BROADBAND FIREWALL ROUTER WITH 1-USB + 1-PARALLEL PRINT SERVER PORT

USER'S MANUAL

V1.0

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FCC Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to subpart J of Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, which the user will be required to correct at their own expense.

Part No. RT9312 V1.0

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1. Introduction

Product Overview

Congratulations on your purchase of this Broadband Firewall Router. During the design process, we have given much thought to making this device as convenient to use as possible. The end result is the Broadband Firewall Router that can be set up in minutes, allowing network users to access the Internet via either the high-speed DSL or Cable connection.

Main Benefits

- ☐ Cost-effective solution using high-speed DSL or Cable connection.
- ☐ Mobility.
- ☐ Ideal for the small office or SOHO users.
- ☐ Internet access without delay.
- ☐ Have the system up and running in minutes.
- ☐ Saves time and money.
- ☐ Greater security.
- ☐ Multiple functions.

About This Manual

The instructions in this book describe how to connect and configure the Broadband Firewall Router to a network and set up an Internet connection. The manual has been written for network administrators and experienced users and makes some assumptions about the readers. If you want to install the Broadband Firewall Router on your network you should be familiar with:

- ☐ Microsoft Windows 95/98/Me or Windows NT/2000/XP
- ☐ Any TCP/IP-enabled systems like Mac OS and UNIX
- ☐ Basic functions in any Telnet program
- ☐ TCP/IP and related issues

This manual details procedures for Windows 95/98/Me or Windows NT/2000/XP operating systems. For other operating systems, please refer to your operating system's documentation for networking and other information.

The Packing List

The following items should be included in the Broadband Firewall Router package:

- ☐ One Broadband Firewall Router unit
- ☐ One AC power adapter

□ One User's Manual or CD (including quick guide)

Network Software Requirements

The Broadband Firewall Router requires one of the following types of software:

□ Windows 95/98/Me or Windows NT/2000/XP
□ Any TCP/IP-enabled systems like Mac OS and UNIX

Broadband Firewall Router Embedded 4-port 10/100Mbps Switch

The Broadband Firewall Router with embedded 4-port 10/100Mbps Switch features auto-negotiation switch ports and provides the flexibility to fit into your operational space and network environment.

This device is built with plug & play, auto-negotiation supports all ports, half & full-duplex multi-selection, and a store and forward transmission scheme.

The Broadband Firewall Router requires the following network hardware:

□ UTP cable (Cat.5 Twisted-pair), 10Base-T or 100Base-TX Fast Ethernet.

Note: Prepare twisted-pair cables with RJ-45 plugs. Use Cat.5 cable for all connections. Make sure the length of each cable does not exceed 328 feet (approximately 100 meters).

LED Indicators

LED	State	Indication
Power	On (Green)	The Broadband Firewall Router's power is on.
	Off	The Broadband Firewall Router's power is off.
Status	Blinking (Red)	When power is first switched on, the Status indicator will flash one time.
WAN	On (Green)	Port has a valid network connection at 100Mbps.
	On (Orange)	Port has a valid network connection at 10Mbps.
	Blinking (Orange)	Data is being transmitted and received via the WAN port.
LAN	On (Green)	Port has a valid network connection at 100Mbps.
	On (Orange)	Port has a valid network connection at 10Mbps.
	Off	Port has not established a network connection.
Activity	Blinking (Green)	Data is being transmitted and received at 100Mbps.
	Blinking (Orange)	Data is being transmitted and received at 10Mbps
Parallel	Blinking (Green)	Data is being transmitted via Parallel Port (PID1)
USB	Blinking (Green)	Data is being transmitted via USB Port (PID2)

DSL/Cable Modem Requirement

The Broadband Firewall Router requires one of the following external modem(s) or device(s):

□ One external DSL modem with an RJ-45 (LAN) interface

□ One external Cable modem with an RJ-45 (LAN) interface

2. Hardware Installation

Overview

This chapter details the step-by-step procedure required for correct installation of the Broadband Firewall Router hardware. Topics discussed in this chapter include connecting and disconnecting the Broadband Firewall Router to and from the modem, the network, and the power unit.

Preparation

The following items are needed in order to install the Broadband Firewall Router unit:

- ☐ The Broadband Firewall Router unit
- ☐ One AC power adapter
- ☐ UTP cable (Cat.5 Twisted-pair)
- ☐ One DSL/Cable modem with RJ-45 LAN interface

Connecting Firewall Router to the DSL/Cable Modem (WAN)

1. Turn off the modem's power.

2. Connect one end of the UTP cable to the Broadband Firewall Router's WAN connector at the rear panel of the device.

3. Connect the other end of the UTP cable to the modem's UTP (RJ-45) port.

4. The connection is complete.

Note: We recommend you connect a single modem first, and then add additional modems as needed.

Connecting Broadband Firewall Router to the Network

1. Connect one end of the UTP cable to the Broadband Firewall Router.

2. Connect the other end of the UTP cable to any network computer.

3. The connection is complete.

Connecting the AC Power Adapter

1. Connect the power adapter to the Broadband Firewall Router's AC power adapter jack.

2. Plug the AC power adapter into a power outlet.

3. Turn the modem's power on.

4. The connection is complete.

Note: DO NOT use any AC power adapter other than the one shipped with the Broadband Firewall Router; using an incorrect AC power adapter may damage the Broadband Firewall Router.

Power On Self Test (POST)

The Broadband Firewall Router automatically performs a **Power On Self Test** (**POST**) when powered on. Successful powering up of the Broadband Firewall Router is indicated by **one** flashes of the red LED marked **Status** on the topside of the Broadband Firewall Router. If the Red LED does not flash **one** times, please contact your dealer for repair or replacement.

Resetting the Firewall Router

The Broadband Firewall Router has a reset button in the rear panel of the device. In some circumstances you may need to reset the Broadband Firewall Router. Please follow the instructions below to reset the Broadband Firewall Router.

1. With the Broadband Firewall Router powered on, press the reset button once. The red LED light that is marked as **Status** will then flash once.

2. Reset the DSL/Cable modem.

3. Getting Started

Overview

Configuring the Broadband Firewall Router for the first time can be done using the following method:

  To configure the Broadband Firewall Router uses the web browser.

Note: The configuration procedures described in this chapter are for basic setup purposes only.

Preparation

1. In general, using a Broadband Firewall Router for Internet access requires at least the DSL or Cable service. We assume you have obtained DSL/Cable service from your local telephone company or Internet Service Provider (ISP).

    Please have your connection information ready, including:

    a. The IP address provided by the ISP for the connection.
    b. The Subnet mask provided by the ISP for the connection.
    c. The Gateway IP Address.
    d. Domain Name System (DNS) server's IP address.

Setting up the Broadband Firewall Router using the Web browser

Overview

We've designed an easy-to-use web-based configuration interface in the device. Users can set up the device by using the web browser. Furthermore, the enhanced HTTP support available in the device includes a quick and easy management tool for performing the configuration tasks, including all basic and advanced setup, on a TCP/IP network.

