. 2. Click the icon that corresponds to the connection to your Barricade. 3. The connection status screen will open. Click Properties. 4. Double-click Internet Protocol (TCP/IP).

5. If "Obtain an IP address automatically" and "Obtain DNS server address automatically" are already selected, your computer is already configured for DHCP. If not, select this option. 3-11 CONFIGURING CLIENT PC Disable HTTP Proxy You need to verify that the "HTTP Proxy" feature of your web browser is disabled. This is so that your browser can view the Barricade's HTML configuration pages.

Determine which browser you use and refer to "Internet Explorer" on page 3-4. Obtain IP Settings from Your Barricade Now that you have configured your computer to connect to your Barricade, it needs to obtain new network settings. By releasing old DHCP IP settings and renewing them with settings from your Barricade, you can verify that you have configured your computer correctly. 1. On the Windows desktop, click Start/Programs/ Accessories/Command Prompt.

2. In the Command Prompt window, type "IPCONFIG /RELEASE" and press the ENTER key. 3-12 WINDOWS 2000 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.

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168.2.254. These values confirm that your ADSL Router is functioning. 4. Type "EXIT" and press the ENTER key to close the Command Prompt window. Your computer is now configured to connect to the Barricade. 3-13 CONFIGURING CLIENT PC Windows XP 1. On the Windows desktop, click Start/Control Panel.

2. In the Control Panel window, click Network and Internet Connections. 3. The Network Connections window will open. Double-click the connection for this device.

4. On the connection status screen, click Properties. 5. Double-click Internet Protocol (TCP/IP). 6.

If "Obtain an IP address automatically" and "Obtain DNS server address automatically" are already selected, your computer is already configured for DHCP. If not, select this option. Disable HTTP Proxy You need to verify that the "HTTP Proxy" feature of your web browser is disabled. This is so that your browser can view the Barricade's HTML configuration pages. Determine which browser you use and refer to "Internet Explorer" on page 3-4. Obtain IP Settings from Your Barricade Now that you have configured your computer to connect to your Barricade, it needs to obtain new network settings. By releasing old DHCP IP settings and renewing them with settings from your Barricade, you can verify that you have configured your computer correctly. 3-14 WINDOWS XP 1. On the Windows desktop, click Start/Programs/Accessories/ 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.

168.2.254. These values confirm that your Wireless ADSL Router is functioning. Type "EXIT" and press the ENTER key to close the Command Prompt window.

Your computer is now configured to connect to the Barricade. 3-15 CONFIGURING CLIENT PC Configuring Your Macintosh Computer You may find that the instructions here do not exactly match your operating system. This is because these steps and screenshots were created using Mac OS 10.2. Mac OS 7.x and above are similar, but may not be identical to Mac OS 10.2. Follow these instructions: 1. Pull down the Apple Menu System Preferences. Click 2. Double-click the Network icon in the Systems Preferences window. 3-16 CONFIGURING YOUR MACINTOSH COMPUTER 3. If "Using DHCP Server" is already selected in the Configure field, your computer is already configured for DHCP. If not, select this Option. 4.

Your new settings are shown on the TCP/IP tab. 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 your Barricade is functioning. 5. Close the Network window. Now your computer is configured to connect to the Barricade. Disable HTTP Proxy You need to verify that the "HTTP Proxy" feature of your web browser is disabled. This is so that your browser can view the Barricade's HTML configuration pages. The following steps are for Internet Explorer. Internet Explorer 1. Open Internet Explorer and click the Stop button. Click Explorer/Preferences. 2. In the Internet Explorer Preferences window, under Network, select Proxies. 3-17 CONFIGURING CLIENT PC 3. Uncheck all check boxes and click OK. 3-18 CHAPTER 4 CONFIGURING THE BARRICADE After you have configured TCP/IP on a client computer, you can configure the Barricade using Internet Explorer 5.0 or above. To access the Barricade's management interface, enter the default IP address of the Barricade in your web browser: <http://192.168.2>.

