

Wireless Broadband Router

User Guide

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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 radio interference in a commercial environment. This equipment can generate, use and radiate radio frequency energy and, if not installed and used in accordance with the instructions in this manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct such interference.

CE Declaration of Conformity:

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022/A1 Class B, and EN 50082-1. This meets the essential protection requirements of the European Council Directive 89/336/EEC on the approximation of the laws of the member states relative to electromagnetic compatibility.

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Chapter 1 Introduction

Congratulations on your purchase of this outstanding SMC Wireless Broadband Router. This product is designed specifically for small office and home office needs. It provides a complete SOHO solution for Internet access and is easy to configure and operate even for non-technical users. Instructions for installing and configuring this product are included in this manual. Before you install and use this product, please read the manual carefully so you may take full advantage of its functions.

1.1 Functions and Features

• High speed for wireless LAN connection

11Mbps data rate by incorporating Direct Sequence Spread Spectrum (DSSS).

Roaming

Provides seamless roaming within the IEEE 802.11b WLAN infrastructure.

• IEEE 802.11b compatible

Allowing inter-operation among multiple vendors.

• Auto fallback

11Mbps, 5.5Mbps, 2Mbps, 1Mbps data rate with auto-fallback.

• Broadband modem and IP sharing

Connects multiple computers to a broadband (cable or DSL) modem or an Ethernet router to surf the Internet.

• Auto-sensing Ethernet Switch

Equipped with a 3-port auto-sensing Ethernet switch.

• VPN supported

Supports multiple PPTP sessions and allows you to set up VPN server and VPN clients.

• Firewall

All unwanted packets from outside sources and other intruders are blocked to protect your Intranet.

• DHCP server supported

All of the networked computers can retrieve TCP/IP settings automatically from this product.

• Web-based configuring

Configurable through any networked computer's web browser using Netscape or Internet Explorer.

• MAC Address Access Control supported

Allows you to assign different access rights for different users.

• Virtual Server supported

Enables you to expose WWW, FTP and other services on your LAN for access by Internet users.

• User-Definable Application Sensing Tunnel

User can define the attributes to support the special applications requiring multiple connections, such as Internet gaming, videoconferencing, Internet telephony, etc.. This product can then sense the application type and open the correct multi-port tunnel for it.

• DMZ Host supported

Lets a networked computer be fully open to the Internet; this function is used when the special application-sensing tunnel feature is insufficient to allow an application to function correctly.

1.2 Packing List

- One wireless broadband router unit
- One installation CD-ROM
- One power adapter
- One CAT-5 UTP Fast Ethernet cable

Chapter 2 Hardware Installation

2.1 Panel Layout

2.1.1. Front Panel

LEDs monitor the status of each port.



Figure 2-1 Front Panel

LED:

LED	Function	Color	Status	Description
POWER	Power indication	Green	On	Power is being applied to this product.
M1	System status 1	Orange	Blinking	This product is functioning properly.
MO	Southern status 2	0	On	This product is working for a specific service.
IVI2	System status 2	em status 2 Orange		This product is being configured or upgraded. Don't turn it off !
	XXA NT a set		On	The WAN port is linked.
WAN	WAN port activity Green		Blinking	The WAN port is sending or receiving data.
W.LAN	Wireless activity	Green	Blinking	Sending or receiving data via wireless
Link/Act.	Link status	Crear	On	An active station is connected to the corresponding LAN port.
1~3	Link status	Green	Blinking	The corresponding LAN port is sending or receiving data.
SPEED 1~3	Data Rate	Green	On	Data is transmitting in 100Mbps on the corresponding LAN port.

2.1.2. Rear Panel

The rear panel features three 10/100 Mbps Ethernet ports and one Wide Area network (WAN) port. The WAN port connects your DSL or cable modem to the router. The LAN ports are used to connect to your computers or other network devices.





Ports:

Port Description

RESET To reset system settings to factory defaults, please follow the steps:

- 1. Power off the device,
- 2. Press the reset button and hold,
- 3. Power on the device,
- 4. Keep the button pressed about 5 seconds,
- 5. Release the button,
- 6. Watch the M1 and M2 LEDs, they will flash 8 times and then M1 flashe once per second.
- **PRINTER** Printer Port (Optional)
- **COM** Serial port (connect dial-up modem or console cable)
- **WAN Port** The port where you will connect your cable (or DSL) modem or Etherne router.
- **Port 1-3** The ports where you will connect networked computers and other devices.
- **DC IN** Power inlet (DC 12V)

2.2 Procedure for Hardware Installation

1. Decide Where to Place Your Wireless Broadband Router:

You can place your Wireless Broadband Router on a desk or other flat surface, or you can mount it on a wall. For optimal performance, place your Wireless Broadband Router in the center of your office (or your home) in a location that is away from any potential source of interference, such as a metal wall or microwave oven. This location must be close to power and network connections.