To access the device from your web browser you will need a web browser supporting frame structure within an HTML page. Netscape or Microsoft Internet Explorer JAVA-enabled browser is recommended.

Preparation

The Broadband Firewall Router comes with a pre-set default IP address, *192.168.1.1*. It also features a DHCP server. To configure it over your TCP/IP network, please follow the directions listed below.

Note: If you're installing the Broadband Firewall Router in a pre-existing IP network, please see the **Configuring Broadband Firewall Router in Pre-Existing IP Networks** section later in this chapter.

1. Please ensure your computer (Windows 95/98/Me or Windows NT/2000) has TCP/IP protocol installed. If not, please install the protocol first and then proceed to Step 2.

2. In your Network Properties dialog box, select the **Obtain IP address automatically** option. When done, restart the computer.

3. After the computer restarts, open your browser.

4. Type the default IP address (192.168.1.1) in the **Location** box and press **Enter**. The device's Home Page will then appear.

5. It then displays an authentication dialog for the Broadband Firewall Router. Type the default administration user name, **admin**, and type the default configuration password **0000** and click **OK** button as shown in following figure.

6. It then enters the Broadband Firewall Router main setup menu as shown in the following figure.
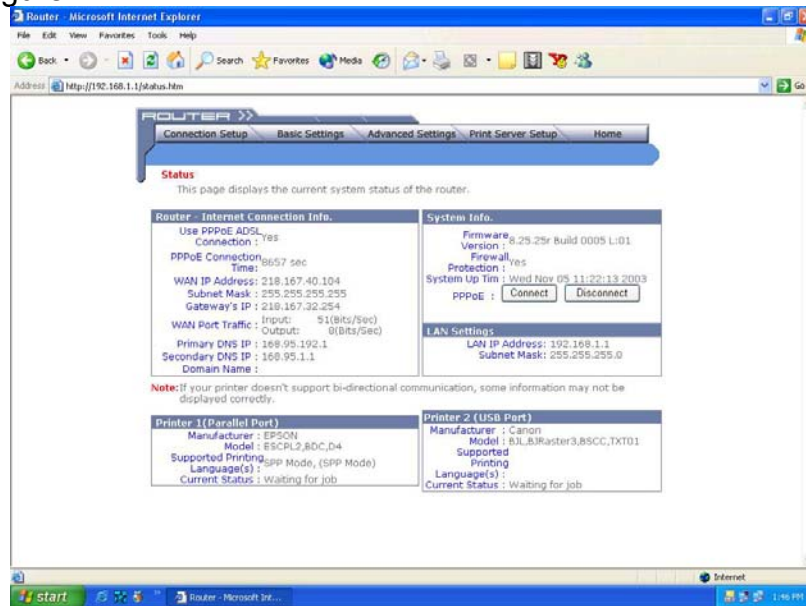
7. Click the **Connection Setup**, and the following box will appear.

8. Choose either DSL or Cable modem as your connection method.

9. Complete the following settings: (The example shown is for DSL fixed IP)

   Choose "**Static IP**" page, and the following image will appear:

   a. In "**IP Address**" type the IP address provided by your ISP.
   b. In "**Subnet Mask**" type the Subnet Mask IP address provided by your ISP.
   c. In "**Gateway's IP Address**" type the Default Gateway IP address provided by your ISP.
   d. Set **DNS IP** as provided by your ISP.

10. Click **Apply**.

11. The configuration is now complete.

12. To configure the TCP/IP settings on each client computer, please see the **Configuring Windows 95/98/Me or Windows NT/2000/XP (DHCP-capable) Computers** or the **Configuring Non-DHCP Computers** section.

Configuring Windows 95/98/Me or Windows NT/2000/XP (DHCP-capable) Computers

Each PC that supports DHCP and is located on your LAN must be configured so it can communicate with the Broadband Firewall Router. Follow these steps to configure the reset of the PCs on your LAN.

(If you want to manually specify an IP address and related settings for the computers, please see the **Selecting an IP Address** section later in this chapter).

Note: The steps described in this section are for TCP/IP-capable operating systems like Windows 95/98/Me or Windows NT/2000/XP. For non-TCP/IP systems like DOS/Windows 3.x, please see the **Configuring Non-DHCP Computers** section later in this chapter.
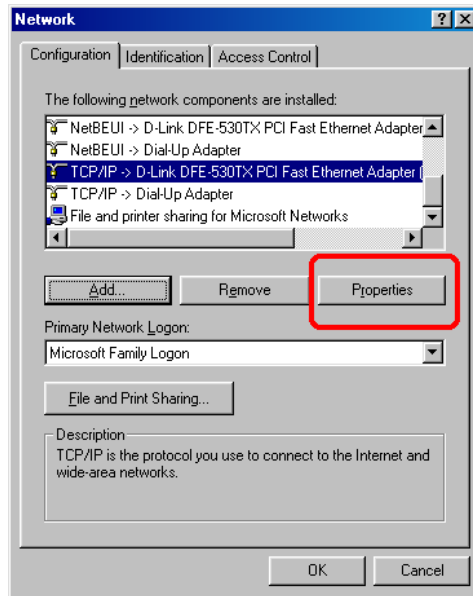
1. From your Windows 95/98/Me or Windows NT/2000/XP desktop, click **Start**, point to **Settings**, and select **Control Panel**.

2. Double-click the **Network** icon.
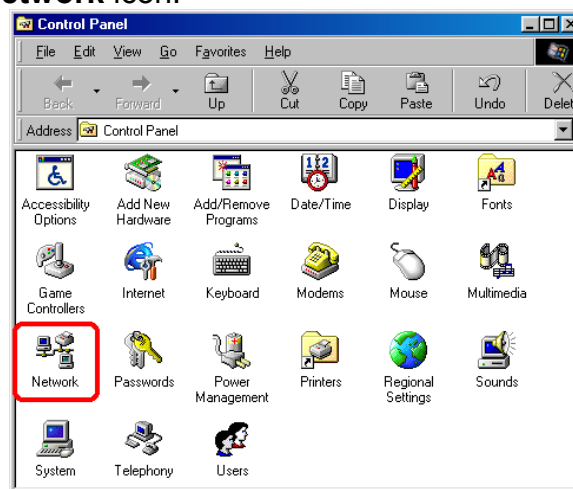
3. Check to see if the *TCP/IP protocol* is installed. If not, please add this protocol before proceeding to the next step.