1. Enter the default password: "smcadmin", and click "LOGIN". Note: Passwords can contain from 3~12 alphanumeric characters and are case sensitive. 4-1 CONFIGURING THE BARRICADE Navigating the Management Interface The first page of the web management is Country Selection. You need to select your country for accessing the management interface. The Barricade's management interface consists of a Setup Wizard and an Advanced Setup section. 4-2 NAVIGATING THE MANAGEMENT INTERFACE Setup Wizard: Use the Setup Wizard if you want to quickly set up the Barricade. Go to "Setup Wizard" on page 4-4. Advanced Setup: Advanced Setup supports more advanced functions like hacker attack detection, IP and MAC address filtering, virtual server setup, virtual DMZ host, as well as other functions. Go to "Advanced Setup" on page 4-16.

Making Configuration Changes Configurable parameters have a dialog box or a drop-down list. Once a configuration change has been made on a page, click the "APPLY" "SAVE SETTINGS" or "NEXT" button at the bottom of the page to enable the new setting. Note: To ensure proper screen refresh after a command entry, be sure 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." 4-3 CONFIGURING THE BARRICADE Setup Wizard Channel and SSID Click on "Setup Wizard" and "NEXT", then you will see the Channel and SSID page.

Parameter ESSID Description Extended Service Set ID. The ESSID must be the same on the Barricade and all of its wireless clients. This device supports both 11g and 11b wireless networks. Make your selection depending on the type of wireless network that you have. The radio channel used by the wireless router and its clients to communicate with each other.

This channel must be the same on the Barricade and all of its wireless clients. The Barricade will automatically assign itself a radio channel, or you may select one manually. ESSID Broadcast Enable or disable the broadcasting of the SSID. Wireless Mode Channel Click "NEXT" to continue. 4-4 SETUP WIZARD Note: Units sold in the United States are configured by default to use only radio channels 1-11 as defined by FCC regulations. Units sold in other countries are configured by default without a country code (i.e., 99). Setting the country code restricts operation of the device to the radio channels permitted for the wireless networks in the specified country. Time Zone For accurate timing of log entries and system events, you need to set the time zone.

Select your time zone from the drop-down list. If your area requires it, check to enable the clock for daylight saving changes, and enter the Daylight Savings Time start and end dates for your location. If you want to automatically synchronize the Barricade with a public time server, check the box to enable Enable Automatic Time Server Maintenance. Select the desired servers from the drop down menu. Click "NEXT" to continue. 4-5 CONFIGURING THE BARRICADE Parameter Setting Select your Country and Internet Service Provider.



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This will automatically configure the Barricade with the correct Protocol, Encapsulation and VPI/VCI settings for your ISP. If your Country or Internet Service Provider is not listed you will need to manually enter settings. Go to "Parameter Setting - Country or ISP Not Listed" on page 4-9 in the manual. If your ISP uses Protocols PPPoA or PPPoE you will need to enter the username, password and DNS Server address supplied by your ISP. If your ISP uses Protocol RFC1483 Routed you will need to enter the IP address, Subnet Mask, Default Gateway and DNS Server address supplied by your ISP. Note: By default 192.168.2.1 is set for the DNS Server address, this needs to be changed to reflect your ISP's DNS address. Click "NEXT" to continue. 4-6 SETUP WIZARD Confirm The Confirm page shows a summary of the configuration parameters. Check ADSL operation mode (WAN), Network Layer Parameters (WAN) and ISP parameters are correct. Parameter ADSL Operation Mode (WAN) ISP Protocol VPI/VCI Description The type of ISP you have selected. Indicates the protocol used.

Virtual Path Identifier (VPI) and Virtual Circuit Identifier (VCI). AAL5 Encapsulation Shows the packet encapsulation type. Go to page 4-23 for a detailed description. Network Layer Parameters (WAN) IP Address Subnet Mask Default Gateway DNS Server WAN IP address (only displayed if you have static IP). WAN subnet mask (only displayed if you have static IP). WAN gateway (only displayed if you have static IP). The IP address of the DNS server. 4-7 CONFIGURING THE BARRICADE Parameter ISP Parameters Username Password DHCP Parameters Function Default Gateway Subnet Mask Name Server 1 Name Server 2 Start IP Address Number of IP Shows the DHCP function is enabled or disabled. LAN IP address of the Barricade. The network subnet mask.