2. Set up LAN connection:

- **a.** Wired LAN connection: connect an Ethernet cable from your computer's Ethernet port to one of the LAN ports of this product.
- **b.** Wireless LAN connection: make sure the antennas are in a vertical position.



Figure 2-3 Setup of LAN and WAN connections for this product

3. Set up WAN connection: Connect an Ethernet cable from the WAN port to your cable/xDSL modem or Ethernet backbone. Figure 2-3 illustrates the WAN connection.

4. Power on:

By connecting the power cord to the power inlet and turning the power switch on, this product will automatically enter the self-test phase. When it is in the self-test phase, the indicators M1 and M2 will be lighted ON for about 10 seconds, and then M1 and M2 will be flashed 3 times to indicate that the self-test operation has finished. Finally, the M1 will be continuously flashed once per second to indicate that this product is in normal operation.

Chapter 3 Network Settings and Software Installation

To use this product correctly, you have to properly configure the network settings of your computers and install the attached setup program on your computer (Windows 95/98/ME/NT/2000).

3.1 Make Correct Network Settings of Your Computer

The default *IP address* of this product is 192.168.123.254, and the default *subnet mask* is 255.255.255.0. These addresses can be changed as needed, but the default values are used in this manual. If the TCP/IP environment of your computer has not yet been installed, you can refer to *Appendix A* to configure it. Once TCP/IP is installed, configure it as follows:

- 1. Configure *IP* as 192.168.123.1, *subnet mask* as 255.255.255.0 and *gateway* as 192.168.123.254, or, more easily,
- 2. Configure your computers to "Obtain an IP address automatically," that is, via DHCP server of this product.

After configuring the TCP/IP communication protocol, you can use the *ping* command to check if your computer has successfully connected to this product. The following example shows the ping procedure for Windows 95 platforms. First, execute the *ping* command from a DOS window:

ping 192.168.123.254

If the following messages appear:

Pinging 192.168.123.254 with 32 bytes of data:

Reply from 192.168.123.254: bytes=32 time=2ms TTL=64

a communication link between your computer and this product has been successfully established. Otherwise, if you get the following messages,

Pinging 192.168.123.254 with 32 bytes of data: Request timed out.

there must be something wrong in your installation procedure. You have to check the following items in sequence:

- Is the Ethernet cable correctly connected between this product and your computer?
 Tip: The LAN LED of this product and the link LED of the network card on your computer must be lit.
- 2. Is the TCP/IP environment of your computers properly configured?

Tip: If the IP address of this product is 192.168.123.254, the IP address of your computer must be 192.168.123.X and the default gateway must be 192.168.123.254.

Now you can configure the Internet Sharer (refer to Chapter 4).

3.2 Install the Software Into Your Computers

Skip this section if you do not want to use the print server function of this product.

Step 1: Insert the installation CD-ROM into the CD-ROM drive. The following window will be shown automatically. If it isn't, please run "install.exe" on the CD-ROM.



Step 2: Click on the *INSTALL* button. Wait until the following *Welcome* dialog appears, and click on the *Next* button.



Step 3: Select the destination folder and click on the *Next* button. The setup program will then begin to install the programs into the destination folder.



Step 4: When the following window is displayed, click on the *Finish* button.

Setup Complete	
	Setup has finished installing Barricade on your computer.
	Click Finish to complete Setup.
	< Back Finish

Step 5: Select the item to restart the computer, then click the *OK* button to reboot your computer.

reboot
To complete the Barricade set up, please remember to reboot your computer.
C Yes, I want to restart my computer now.
 No, I will restart my computer later.
OK

Step 6: After rebooting your computer, the software installation procedure is complete.

Now, you can configure the Internet Sharer (refer to Chapter 4) and set up the Print Server (refer to Chapter 5).

Chapter 4 Configuring Wireless Broadband Router

This product provides a Web-based configuration scheme, i.e., configuring by Netscape Communicator or Internet Explorer. This approach can be adopted in any MS Windows, Macintosh or UNIX based platform.

4.1 Startup and Login

WOTKS	5	System Status	
<u>2</u>	Item	WAN Status	Sidenote
n Password	Remaining Lease Time	00:00:00	
	IP Address	0.0.0.0	
lt: admin)	Subnet Mask	0.0.0	
	Gateway	0.0.0.0	Unreachable
.og in	Domain Name Server	0.0.0.0	
	Item	Peripheral Status	Sidenote
	Printer	Not ready	

Activate your browser, and *disable the proxy* or *add the IP address of this product into the exceptions*. Then, type this product's IP address in the *Location* (for Netscape) or *Address* (for IE) field and press ENTER. For example: *http://192.168.123.254*.

After the connection is established, you will see the web user interface of this product.