4. Select **TCP/IP protocol** and click **Properties**.

5. Click **Obtain an IP address automatically**.
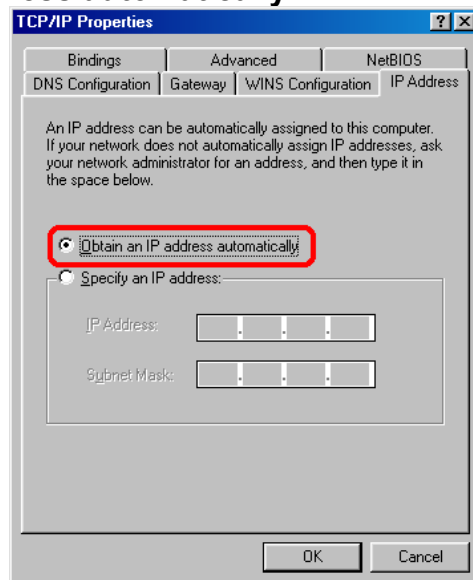
6. Click **OK**.

7. Click **OK**.

8. **Restart your computer**.

You are now ready to use your Web browser or other Internet applications.

Configuring Broadband Firewall Router in Pre-existing IP Networks

The Broadband Firewall Router is easily added to an existing network that already has IP addresses assigned. The following assumes that you have configured TCP/IP for your network (and on each computer) and are now adding the Broadband Firewall Router for Internet access. We also assume that you will not be using the Broadband Firewall Router

DHCP server to dynamically allocate and assign addresses (since you've already assigned IP addresses to each computer).

The following steps use an example pre-existing network of computers with IP addresses 204.1.1.1 through 204.1.1.154 (IP addresses of Class C, without any IP sub-networks). Please follow the steps listed below to use your existing IP addresses with the Broadband Firewall Router.

1. From your range of available IP addresses, select a single IP address to be used as the Broadband Firewall Router's address (such as 204.1.1.100).

2. Select one computer (we strongly recommend Windows 95/98/Me or Windows NT/2000/XP) to configure the Broadband Firewall Router.
   Open the **Network properties dialog** box of the computer, and write down its current IP settings, including IP address and DNS Server IP address (provided by your ISP).

   Next, check the **Specify an IP Address** option in the **TCP/IP properties dialog** box and enter 192.168.1.2 for the IP address and 255.255.255.0 for the subnet mask. Finally, enter 192.168.1.1 for the gateway IP address. You must then **restart** your computer to update the new TCP/IP settings.

3. On the same computer, open your web browser.

4. Type the default IP address (192.168.1.1) in the **Location** box and press **Enter**. The device's Home Page will then appear.

5. It then shows an authentication dialog for the Broadband Firewall Router. Type the default administration user name, **admin**, and type the default configuration password **0000. Then** click **OK,** as shown in following figure.

6. Click "**Basic Settings**" in the top column. It then enters the sub-menu.

LAN Settings
LAN IP Address :	192	168	1	1
Subnet Mask :	255	255	255	0
Default Gateway's IP Address :	192	168	1	1

Web Management's Port No. : 80
Enable UPnP : ⊙ Yes ○ No

IP Alias
Enable IP Alias : ○ Yes ⊙ No
Alias IP Address : 0 . 0 . 0 . 0
Subnet Mask for The Alias IP Address : 0 . 0 . 0 . 0

[Apply]   [Reset]

7.   In the **LAN Settings**, enter the IP address you selected in Step 1 (such as 204.1.1.100) in the **LAN IP Address** field.

8.   Enter the subnet mask 255.255.255.0 in the **Subnet Mask** field.

9.   Enter the IP address you selected in Step 1 (such as 204.1.1.100) in the **Default Gateway** field.

10. Click **Apply** button for the new settings to take effect.

11. Close your browser.

12. Now open the **Network properties dialog** box of the computer again and select **TCP/IP protocol**.

13. Change the computer's IP address, subnet mask, and DNS Server IP address (provided by your ISP) back to their original settings.

14. Next, enter the IP address of the Broadband Firewall Router as the computer's **gateway IP address** (see Step 1: 204.1.1.100).

15. Finally, **restart** the computer for new TCP/IP settings to take effect.

16. Please refer to settings given in this chapter to continue configuring the Broadband Firewall Router.

17. Repeat Step 16 and Step 17 on each computer located on your LAN.

Once your network and the Broadband Firewall Router are both successfully configured, the computers on your network should be ready to access the Internet using the Broadband Firewall Router.

Configuring Non-DHCP Computers

The Broadband Firewall Router can be used with computers that do not support DHCP. Follow these steps to identify and configure non-capable DHCP computers.

1. Determine if any computers on your network are not DHCP capable. An example of a non-DHCP capable computer would be a DOS/Windows 3.x computer running an older version of TCP/IP software from a third-party vendor.

2. On each non-DHCP computer, enter the following information when configuring TCP/IP:

   a. IP Address (See the **Selecting an IP Address** section).
   b. Subnet Mask (typically 255.255.255.0 for a Class C IP address).
   c. Gateway IP Address (192.168.1.1 is the default).
   d. Primary DNS Server IP Address (provided by your ISP).
   e. Secondary DNS Server IP Address (optionally provided by your ISP).
   f. Domain Name (optionally provided by your ISP).

Selecting an IP Address

If your networked computers do not support DHCP or you would like to manually specify IP addresses, you need to manually set the IP address on each computer. The Broadband Firewall Router is pre-configured with an IP address of 192.168.1.1 and a subnet mask of 255.255.255.0. The Broadband Firewall Router recognizes computers with IP addresses in the range of 192.168.1.1 to 192.168.1.254, with the exception of the Broadband Firewall Router's default IP address, 192.168.1.1.

The following are the general guidelines for manually assigning IP addresses and related settings to the computers.
1. Assign the first computer an IP address of 192.168.1.2. Next assign a subnet mask of 255.255.255.0, a gateway IP address of 192.168.1.1, and at least (primary) one DNS server IP address that should be provided by your ISP.

2. Assign the second computer an IP address of 192.168.1.3 and the *same* settings for the subnet mask, gateway IP address, and DNS server IP address as those in the first computer.

3. Continue assigning IP addresses and other related settings.

Password Setting

You may use a password to restrict who is able to change the Broadband Firewall Router's settings. To do so, please follow the procedure below:

1. Click the **Basic Settings** button in the top column, and then choose "**Password**".

This page allows you to change the administration password used to manage this router for security reasons.