Primary DNS server IP address. Alternate DNS server IP address. Start IP address of DHCP assigned IP addresses. Number of IP addresses available for assignment by the DHCP server. The ISP assigned user name. The password (hidden). Description If the parameters are correct, click "NEXT" to save these settings. Your Barricade is now set up. Go to "Troubleshooting" on page A-1 if you cannot make a connection to the Internet. 4-8 SETUP WIZARD Parameter Setting - Country or ISP Not Listed If your Country or Internet Service Provider is not listed select "Other ISP Services".

This will allow you to manually configure your ISP settings. For manual configuration you will need to know the Protocol, DNS Server, Encapsulation and VPI/VCI settings used by your ISP. If you have a Static IP address you will also need to know the IP address, Subnet Mask and Gateway address. Please contact your ISP for these details if you do not already have them. After selecting "Other ISP Services" you will be required to select what Protocol your ISP uses from the "Internet Service Provider" drop down list.

4-9 CONFIGURING THE BARRICADE ISP use Bridging Enter the Bridging settings provided by your ISP. Parameter Management IP Address VPI/VCI Encapsulation Description Enter the IP address provided by your ISP. @@@@Your ISP should provide the IP address of a Domain Name Server.

@@@@Enter the gateway address provided by your ISP. Enter the Domain Name Server address.

@@@@Select the encapsulation used by ISP from the drop down list. Enter user name. Enter password. @@@@Select the encapsulation used by ISP from the drop down list. Enter user name. Enter password. @@@@Enter the subnet mask address provided by your ISP. Enter the gateway address provided by your ISP. Enter the Domain Name Server address. @@@@Specifies the Internet connection settings.

@@@@Configures a variety of security and specialized functions including: Access Control, URL blocking, Internet access control scheduling, intruder detection, and DMZ. Community string and trap server settings. Allows you to enable or disable the Universal Plug and Play function. Sets the ADSL operation type and shows the ADSL status. Dynamic DNS provides users on the Internet with a method to tie their domain name(s) to a Dynamic or Static IP address. Contains options to verify your network connection, backup & restore the current configuration, restore all configuration settings to the factory defaults, update system firmware, or reset the system. 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. SNMP UPnP ADSL DDNS Tools Status 4-17

CONFIGURING THE BARRICADE SYSTEM Time Settings Select your local time zone from the drop down list.

This information is used for log entries and client filtering. For accurate timing of log entries and system events, you need to set the time zone. Select your time zone from the drop down list. If you want to automatically synchronize the ADSL router with a public time server, check the box to Enable Automatic Time Server Maintenance. Select the desired servers from the drop down menu.

4-18 ADVANCED SETUP Password Settings Use this page to change the password for accessing the management interface of the Barricade. Passwords can contain from 3~12 alphanumeric characters and are case sensitive. Note: If you lost the password, or you cannot gain access to the user interface, press the blue reset button on the rear panel, holding it down for at least five seconds to restore the factory defaults. The default password is "smcadmin". 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 in again to access the management interface. (Default: 10 minutes) Click "SAVE SETTINGS" to save the new setting. 4-19 CONFIGURING THE BARRICADE Remote Management By default, management access is only available to users on your local network. However, you can also manage the Barricade from a remote host by entering the IP address of a remote computer on this screen. Check the Enabled check box, and enter the IP address of the Host Address and TCP Port Number. Click "SAVE SETTINGS". Note: If you check Enable and specify an IP address of 0.0.0.0, any remote host can manage the Barricade.

For remote management via WAN IP address you need to connect using Port Number 8080. 4-20 ADVANCED SETUP DNS Domain Name Servers (DNS) are used to map a domain name (e.g., www.smc.com) with the IP address (e.g., 64.147.25.