There are two appearances of web user interface: for general users and for system administrator.

To log in as an administrator, enter the system password (the factory setting is "*admin*") in the *System Password* field and click on the *Log in* button. If the password is correct, the web appearance will be changed into administrator configure mode. As listed in its main menu, there are several options for system administration.

4.2 Status

	SMC Barricade Wireless B	roadband Router	
SMC	5	System Status	
<u>atus</u> oolbox	Item	WAN Status	Sidenote
	Remaining Lease Time	00:00:00	Renew
rimary Setup	IP Address	0.0.0.0	
HCP Server	Subnet Mask	0.0.0.0	İ
<u>rtual Server</u> ecial AP	Gateway	0.0.0.0	Unreachable
cess Control isc Items	Domain Name Server	0.0.0.0	
ireless	Item	Peripheral Status	Sidenote
	Printer	Not ready	

This option provides the function for observing this product's working status:

A. WAN Port Status.

If the WAN port is assigned a dynamic IP, there may appear a "**Renew**" or "**Release**" button on the *Sidenote* column. You can click this button to renew or release IP manually.

- B. Modem Status.
- C. Printer Status. The possible kinds of printer status include "*Ready*", "*Not ready*", "*Printing*...", and "*Device error*".

When a job is printing, there may appear a "Kill Job" button on the Sidenote column. You can click this button to kill a current printing job manually.

4.3 Toolbox

🖻 SMC Barricade Wireless Broadband Router - Microsoft Internet Explorer 📃 🗌 🗙			
Eile Edit View Fav	vorites Icols Help	10	
	SMC Barricade Wireless Broadband Router		
SMC	Administrator's Toolbox		
 <u>Status</u> 	Change Administrator's Password		
<u>Primary Setup</u> <u>DHCP Server</u> <u>Virtual Server</u> <u>Special AP</u> <u>Access Control</u>	Old Password OK Clear		
 Misc Items 	Miscellaneous Information & Commands		
• <u>Wireless</u> Log out	WAN's MAC Address: FF-FF-FF-FF-FF View Log Reboot Beset to Default Firmware Lingrade Help		
	пере и регани т пличате оругале Пер		

This option enables you change the administrator password. Besides, you can get the information about *Firmware version* and *WAN's MAC Address*.

You can also reboot this product by clicking the **Reboot** button.

You can backup your settings by clicking the **Backup Setting** button and save it as a bin file. Once you want to restore these settings, please click **Firmware Upgrade** button and use the bin file you saved.

You can Clone MAC address by clicking Clone MAC button.

You can upgrade firmware by clicking Firmware Upgrade button.

Note: we strongly recommend that you change the system password for security reason.

4.4 Primary Setup



This option is essential to enable this product to work properly. The setting items and the web appearance depend on the WAN type. Choose the correct WAN type before you start.

- LAN IP Address: the local IP address of this device. The computers on your network must use the LAN IP address of your Barricade[™] as their Default Gateway. You can change it if necessary.
- 2. *WAN Type*: WAN connection type of your ISP. You can click **Change...** button to choose a correct one from the following four options:
 - A. Static IP Address: ISP assigns you a static IP address.
 - B. Dynamic IP Address: Obtain an IP address from ISP automatically.
 - C. *PPP over Ethernet*: Some ISPs require the use of PPPoE to connect to their services.

D. *Dial-up Network*: To surf the Internet via PSTN/ISDN.

4.4.1 Static IP Address

WAN IP Address, Subnet Mask, Gateway, Primary and Secondary DNS: enter the proper setting provided by your ISP.

4.4.2 Dynamic IP Address

- 1. *Host Name*: optional, required by some ISPs, for example, @Home.
- 2. *Renew IP Forever*: this feature enables your Barricade to renew your IP address automatically when the lease time is expiring-- even when the system is idle.

4.4.3 PPP over Ethernet

- PPPoE Account and Password: the account and password your ISP assigned to you. For security, this field appears blank. If you don't want to change the password, leave it empty.
- 2. *PPPoE Service Name*: optional. Input the service name if your ISP requires it. Otherwise, leave it blank.
- 3. *Maximum Idle Time*: the amount of time of inactivity before disconnecting your PPPoE session. Set it to zero or enable Auto-reconnect to disable this feature.

4.4.4 Dial-up Network

- 1. *Dial-up Telephone*, *Account* and *Password*: assigned by your ISP. For security, this field appears blank. If you don't want to change the password, leave it empty.
- 2. *Primary* and *Secondary DNS*: If they are configured as "0.0.0.0.", they will be automatically assigned upon connection.
- 3. *Maximum Idle Time*: the amount of time of inactivity before disconnecting your dial-up session.
- 4. Baud Rate: the communication speed between this product and your MODEM or

ISDN TA.