Administrator's Password

Old Password : [   ]

New Password : [   ] (3-8 characters)

Re-type New Password : [   ]

Apply   Reset

2. Type the current password into **Old Password**.

3. Type your new password into **New Password**.

4. Confirm the new password into **Re-type New Password**.

5. Click "**Apply**".

6. The password is now set.

Setting Date and Time

One function of Broadband Firewall Router is that it allows you to set the initial time when you install the device. This enables the time of any hacker activity in your network to be recorded. To setup this function, follow the procedure below:

1. Click the **Basic Settings** button in the top column, and then choose "**Date & Time**".

Select Your Time Zone : [GMT+08:00 ▼]

Date : [11] Month / [5] Day / [2003] Year

Time : [6] Hours : [24] Minutes :

[2] Seconds

Use SNTP to obtain date & time from authoritative Internet time server : ⦿ Yes ○ No

Apply   Reset

2. Select your time zone.

3. Type "**Date**" and "**Time**".

4. Choose "SNTP Active" or not.

5. Click "**Apply**".
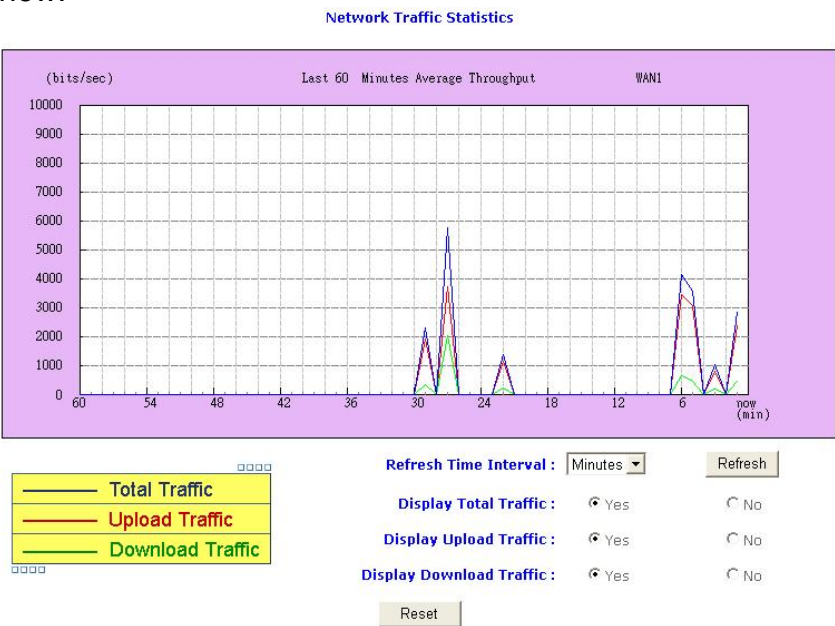
6. The setup is now completed.

Traffic Report

You can view the network traffic report for the Broadband Firewall Router's WAN port and LAN-to-Internet. Click the **Basic Settings** button in the top column, and then choose "**Traffic Report**". The following box will appear.

Traffic Report

WAN Port	Show
LAN to Internet (WAN)	Show

1. Click "**WAN Port**", and the box pictured below will appear. Please noted that your web browser have to support the JAVA Applet – otherwise the traffic report won't probably show.

Network Traffic Statistics

Total Traffic
Upload Traffic
Download Traffic

Refresh Time Interval : Minutes ▾   Refresh

Display Total Traffic : ● Yes   ○ No
Display Upload Traffic : ● Yes   ○ No
Display Download Traffic : ● Yes   ○ No

Reset

Access Monitor

You can use this function to monitor all the connections from LAN to WAN. Click the **Basic Settings** button in the top column, and then choose "**Access Monitor**". The following box will then appear.

Refresh

Private IP Address	Internet Connection	Port No.
192.168.1.235	210.58.102.66	80
192.168.1.235	168.95.4.30	110
192.168.1.235	61.222.205.66	110
192.168.1.235	203.69.107.188	110
192.168.1.235	210.58.102.66	80
192.168.1.235	210.58.102.66	80
192.168.1.235	210.58.102.66	80
192.168.1.235	210.58.102.81	80
192.168.1.235	210.58.102.66	80

- Private IP Address: User's LAN IP.
- Internet Connection: User browses Public IP.
- Port No.: User's service number.

Event Log:

The Broadband Firewall Router can record all information that you want, including "Hacker attack", "Connection from LAN to WAN", and "Connection from WAN to LAN". Use the following procedure to setup this facility:

2. Click **Basic Settings** in the top column. Then click **Access Monitor**.

3. Click "**Event Log**", and the box pictured below will appear.

```
         Refresh              Send              Clean

         Mon Jan 01 08:00:04 2001 -              pppoe session start - pppoe
Wed Nov 05 17:07:00 2003 -                       sntp active
Wed Nov 05 21:38:51 2003 -              login successful - http
[192.168.1.230:4717]
Wed Nov 05 21:46:58 2003 -              login successful - http
[192.168.1.230:4791]
Wed Nov 05 21:52:34 2003 -              login successful - http
[192.168.1.230:4819]
Logging to log.txt
```

4. Refresh: Renew current record.

5. Send: Send log to administrator's e-mail account, which pre-defined in Advanced Settings -> Firewall Setup -> E-mail Alerts.

6. Clear log: Delete log.

7. When the log exceeds memory size, it will automatically send the log to the administrator, and then delete it.

Tools

The Broadband Firewall Router provides two tools.
1. **Ping Test**: This tool could make sure that you could ping Internet IP or not.

To ping a host, please enter the IP address of the remote host in the **Remote Host's IP Address** field and click the **Ping** button.

Remote Host's IP Address : [0] . [0] . [0] . [0]

```
         Ping        Re-enter the IP
```

2. **Save & Restore CFG**:
   The Broadband Firewall Router includes a function that enables the user to set the router once only, with no reset option.

To save the current configuration of the router to a file, click **Save** button below. To reload the previous configuration file to the router, click **Browse** button button to select a file (CFG.bin) previously saved into your local hard disk drive and click **Load** button.

Load Configuration From a File : [_____] [Browse...] [Load]

Save Current Running Configuration into A File [Save]

Please follow these steps to setup "**Save & Restore CFG**" Setting.
A. To "**Save**" setting:
    Click the "**Save**" button, it saves the current router's setting to a file "CFG.BIN".
B. To "**restore**" setting:
    i.   Click the "**Browse**" button, and select the CFG.BIN file.
    ii. Then, click the "**Load**" button, to restore the router's setting.

Loading the Factory Default Values

If you make any errors while configuring the Broadband Firewall Router, or if you wish to reset the Broadband Firewall Router to default settings, please follow the steps below. This procedure will reset the router's settings to factory defaults.

1. On the desktop, open your web browser.

2. Type the **default IP address** (192.168.1.1) in the **Location** box and press **Enter**.

3. The authentication dialog for the Broadband Firewall Router will then appear. Type the default administration user name, **admin**, and the default configuration password **0000** and click **OK** as shown in following figure.

Connect to 192.168.1.1

ISSCFG

User name: admin
Password: ••••

☑ Remember my password

[OK] [Cancel]

4. Click the "**Load Factory Defaults**" button in the top column.

5. Click the "**Yes**" button for the all default settings to take effect.

6. The Default Values have now been loaded.

Now that the Broadband Firewall Router's defaults are loaded, please re-configure the Broadband Firewall Router by following the steps given in the previous sections of this chapter.

Note: To load the default values by using the reset button, please see the **Appendix**.

4. Advanced Configuration

Overview

Once you've finished the basic setup (in Chapter 3) of the Broadband Firewall Router, the Broadband Firewall Router should be able to function properly. This chapter provides the directions for configuring the Broadband Firewall Router's advanced features.