20). Your ISP should provide the IP address of one or more Domain Name Servers. Enter those addresses on this page, and click "SAVE SETTINGS". 4-21 CONFIGURING THE BARRICADE WAN Specify the WAN connection parameters provided by your Internet Service Provider (ISP).



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The Barricade can be connected to your ISP in one of the following ways: · ATM PVC · Clone MAC 4-22 ADVANCED SETUP ATM PVC Enter the ATM (Asynchronous Transfer Mode) virtual connection parameters here.

Parameter Description VPI/VCI Encapsulation Description Click on the VC to set the values for the connection. Virtual Path Identifier (VPI) and Virtual Circuit Identifier (VCI). Specifies how to handle multiple protocols at the ATM transport layer. · VC-MUX: Point-to-Point Protocol over ATM Virtual Circuit Multiplexer (null encapsulation) allows only one protocol running per virtual circuit with less overhead. LLC: Point-to-Point Protocol over ATM Logical Link Control (LLC) allows multiple protocols running over one virtual circuit (using slightly more overhead).

· Protocol Protocol used for the connection. 4-23 CONFIGURING THE BARRICADE ATM Interface 1483 Bridging Enter the Bridging settings provided by your ISP. Parameter VPI/VCI Description Data flows are broken up into fixed length cells, each of which contains a Virtual Path Identifier (VPI) that identifies the path between two nodes, and a Virtual Circuit Identifier (VCI) that identifies the data channel within that virtual path. Each virtual circuit maintains a constant flow of cells between the two end points. When there is no data to transmit, empty cells are sent. When data needs to be transmitted, it is immediately inserted into the cell flows. Shows the packet encapsulation type. Packet encapsulation specifies how to handle multiple protocols at the ATM transport layer. · VC-MUX: Point-to-Point Protocol over ATM VirtualCircuit Multiplexer (null encapsulation) allows only one protocol running per virtual circuit with less overhead. · LLC: Point-to-Point Protocol over ATM Logical Link Control allows multiple protocols running over one virtual circuit (using slightly more overhead).

Encapsulation QoS Class PCR/SCR/MBS ATM QoS classes including CBR, UBR and VBR QoS Parameters - PCR (Peak Cell Rate), SCR (Sustainable Cell Rate) and MBS (Maximum Burst Size) are configurable. 4-24 ADVANCED SETUP PPPoA Parameter VPI/VCI Encapsulation QoS Class PCR/SCR/MBS IP assigned by ISP IP Address Subnet Mask Connect Type Idle Time (Minute) Description @@Select the encapsulation used by ISP from the drop down list. ATM QoS classes including CBR, UBR and VBR QoS Parameters - PCR, SCR and MBS are configurable. Select Yes if the IP address was provided by your ISP Enter the IP address provided by your ISP. Enter the subnet mask address provided by your ISP. Sets connection mode to always connected, automatic or manual connection. Enter the maximum idle time for the Internet connection. After this time has been exceeded the connection will be terminated. Enter user name. Enter password.

Confirm password Leave the Maximum Transmission Unit (MTU) at the default value (1500) unless you have a particular reason to change it. Username Password Confirm Password MTU 4-25 CONFIGURING THE BARRICADE 1483 Routing Parameter IP Address Subnet Mask Default Gateway VPI/VCI Encapsulation QoS Class PCR/SCR/MBS DHCP Client Description Enter the IP address provided by your ISP. Enter the subnet mask address provided by your ISP. Enter the gateway address provided by your ISP. @@Select the encapsulation used by ISP from the drop down list.