5. *Extra Setting*: (initialization string) optional. Used to optimize the communication quality between the ISP and your MODEM or ISDN TA.

4.5 DHCP Server

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Eile Edit View Fax	vorites Iools <u>H</u> elp	(P)		
SMC Barricade Wireless Broadband Router				
Networks	I	OHCP Server		
 <u>Status</u> Toolbort 	Item	Setting		
100100X	 DHCP Server 	C Disable @ Enable		
 <u>Primary Setup</u> 	▶ IP Pool Starting Address	100		
Dik P Jarval Virtual Server Special AP Access Control Misc Items Wireless Log out	P Pool Ending Address Domain Name Save Undo Clients I	199 		

The settings of a TCP/IP network include host IP, subnet mask, gateway, and DNS configurations. It is not easy to manually configure all the computers and devices in your network. Fortunately, the Barricade's DHCP *Server* provides a simple approach to handle all these settings. If you enable this product's DHCP server and configure your computers as "automatic IP allocation" mode, when your computer is powered on it, will automatically load the proper TCP/IP settings from this product. The settings of DHCP server include the following items:

- 1. DHCP Server: Choose "Disable" or "Enable."
- 2. *Range of IP Address Pool*: Whenever there is a request, the DHCP server will automatically allocate an unused IP address from the *IP address pool* to the requesting computer. You must specify the starting and ending address of the IP

address pool.

3. *Domain Name*: Optional: this information will be passed to the client.

Function of buttons:

Client List	List the current mapping of the IP and MAC address for each DHCP client.
Fixed Mapping	In general, DHCP server assigns an IP address chosen from the IP addresses pool randomly. Fixed Mapping allows you to assign a specific IP address to the specified MAC address.

4.6 Virtual Server

SMC Barricade Wire	eless Broa	dband Router - Microsoft	nternet Explorer	_ 🗆 🗴	
Eile Edit ⊻iew Fav	vorites Io	ols <u>H</u> elp		100 A	
	SMC Barricade Wireless Broadband Router				
SMC		Virtu	al Server		
Networks	ID	Service Port	Server IP	Enable	
Status	1		192.168.123.		
100100X	2		192.168.123.		
Primary Setup	3		192.168.123.		
DHCP Server	4		192.168.123.		
Virtual Server	5		192.168.123.		
Access Control	6		192.168.123.		
Misc Items	7		192.168.123.		
Wireless	8		192.168.123.		
Log out	9		192.168.123.		
	10		192.168.123.		
	11		192.168.123.		
	12		192.168.123.		
		Well known services s	elect one 👻 Copy to	ID	
	Save	Undo Help			

This product's NAT firewall filters out unrecognized packets to protect your Intranet, thus all hosts behind this product are externally invisible. If you wish, you can make some of them accessible by enabling the *Virtual Server Mapping*.

A virtual server is defined as a *Service Port*, and all requests to this port will be redirected to the computer specified by the *Server IP*.

For example, if you have an FTP server (port 21) at 192.168.123.1, a Web server (port 80) at 192.168.123.2, and a VPN server at 192.168.123.6, then you need to specify the following virtual server mapping table:

Service Port	Server IP	Enable
21	192.168.123.1	V
80	192.168.123.2	V
1723	192.168.123.6	V

4.7 Special AP

ø	SM	IC Bar	ricade	Wireless	Broadba	and Rout	ter - Micr	osoft Inte	met Expl	orer		_ 0	×
1	Eile	Edit	⊻iew	Fevorites	Tools	Help							1
				8	MC Bar	ricade W	/ireless I	Broadban	d Router				
	S	M	C				Spe	cial A	Applie	cations	•		-
	Stat	tus		ID	Trigg	ger		In	coming F	Ports		Enable	
ŀ	Too	olbox		1									
	Pri	imary	Setup	2									
				3									
:	DH Vir	CP Se tual Se	<u>rver</u> erver	4									
	Spe	cial A	<u>p</u> ontrol	5								-	
ŀ	Mi	sc Iten	15	6									
	Wi	reless		7									
		Log o	ut	8								_	
					Popul	lar applic	cations	- select	one	▼ Co	py to II		
				Sa	ve U	ndo H	lelp						-

Some applications require multiple connections, such as Internet games, video conferencing, Internet telephony, etc. Because of the firewall function, these applications cannot work with a pure NAT router. The **Special Applications** feature allows some of these applications to work with your Barricade. If the mechanism of *Special Applications* fails to make an application work, try setting your computer as the **DMZ** host instead.

- 1. *Trigger*: the outbound port number issued by the application.
- 2. *Incoming Ports*: when the trigger packet is detected, inbound packets sent to the specified port numbers are allowed to pass through the firewall.

This product provides some predefined settings. Select your application and click *Copy to* to add the predefined setting to your list.

Note: At any given time, only one PC can use each Special Application.