Preparation: Connecting to the Broadband Firewall Router

In order to proceed with the advanced configuration of the Broadband Firewall Router, you need to have completed the Broadband Firewall Router's basic setup detailed in Chapter 3.

1. Open the web browser in your Windows 95/98/Me or Windows NT/2000/XP computer.

2. Type the default IP address (192.168.1.1) in the **Location box** and press **Enter**.

3. It then shows an **authentication dialog** for the Broadband Firewall Router. Type the default administration user name, **admin**, and type the default configuration password **0000**, click the **OK** button as shown in following figure.

4. You then enter the Home Page of the device.

5. The preparation is now completed.

Group Setup

Please follow these steps to set up the Group setup. These groups can be assigned while you set up the Access Rules of Firewall router. You can refer to the chapter 6 for detail setting of firewall.

IP Address Group:
1. Click **Advanced Settings** in the top column. Then click **Group Setup**.

2. Click **IP Address Group**, and the following picture will appear.

3. You can assign a IP address group's name to include the IP range from "Starting IP Address" to "Ending IP Address".

Service Group:
   1. Click **Advanced Settings** in the top column. Then click **Group Setup**.

   2. Click **Service Group**, and the following picture will appear.

You can group some Internet services depending on their protocols and connection port numbers. A service group can be a single service or a range of services.

Internet Service Group List

Name	Protocol	Connection Port Number	Del

Add A New Internet Service Group

Name :

Protocol : TCP

Connection Port Number : From 0

To 0

FTP------------/TCP 21
TELNET----------/TCP 23
SMTP------------/TCP 25

Add

   3. You can assign a service group's name to include any protocol and port name.

Scheduling Group:
   1. Click **Advanced Settings** in the top column. Then click **Group Setup**.

   2. Click **Scheduling Group**, and the following picture will appear.

Scheduling List

Name	Date	Daily Time	Del

Add A New Scheduling Group

Name :

Date : Sun. To Sun.

Starting Time : 0 Hr. 00 Min.

Ending Time : 0 Hr. 00 Min.

Add

   3. You can assign a scheduling group's name to include the timeframe.

DHCP Service

Please follow these steps to set up the DHCP Service.

   1. Click **Advanced Settings** in the top column. Then click **Service Setup**

   2. Click **DHCP Server**, and the following picture will appear.

Enable DHCP Server: This option allows you to enable or disable the Broadband Firewall Router's DHCP feature. **By default, the DHCP service of the Broadband Firewall Router is enabled**.

Enable DNS Relay: This option allows you to enable or disable the DNS relay feature in the router inside. Default is disable.

Primary DNS IP Address: This option allows you to set the IP address of the Domain Name Server. The information is provided form your ISP.

Secondary DNS IP Address: If the Primary DNS IP is not available, the Secondary DNS IP will start.

WINS IP Address: This option allows you to set the IP address of the server that provides the *Windows Internet Name Service* (WINS), if available on your network.

IP Release Table: This table allows you to see a user's IP obtained from Broadband Firewall Router.

Fixed IP Table: This option allows you to set aside the fixed IP address of a computer and its associated network interface card address. This is usually used to set aside the IP addresses for devices such as servers, mail hosts or Intranet servers that must have a fixed IP address for access purposes.

To delete a fixed IP address, press Del.

Fixed IP Table

Fixed IP Address	PC's MAC Address	Del
168	00:40:01:57:08:15	Delete

Add A New Fixed IP

Fixed IP Address	PC's MAC Address
0	0

Add   Close

      A. Insert the IP and MAC address.

      B. Click "**Add**".

      C. The procedure is now completed.

IP Lease Range: This option allows you to change the DHCP IP Lease Range.

Note: You can define up to 4 ranges in this table.

IP Lease Ranges

Starting IP Address	Ending IP Address	Del
110	160	Delete
170	236	Delete

Add A New IP Lease Range To define a new DHCP IP Lease range, enter the last 3 digits of the starting IP address in the **Starting IP Address** field, enter the last 3 digits of ending IP address in the **Ending IP Address** field below, and click **Add** button.

Note : Please make sure the LAN IP address of this router is not included in the range.

0	0

Add   Close

DMZ Setup

The DMZ Host can be accessed from the public Internet via the IP address associated with the DSL/Cable service.

Please follow these steps to set up the DMZ Host:

    1. Click **Advanced Settings** in the top column. Then click **Service Setup**.

    2. Click **DMZ**.

Enable Multiple DMZ :				○ Yes	● No		
Public (WAN) IP Address				**Private (LAN) IP Address**			
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

Apply   Reset

3. In the **Enable Multiple DMZ** field, choose "**Yes**". **By default, the DMZ feature of the Broadband Firewall Router is disabled**.
4. In the **Public (WAN) IP Address** field, type the WAN IP that you want. In the **Private (LAN) IP Address** field, type the LAN IP of the computer you wish to make visible to the public Internet.

5. Click **Apply** button.

6. The DMZ Host setup is now completed.

Microsoft VPN Setup

To set up this device to support Microsoft VPN (Pass-Through), please follow the instructions below:
1. Please ensure that the VPN server is running. Have the IP address of this computer ready.

2. Connect to the Broadband Firewall Router by using your browser.

3. Click **Advanced Settings** in the top column. Then click **Service Setup**.

4. Click **DMZ**.

5. In the **Private (LAN) IP Address** field, type the IP address of your VPN server.

6. Click the **Apply** button

Note: 1. When accessing the VPN server on your private network to Internet, the device will forward (pass through) all incoming VPN requests to the server.

2. Due to the nature of the NAT implemented, only one user at a time can access the same VPN server on the Internet through this device. This means that two private network users cannot access the same VPN server locate on the public Internet simultaneously.
3. For details on setting up a VPN client, please refer to your system's documentation.

Routing Table

This device allows users to define the internal routing table to best integrate this router into the current IP (sub) network.

Note: Defining a new routing requires more advanced TCP/IP knowledge. Any wrong routing information may make the whole IP network *unreachable*, until it is corrected again. If you don't have this information, please ask your network administrator for help.

To define a new routing table, please follow the directions listed below:

1. Click **Advanced Settings** in the top column. Then click **Service Setup**.

2. Click **Static Routing**.

Type the destination's IP address, the net mask, the Gateway IP, and Metric.

3. Select "**Yes**" in the **Private** option, if you *do not* want the device to broadcast the routing information (RIP).

    Select "**No**", if you *do* want the device to broadcast the routing information to other routers on the network.

4. Click the **Add** button.

5. A new static routing table has been defined.

Local Server

The Broadband Firewall Router offers support for hosting servers on your private network that can be accessed from the public Internet. While the addresses on the Broadband Firewall Router are not directly accessible by a computer on the Internet, the Broadband Firewall Router allows for selective access by mapping incoming access requests for a particular

service to a designated host that can process requests for a specific Internet service on your LAN.