ATM QoS classes including CBR, UBR and VBR QoS Parameters - PCR, SCR and MBS are configurable. Assigning an IP address dynamically 4-26 ADVANCED SETUP PPPoE Parameter IP Address Subnet Mask VPI/VCI Encapsulation QoS Class PCR/SCR/MBS Connect Type Idle Time (Minute) Description Enter the IP address provided by your ISP. Enter the subnet mask address provided by your ISP. @@Select the encapsulation used by ISP from the drop down list. ATM QoS classes including CBR, UBR and VBR QoS Parameters - PCR, SCR and MBS are configurable. Sets connection mode to always connected, automatic or manual connection. Enter the maximum idle time for the Internet connection. After this time has been exceeded the connection will be terminated. Enter user name. Enter password. Confirm password Leave the Maximum Transmission Unit (MTU) at the default value (1500) unless you have a particular reason to change it. Username Password Confirm Password MTU 4-27 CONFIGURING THE BARRICADE

MAC Encapsulated Routing Parameter IP Address Subnet Mask Default Gateway VPI/VCI Encapsulation QoS Class PCR/SCR/MBS DHCP Client Description Enter the IP address provided by your ISP. Enter the subnet mask address provided by your ISP. Enter the gateway address provided by your ISP. @@Select the encapsulation used by ISP from the drop down list.

ATM QoS classes including CBR, UBR and VBR QoS Parameters - PCR, SCR and MBS are configurable. Assigning an IP address dynamically 4-28 ADVANCED SETUP Clone MAC Address Some ISPs require you to register your MAC address with them. If this is the case, the MAC address of the Barricade must be changed to the MAC address that you have registered with your ISP. 4-29 CONFIGURING THE BARRICADE LAN Use the LAN menu to configure the LAN IP address and to enable the DHCP server for dynamic client address allocation. Parameter LAN IP IP Address DHCP Server Lease Time Description The IP address of the Barricade. The Barricade comes with the DHCP function. To dynamically assign an IP address to client PCs, enable this function. Set the IP lease time. For home networks this may be set to Forever, which means there is no time limit on the IP address lease. IP Subnet Mask The subnet mask of the network.

IP Address Pool Start IP Address Specify the start IP address of the DHCP pool. Do not include the gateway address of the Barricade in the client address pool. If you change the pool range, make sure the first three octets match the gateway's IP address, i.e., 192.

168.2.xxx. End IP Address Specify the end IP address of the DHCP pool. Domain Name If your network uses a domain name, enter it here.

Otherwise, leave this field blank. 4-30 ADVANCED SETUP Note: Remember to configure your client PCs for dynamic address allocation. (See page 3-2 for details.) WIRELESS The Barricade also operates as a wireless access point, allowing wireless computers to communicate with each other. To configure this function, all you need to do is enable the wireless function, define the radio channel, the domain identifier, and the security options. Check Enable and click "SAVE SETTINGS". 4-31 CONFIGURING THE BARRICADE Channel and SSID You must specify a common radio channel and SSID (Service Set ID) to be used by the Barricade and all of its wireless clients. Be sure you configure all of its clients to the same values. Parameter ESSID ESSID Broadcast Wireless Mode Description Extended Service Set ID. The ESSID must be the same on the Barricade and all of its wireless clients.

Enable or disable the broadcasting of the SSID. This device supports both 11g and 11b wireless networks.



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Make your selection depending on the type of wireless network that you have. The radio channel used by the wireless router and its clients to communicate with each other. This channel must be the same on the Barricade and all of its wireless clients. The Barricade will automatically assign itself a radio channel, or you may select one manually. Channel 4-32 ADVANCED SETUP Security To make your wireless network safe, you should turn on the security function. The Barricade supports WEP (Wired Equivalent Privacy) and WPA (Wi-Fi Protected) security mechanisms. 4-33 CONFIGURING THE BARRICADE WEP If you want to use WEP to protect your wireless network, you need to set the same parameters for the Barricade and all your wireless clients. Parameter WEP Mode Key Provisioning Description Select 64 bit or 128 bit key to use for encryption.

Select Static if there is only one fixed key for encryption. If you want to select Dynamic, you would need to enable 802.1X function first. Key Entry Method Select Hex or ASCII to use for encryption key You may automatically generate encryption keys or manually enter the keys. To generate the key automatically with passphrase, check the Passphrase box, enter a string of characters.