4.8 Access Control

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		ទា	MC Barricade W	fireless Broadband Router						
SI				Access Control	<u></u>					
 Status Teacher 			Item	Setting						
 Toolbo 	<u>K</u>	► A	ccess Control	□ Enable	_					
• <u>Prima</u>	ry Setup	► D	efault Group: al	I hosts except those listed on the other groups						
DHCP	Server	ÞG	roup 1							
 Special 	AP	men	nbers							
 Access 	Control	L E	Block 💌 ports							
MISC II	sus	► G	roup 2							
 Wirele 	55	L E	Block v ports							
Log	out	▶ G	roup 3		- 8					
		rmen ∟ [E	Block - norte							
		15	ports		_					
		Sa	ve Undo	MAC Level Help	-					

Access Control allows you to assign different access rights to different users. First, you have to divide users into different groups. Users are identified by their IP addresses. You can assign the members of Group 1, 2 and 3. The others are all members of the Default Group. Second, you have to assign the access rights for each group. Access rights can allow or block for access specified TCP and UDP ports. For example:

Group	Members	Access Right	Comments
Default	-	Allow 0	No access right (allow nothing)
Group 1	100-199	Allow (25,53,80,110)	Can browse(80), receive(110) and send(25) email only
Group 2	50-99	Block (21,119)	Cannot read net news(119) and FTP(21) only
Group 3	1-9,20	Block 0	Fully access (block nothing)

Function of buttons:

MAC Level	The "Access Control" is based on IP addresses only. If a user is able to change his/her IP address, then s/he will not be controlled by this function. The "MAC level" access control allows you to control the mapping of MAC addresses and IP addresses. You can also control which MAC address is allowed to connect to this device.
	to connect to this device.

4.9 Misc. Items



- 1. *IP Address of DMZ Host*: DMZ (Demilitarized Zone) Host is a host without the protection of firewall. It allows a computer to be exposed to unrestricted 2-way communication for Internet games, video conferencing, Internet telephony and other special applications. (Note that this feature should be used only when needed.)
- 2. Remote Administrator Host: In general, only Intranet users can browse the built-in web pages to perform administration task. If this feature is enabled, only the specified IP address can perform remote administration. If the specified IP address is 0.0.0.0, any remote host can connect to this product to perform administration tasks. When this feature is enabled, the web port will be shifted to 88.
- 3. *Administrator Time-out*: The amount of inactive time after which the Barricade will automatically close the Administrator session. Set this to zero to disable this feature.

- 4. *Discard PING from WAN side*: When this feature is enabled, no host on the WAN can ping the Barricade.
- 5. *Non-standard FTP port*: You have to configure this item if you want to access an FTP server whose port number is not 21. *This setting will be lost after rebooting*.

4.10 Wireless Setting

SMC Barricade Wit	reless Broadband Router - M	dicrosoft Internet Explorer	×			
Eile Edit View Fg	worites Icols <u>H</u> elp		1			
	SMC Barricade Wirele	iss Broadband Router				
SIMC Networks		Wireless Setting				
 <u>Status</u> Toolbort 	Item	Setting				
<u>100100x</u>	Network ID(SSID)	default				
 Primary Setup 	Channel	6 💌				
<u>DHCP Server</u> Virtual Server <u>Special AP</u> Access Control	▶ WEP Security	© Disable WEP C Enable IEEE 64 bit Shared Key security C Enable IEEE 128 bit Shared Key security				
 <u>Mise Items</u> Warness 	© WEP Key 1 C WEP Key 2 C WEP Key 3					
Log out	C WEP Key 4					
	Save Undo N	AAC Address Control Help				

Wireless settings allow you to set the wireless configuration items.

- Network ID (SSID): Network ID is used for identifying the Wireless LAN (WLAN). Client stations can roam freely over this product and other Access Points that have the same Network ID. (The factory setting is "default")
- Channel: The radio channel number. The permissible channels depends on the Regulatory Domain: FCC/IC: 1-11, ETSI: 1-13, France: 10-13, Spain: 10-11, MKK: 1-14 (The factory setting is channel 6)
- 3. *WEP Security*: Select the data privacy algorithm you want. Enabling the security can protect your data while it is transferred from one station to another. The standardized IEEE 802.11 WEP (128-bit or 64-bit) is used here.
- 4. WEP Key 1, 2, 3 & 4: When you enable the 128-bit or 64-bit WEP key security,

please select one WEP key to be used and input 26 or 10 hexidecimal (0, 1, 2...8, 9,

A, B...F) digits.

Function of buttons:

MAC Address Control	Setup MAC addresses to control which wireless clients can associate to the wireless LAN.