1. Click **Advanced Settings** in the top column. Then click **Service Setup**.

2. Click **Local Server Mapping**, and the box below will then appear.

    Local Server Mapping Table

Protocol	Public Port Number	Private IP Address	Private Port Number	Del
TCP	21	192.168.1.168	21	Delete

    Add A Local Server Mapping

    Protocol : TCP

    Public Port Number : 0

    Private IP Address : 0 . 0 . 0 . 0

    Private Port Number : 0

    Add   Reset
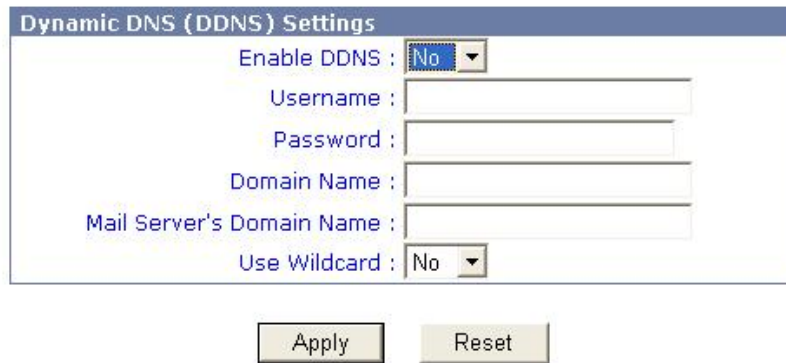
3. Select **TCP** or **UDP**.

4. Fill in the **Public Port Number**.

5. Fill in the **Private IP Address** of the LAN PC's IP you want.

6. Fill in the **Private Port Number**.

7. Click "**Add**"

8. The procedure is now completed.

DDNS (Dynamic DNS)

The Broadband Firewall Router has a special function to provide one user who only has a dynamic IP to setup a personal domain name. The function is DDNS (Dynamic Domain Name Service).

Please follow these steps to setup DDNS.

1. Click **Advanced Settings** in the top column. Then click **Service Setup**.

2. Click **Dynamic DNS**, and then it will appear a picture as below.

3. Enable DDNS: You want to use "DDNS", or not.

4. Type username.

5. Type password.

6. Domain name: It is your domain name.

7. Mail Server's Domain Name: It is your Mail server name.

8. Use Wildcard: You want to use "wildcard", or not.

9. Click "Apply".

【Note】
The Broadband Firewall Router only provides to apply for DDNS to www.dyndns.org.

5.Print Server Configuration

Preparation

The print server supports **TCP/IP** protocol under Windows-based OS. Please make sure that the following steps have been completed before proceeding with installation under Windows PC.

TCP/IP

☐ The TCP/IP Protocol must be installed. For further information, please read "*TCP/IP Protocol Installation*" section in this chapter.

TCP/IP Protocol Installation

1. Click **Start**, point to **Settings** and select **Control Panel**.

2. Double click the **Network** icon.

3. If the **TCP/IP Protocol** is not already installed, click **Add**.

4. Select **Protocol** and click **Add**.

5. Select **Microsoft** from the Manufacturers list.

6. Select **TCP/IP Protocol** from the Network Protocols list.

7. Specify an IP address, Subnet Mask, and Gateway address or specific "Obtain IP address automatically", if a DHCP server is available on the LAN.

8. **Restart the computer.**

9. Done.

Note: Using TCP/IP protocol to access the print server requires well-configured TCP/IP settings. If you are not familiar with these settings, please consult your network administrator for details or ask for help.

Windows-based System Installation Procedure

Please perform the steps as follows to ensure a smooth installation:

1. Insert the setup CD into your CD-ROM drive.

2. When the opening screen appears, click **Setup Wizard**.

3. Click **Network Print Server Setup Wizard**.

4. Click **Next**, the wizard will automatically discover the print server.

5. Select the print server port that you want to configure and click **Next**. Port 1 for Parallel port and port 2 for USB port.
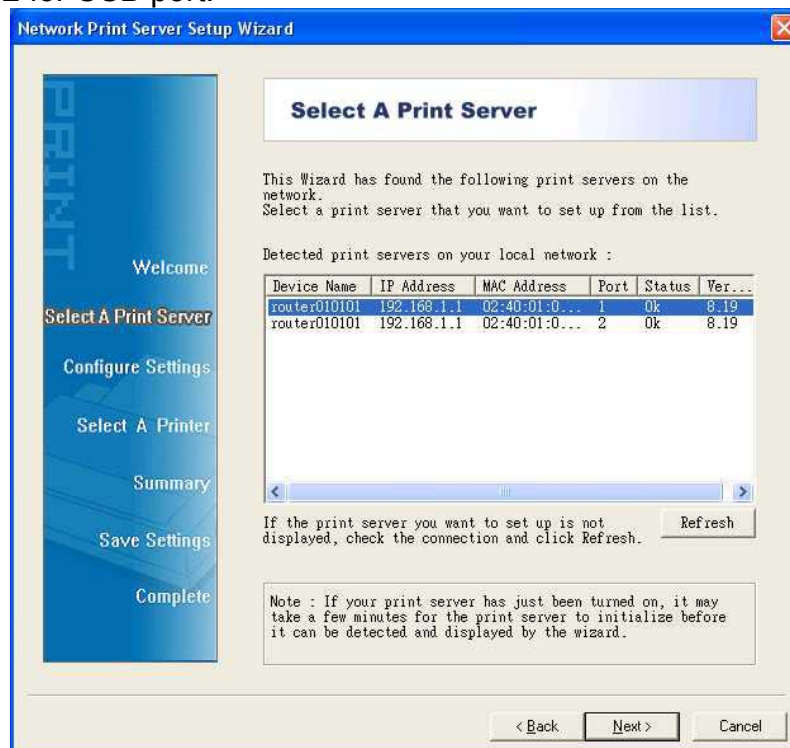
6. Select **No** if you don't want to change the configuration and click **Next**.
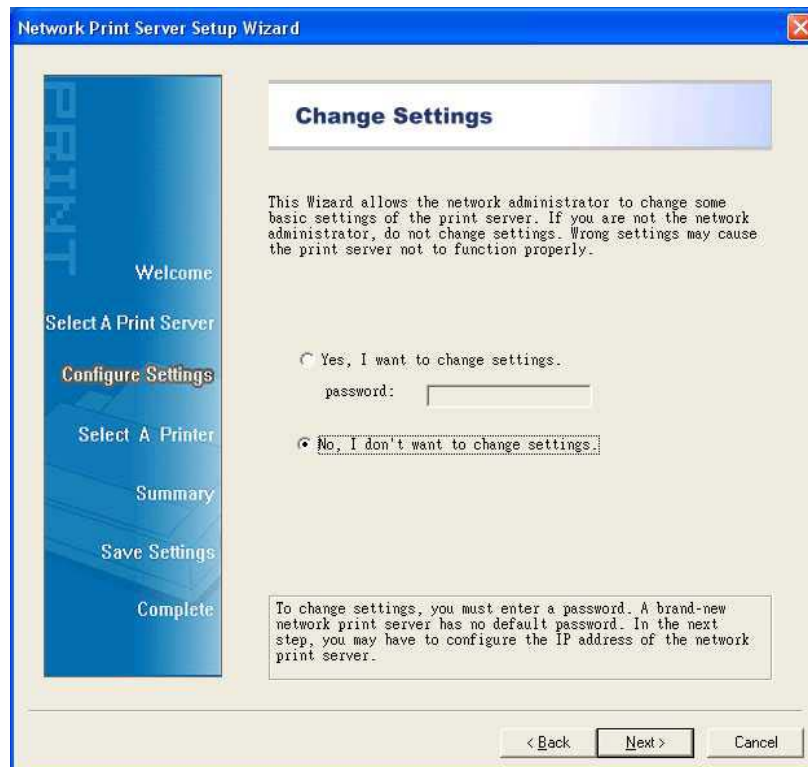
7. Choose the printer, which you want to connect. Click **Next**.
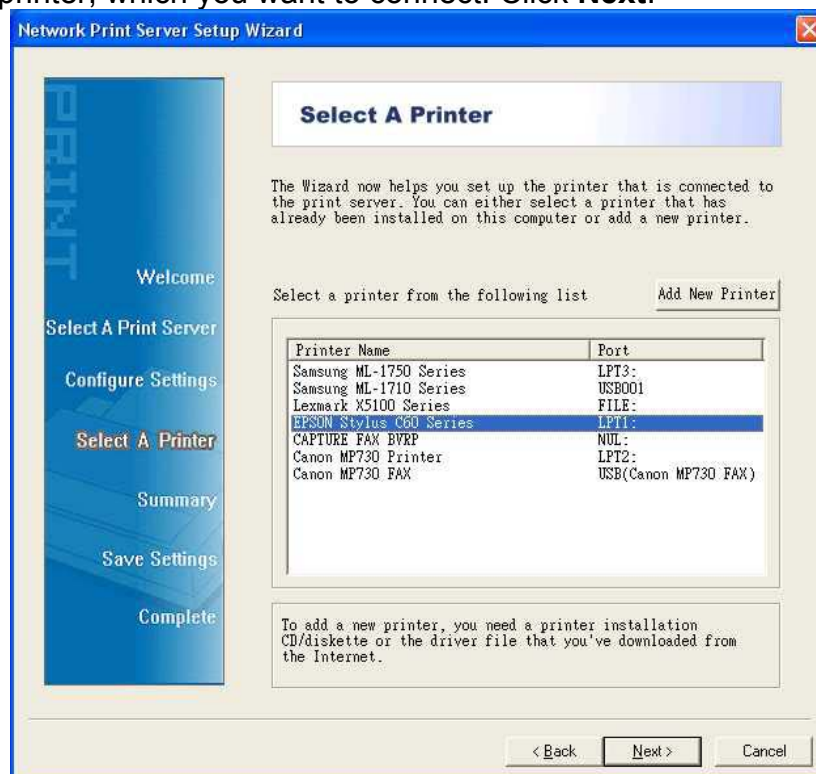
8. Setup program will display the summary of your setting. Click **Next**.
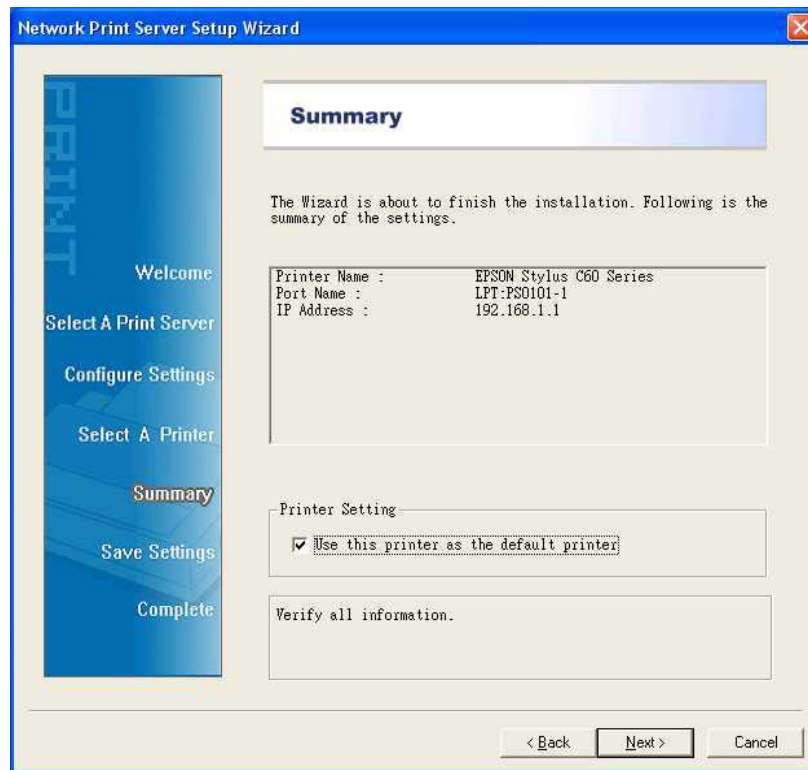
9. Installation complete. Click **Finish**.
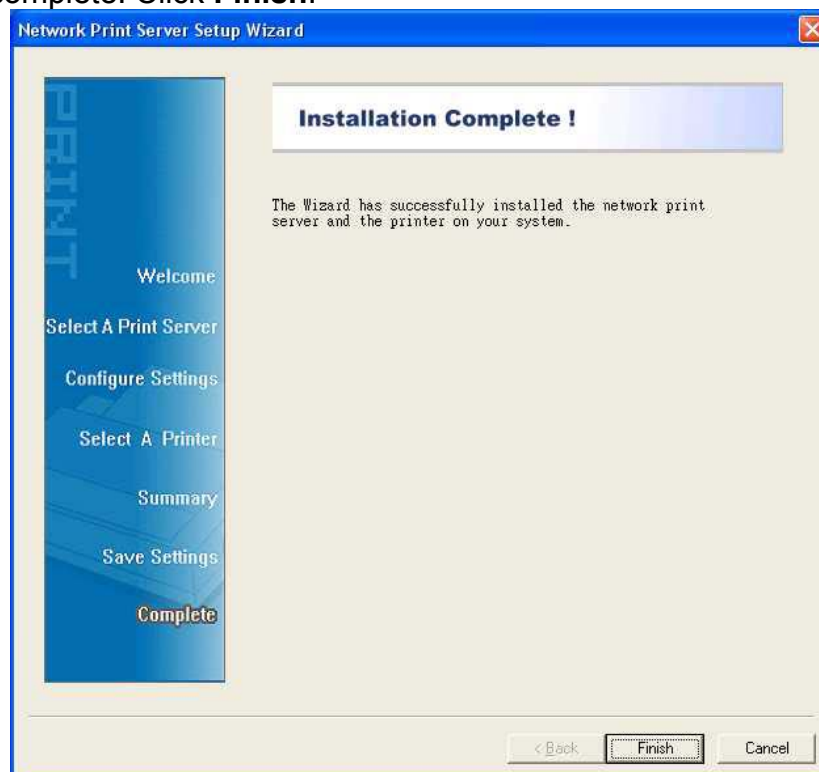
Windows NT LPR Port Installation