Select the default key from the drop down menu. Click "SAVE SETTINGS". Note: The passphrase can consist of up to 32 alphanumeric characters. To manually configure the encryption key, enter five hexadecimal pairs of digits for each 64-bit key, or enter 13 pairs for the single 128-bit key. (A hexadecimal digit is a number or letter in the range 0-9 or A-F.

4-34 ADVANCED SETUP Note that WEP protects data transmitted between wireless nodes, but does not protect any transmissions over your wired network or over the Internet. WPA Wi-Fi Protected Access (WPA) combines temporal key integrity protocol (TKIP) and 802.1X mechanisms. It provides dynamic key encryption and 802.1X authentication service. Parameter Cypher suite Authentication Description The security mechanism used in WPA for encryption.

Choose 802.1X or Pre-shared Key to use as the authentication method. · 802.1X: for the enterprise network with a RADIUS server.

· Pre-shared key: for the SOHO network environment without an authentication server. Pre-shared key type Select the key type to be used in the Pre-shared Key. Pre-shared Key Group Key Re_Keying Type in the key here. The period of renewing broadcast/multicast key. 4-35 CONFIGURING THE BARRICADE 802.1X If 802.1X is used in your network, then you should enable this function for the Barricade. Parameter 802.1X Authentication Session Idle Timeout Description Enable or disable this authentication function. Defines a maximum period of time for which the connection is maintained during inactivity. Re-Authentication Defines a maximum period of time for which the Period authentication server will dynamically re-assign a session key to a connected client. Quiet Period Server Type RADIUS Server Parameters Server IP Server Port The IP address of your authentication server. The port used for the authentication service. Defines a maximum period of time for which the Barricade will wait between failed authentications. RADIUS as the authentication server.

4-36 ADVANCED SETUP Parameter Secret Key NAS-ID Description The secret key shared between the authentication server and its clients. Defines the request identifier of the Network Access Server. WDS (Wireless Distribution System) The WDS provides a means to extend the range of a Wireless Local Area Network (WLAN). WDS allows an access point to establish a direct link to other access points, and stations to roam freely within the area covered by the WDS. (Default: Enable or disable WDS features - Disable) Notes: 1.

Be sure that all access points with the same WDS links should use the same operation "Mode" (802.11b or 802.11g) and radio "Channel" number. 2.

Choosing "Auto" of the communication channel is not suggested for using WDS. (See "Channel and SSID" on page 4-32.) 4-37 CONFIGURING THE BARRICADE To establish a WDS connection between access points, follow the steps below. 1. Click on the Rescan button to scan and display all wireless devices within range. 2.

Select the wireless devices to which you want to connect by clicking on an entry, as shown on the AP MAC Address Table (up to 4 APs). 3. Click "SAVE SETTINGS". Note: See the STATUS/INFORMATION on page 74 for the WLAN MAC addresses. NAT Network Address Translation allows multiple users to access the Internet sharing one public IP. 4-38 ADVANCED SETUP Address Mapping Allows one or more public IP addresses to be shared by multiple internal users. This also hides the internal network for increased privacy and security. 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 into the "from" field. 4-39 CONFIGURING THE BARRICADE Virtual Server If you configure the 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 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.

A list of ports is maintained at the following link: <http://www.iana.org/assignments/port-numbers>. 4-40 ADVANCED SETUP Note: The WAN interface should have a fixed IP address to best utilize this function. See "ATM Interface" on page 4-24 for using the same domain name even though your IP address changes each time you log into the ISP. Special Application Some applications require multiple connections, such as Internet gaming, video-conferencing, and Internet telephony. These applications may not work when Network Address Translation (NAT) is enabled. If you need to run applications that require multiple connections, use these pages to specify the additional public ports to be opened for each application. 4-41 CONFIGURING THE BARRICADE NAT Mapping Table This page displays the current NAT (Network Address Port Translation) address mappings. NAT Mapping Table displays the current NAT address mappings.

The NAT address mappings are listed 20 lines per page, click the control buttons to move forwards and backwards. As the NAT mapping is dynamic, a Refresh button is provided to refresh the NAT Mapping Table with the most updated values.



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