4.11 MAC Address Control

SMC Barricade Wireless Broadband Router - Microsoft Internet Explorer									
Eile Edit View Fax	vorites Icols	Help			100 B				
SMC Barricade Wireless Broadband Router									
SMC		$\mathbf{M}_{\mathbf{z}}$	AC Addr	ess Control					
<u>Status</u>	1	Item		Setting					
100100X	MAC A	idress Control	🗆 Enable						
 Primary Setup 	E Connec	tion control	Wireless and w	vired clients with C check	ed can				
DHCP Server Virtual Server Special AP Access Control Misc Rems	🗆 Associa	ation control	connect to this device; and allow unspecified MAC addresses to connect. Wireless clients with A checked can associate to the wireless LAN; and deny unspecified MAC addresses to associate.						
Wineless	ID	MAC Add	ress	IP Address	C A				
	1			192.168.123.					
Log out	2			192.168.123.					
	3			192.168.123.					
	4			192.168.123					
	DHCP clie	nts select o	one	▼ Co	py to 🔟 🖳 💌				
	Pre	evious page	Next page	Save Undo He	lp				

MAC Address Control

Every client that connects to the network has a unique MAC (Media Access Control) address on his or her Ethernet adapter. An administrator can have more control—and more security—over the network by specifying which MAC addresses are allowed to access the Wireless Barricade. You can enable this feature by checking the "Enable" box.

Connection control

Connection control allows an administrator to allow or deny "connection" to clients trying to access the Wireless Barricade and the Internet. Check "Connection control" to control which of the wired AND wireless clients will be able to "connect" to the Wireless

Barricade and to the Internet. If a client is denied "connection" to this device, it means that the client can't access the Internet and some network resources . Choose "Allow" or "Deny" to allow or deny clients whose MAC addresses are not listed in the "Control table".

When a wired client CAN "Connect" to the Wireless Barricade, it means that it can have full access to the Internet and Network Resources.

When a wired client CAN NOT "Connect" to the Wireless Barricade, it means that it CAN:

1. Communicate with the other clients on the wired LAN

But CAN NOT:

- 1. Connect to the Internet
- 2. Use the Print Server function
- 3. Communicate with the clients on the wireless LAN
- 4. Use the Wireless Barricade's Web configuration

Association control

The Association process is the exchange of information between wireless clients and a wireless access point to establish a link between them. A wireless client is capable of transmitting and receiving data to an access point only after the association process is successfully completed.

Association control allows an administrator to allow or deny "association" to wireless clients trying to link up to the Wireless Barricade. Check "Association control" to control which of the wireless clients will be able to "associate" to the wireless LAN. If a client is denied "association" to the wireless LAN, it means that the client can't send or

receive any data through the Wireless Barricade. Choose "Allow" or "Deny" to allow or deny clients whose MAC addresses are not listed in the "Control table"

When a wireless client CAN "Associate" to the wireless LAN, and CAN "Connect" to the Wireless Barricade, that means it can have full access to the Internet and Network Resources.

When a wireless client CAN NOT "Associate" to the wireless LAN, it means that it CAN NOT:

- 1. Communicate with any others clients on the LAN (neither wired nor wireless)
- 2. Connect to the Internet
- 3. Use the Print Server function
- 4. Use the Wireless Barricade's Web configuration
- 5. "Connect" to the Wireless Barricade

When a wireless client CAN "Associate" to the wireless LAN, but CAN NOT "Connect" to the Wireless Barricade, it means that it CAN:

1. Communicate with others clients on the wireless LAN

But CAN NOT:

- 1. Communicate with any clients on the wired LAN
- 2. Connect to the Internet
- 3. Use the Print Server function
- 4. Use the Wireless Barricade's Web configuration

Association control has no effect on wired clients.

Control table

"Control table" is at the bottom of the "MAC Address Control" page. Each row of this

table indicates the MAC address and the mapped IP address of a client. There are four columns in this table:

MAC Address	Indicates a specific client's MAC address.
IP Address	Expected IP address of the corresponding client. Leave it blank you don't want a specified IP address.
С	When "Connection control" is enabled, checking "C" will allow the corresponding client to "Connect" to the Wireless Barricade
Α	When "Association control" is enabled, checking "A" will allow the corresponding client to "Associate" to the wireless LAN.

Previous page, Next page

To make this setup page simple and clear, we have divided the "Control table" into several pages. You can use these buttons to navigate to different pages.

Chapter 5 Print Server

This product provides the function of the network print server for MS Windows 95/98/NT/2000 and Unix-based platforms.

You must configure each station individually to connect to your server printer.

5.1 Configuring on Windows 95/98 Platforms

After you complete the software installation procedure described in Chapter 3, your computer possesses the network printing facility provided by this product. For convenience, we call the printer connected to the printer port of this product as *server printer*. On a Windows 95/98 platform, open the *Printers* window in the *My Computer* menu:



Yon can now configure the print server of this product:

1. Find out the corresponding icon of your server printer, for example, the **HP LaserJet**

6L.	Click	the	mouse	's righ	t button	on	that	icon,	and	then	select	t the	Propert	ies	item:
-----	-------	-----	-------	---------	----------	----	------	-------	-----	------	--------	-------	---------	-----	-------

HP LaserJet 6L (PCL) Properties	? ×
General Details Sharing Paper Print Quality Fonts Device Options HP LaserJet 6L (PCL)	
<u>C</u> omment:	
Separator page: (none) Browse	
Print <u>T</u> est Page	
OK Cancel Apply He	:lp

2. Click the *Details* item:

HP LaserJet 6L (PCL) Properties	? ×
General Details Sharing Paper Print Quality Fonts Device Options	
HP LaserJet 6L (PCL)	
Print to the following port:	
PRTmate: (All-in-1) Add Port	
Print using the following driver:	
HP LaserJet 6L (PCL) New Driver	
Capture Printer Port End Capture	
Timeout settings	
Not selected: 15 seconds	
Transmission retry: 45 seconds	
Spool Settings Port Settings	
OK Cancel Apply Help	5

- 3. Choose the "PRTmate: (All-in-1)" from the list attached at the *Print To* item. Be sure that the *Printer Driver* item is configured to the correct driver of your *server printer*.
- 4. Click on the button of *Port Settings*:

Printer Position	×
Enter the Product's IP :	ОК
192.168.123.254	Cancel

Type in the IP address of this product and then click the OK button.

5. Make sure that all the settings mentioned above are correct, and then click the *OK* button.

5.2 Configuring on Windows NT Platforms

The configuration procedure for a Windows NT platform is similar to that of Windows 95/98 except the screen of printer *Properties*:

Hewlett Packard LaserJet 6L Properties			?
General Ports Scheduling Sharing Security Device Settings			
Hewlett Packard LaserJet 6L			
Print to the following	nortís). Documents will n	vint to the first free	
checked port.	portoj. o oceano no ma p		
Port	Description	Printer	*
LPT3	Local Port		
COM1:	Local Port		
COM2:	Local Port		
COM3:	Local Port		
COM4:	Local Port		
FILE:	Local Port		
PRT mate	Local Port		-
FAXmate	Local Port	Hewlett Packard L	<u> </u>
Add Port	Delete Port	Configure Port	
			_
Enable bidirectio	nal support		
L hable printer pooling			
		OK Can	cel
			Contraction of the

Compared to the procedure in the previous section, the selection of *Details* is equivalent to the selection of **Ports**, and *Port Settings* is equivalent to *Configure Port*.

5.3 Configuring on Windows 2000 Platforms

The configuration procedure for a Windows 2000 platform is similar to that of Windows 95/98, except for the screen of printer *Properties*:

HP LaserJet 6L	Properties	?
aeneral Sharing Ports Advanced Security Device Settings		
HP Laser	Jet 6L	
Print to the following checked port.	port(s). Documents will prin	it to the first free
Port	Description	Printer
	Serial Port	
	Serial Port	
ЦШ СОМЗ:	Serial Port	
	Serial Port	
FILE:	Print to File	
PRTmate	Local Port	HP LaserJet 6L 💌
Add Por <u>t</u>	Delete Port	<u>C</u> onfigure Port
Enable bidirectio	nal support	
Enable printer pr	nolina	
	-	
	ок	Cancel Apply

Compared to the procedure in the previous section, the selection of *Details* is equivalent to the selection of **Ports**, and *Port Settings* is equivalent to *Configure Port*.

5.4 Configuring on Unix-based Platforms

Please follow the traditional configuration procedure on Unix platforms to set up the print server of this product. The printer name is "lp."

Appendix A: TCP/IP Configuration for Windows 95/98

This section advises on how to install TCP/IP protocol into your personal computer. It assumes you have successfully installed one network card on your personal computer. If not, please refer to your network card manual. Also, Section A.2 tells you how to set TCP/IP values for working with this IP Sharer correctly.

A.1 Install TCP/IP Protocol Into Your PC

- 1. Click *Start* button and choose *Settings*, then click *Control Panel*.
- 2. Double click *Network* icon and select *Configuration* tab in the Network window.
- 3. Click Add button to add network component into your PC.
- 4. Double click *Protocol* to add TCP/IP protocol.

Select Network Component Type	? ×
Click the type of network component you want to install:	
📃 Client	Add
Adapter	
Y Protocol	Cancel
Service	
Protocol is a 'language' a computer uses. Computers must use the same protocol to communicate.	

5. Select the *Microsoft* item in the *manufacturers* list. Choose *TCP/IP* in the *Network Protocols*. Click *OK* button to return to Network window.

Select Network Protocol	×
Click the Network Pro an installation disk for	stocol that you want to install, then click OK. If you have this device, click Have Disk.
Manufacturers:	Network Protocols:
a Banyan BM Microsoft Novell	Fast Infrared Protocol IPX/SPX-compatible Protocol Microsoft 32-bit DLC Microsoft DLC NetBEUI TCP/IP
	Have Disk
	OK Cancel

6. The TCP/IP protocol will be listed in the Network window. Click *OK* to complete the install procedure and restart your PC to enable the TCP/IP protocol.

A.2 Set TCP/IP Protocol for Working With IP Sharer

1. Click *Start* button and choose *Settings*, then click *Control Panel*.

2. Double click *Network* icon. Select the TCP/IP line that has been associated to your network card in the *Configuration* tab of the Network window.

Network ?X		
Configuration Identification Access Control		
The following <u>n</u> etwork components are installed:		
PCI Fast Ethernet DEC 21140 Based Adapter		
NetBEUL > Dial-Up Adapter		
TCP/IP -> Dial-Up Adapter		
TCP/IP -> PCI Fast Ethernet DEC 21140 Based Adapter		
📮 File and printer sharing for Microsoft Networks 📃 📃		
Add Remove Properties		
Primary Network Logon:		
Client for Microsoft Networks		
<u>File</u> and Print Sharing		
Description TCP/IP is the protocol you use to connect to the Internet and wide-area networks.		
OK Cancel		

- 3. Click *Properties* button to set the TCP/IP protocol for this IP Sharer.
- 4. You now have two setting methods:
 - A. Get IP via DHCP server

a. Select *Obtain an IP address automatically* in the *IP Address* tab.

TCP/IP Properties		? ×
Bindings	Advanced	NetBIOS
DNS Configuration	Gateway WINS Confi	guration IP Address
An IP address can If your network dow your network admi the space below.	be automatically assigne es not automatically assig nistrator for an address, a	d to this computer. n IP addresses, ask nd then type it in
Obtain an IP	address automatically	
C Specify an IF	address:	
[P Address:		
S <u>u</u> bnet Mas	k:	
	OK	Cancel

b. Do not input any value in the *Gateway* tab.

TCP/IP Properties		? ×		
Bindings DNS Configuration	Advanced Gateway WINS Conf	NetBIOS iguration IP Address		
The first gateway in The address order machines are used	The first gateway in the Installed Gateway list will be the default. The address order in the list will be the order in which these machines are used.			
New gateway:	. <u>A</u> dc			
- Installed gateway	rs:	ve		
	10	Cancel		

c. Choose *Disable DNS* in the *DNS Configuration* tab.

TCP/IP Properties		? ×
Bindings DNS Configuration	Advanced Gateway WINS Conf	NetBIOS
• Disable DNS		
Host:	D <u>o</u> main:	
DNS Server Sea	rch Order	Add
		emove
Domain Suffix Se	earch Order	
		Add
	01	Cancel

- B. Configure IP manually
 - a. Select *Specify an IP address* in the *IP Address* tab. The default IP address of this product is 192.168.123.254. Therefore, please use 192.168.123.xxx (xxx is between 1 and 253) for *IP Address* field and 255.255.255.0 for *Subnet Mask* field.

TCP/IP Properti	es			? ×	
Bindings		Advanced) N	etBIOS (
DNS Configurati	on 🛛 Gatew	vay 🛛 WINS Confi	iguration	IP Address	
An IP address If your network your network a the space belo	An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.				
◯ <u>O</u> btain a	n IP addres:	s automatically			
_ ⊙ <u>S</u> pecify a	an IP addres	:s:			
<u>I</u> P Addr	ess: [1	92.168.123	.115		
Subnet	Mask: 2	255.255.255	. 0		
	L.				
L					
		Ok		Cancel	

b. In the *Gateway* tab, add the IP address of this product (default IP is 192.168.123.254); in the *New gateway* field and click *Add* button.

TCP/IP Properties		? ×		
Bindings DNS Configuration	Advanced Gateway WINS Conf	NetBIOS		
The first gateway in The address order machines are used	The first gateway in the Installed Gateway list will be the default. The address order in the list will be the order in which these machines are used.			
New gateway:	23.254 <u>A</u> dd	1		
_ Installed gateway	ys: <u>H</u> emo	We		
	01	Cancel		

c. In the *DNS Configuration* tab, add the DNS values which are provided by the ISP into *DNS Server Search Order* field and click *Add* button.

TCP/IP Properties		? ×
Bindings DNS Configuration	Advanced Gateway WINS Confi	NetBIOS iguration IP Address
© Disable DNS © Enable DNS Host: Muccasse	Domain: [
DNS Server Sea	rch Order	Add
168.95.1.1	B	emove
Domain Suffix Se	earch Order	Add
	R	emove
	0	Cancel