1. Click **Start**, point to **Settings**, and select **Printer**.

2. Run **Add Printer**.

3. The Add Printer Wizard screen will appear, Select **My Computer** and click **Next**.

4. Click **Add Port**.

5. From the Printer Ports box as shown in the following picture, select the **LPR Port**.
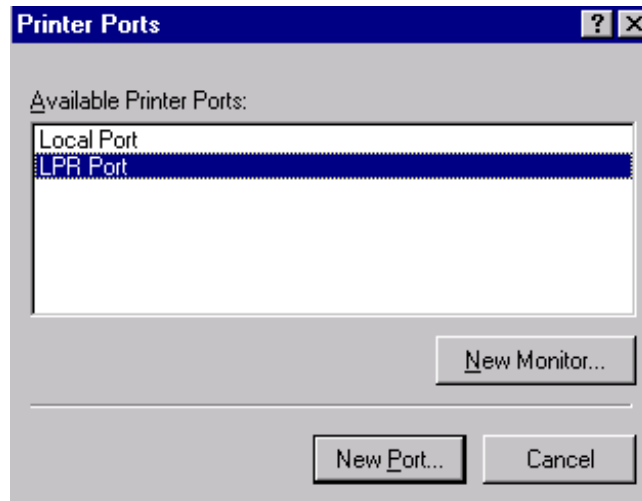
6. The Add LPR compatible printers box will then appear as shown in the following picture. Type in the router's IP address in the *Name or address of server providing lpd* box.

7. In the *Name of printer or print queue on that server* box, type in a printer name, for example, lp1. Click **OK**.

8. In the Printer Ports box, select **Close**.

9. Click **Next**.

10. Select the appropriate printer manufacturer and printer type list and click **Next**.

11. Select **Shared**. Type in a new **Share Name** or leave it in default and click **Next**.

12. A message reading, "After your printer is installed, Windows can print a test page so you can confirm that the printer is set up properly. Select **Yes (Recommended)** and click **Finish**

13. Done.

Windows 2000/XP Standard TCP/IP Port Installation

1. Click **Start**, point to **Settings**, and select **Printer**.

2. Run **Add a printer**, Click **Next**.

3. The Add Printer Wizard screen will appear, Select **Local Printer** and click **Next**.

4. From the type of **Create a new port** box as shown in the following picture, select the **Standard TCP/IP Port**, Click **Next** and **Next**.
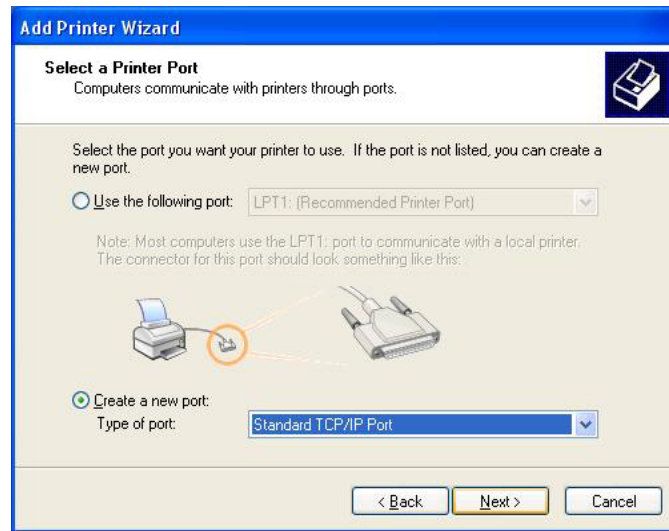
5. The **Add Standard TCP/IP Printer Port Wizard** box will then appear as shown the picture as below, and type in the router's IP address in the **Printer Name or IP Address** box, and you can change the **Port Name (optional).** Click **Next**.
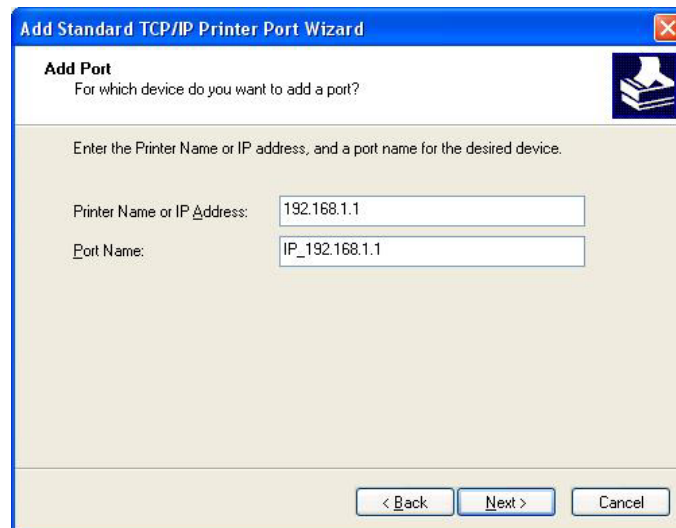
In the **Add Standard TCP/IP Printer Port Wizard** box as shown in the following picture, select **Custom**, Click **Settings** button.

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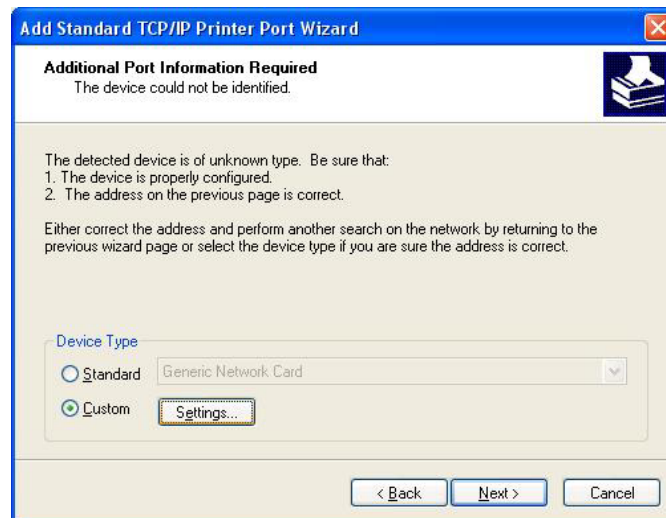
6. In the **Configure Standard TCP/IP Port Monitor** box as shown in the following picture, select **LPR** from Protocol, type in a queue name: **lp1** for Parallel Port (Port 1) or **lp2** for USB Port (Port 2).

7. Click **OK**, and **Next**.
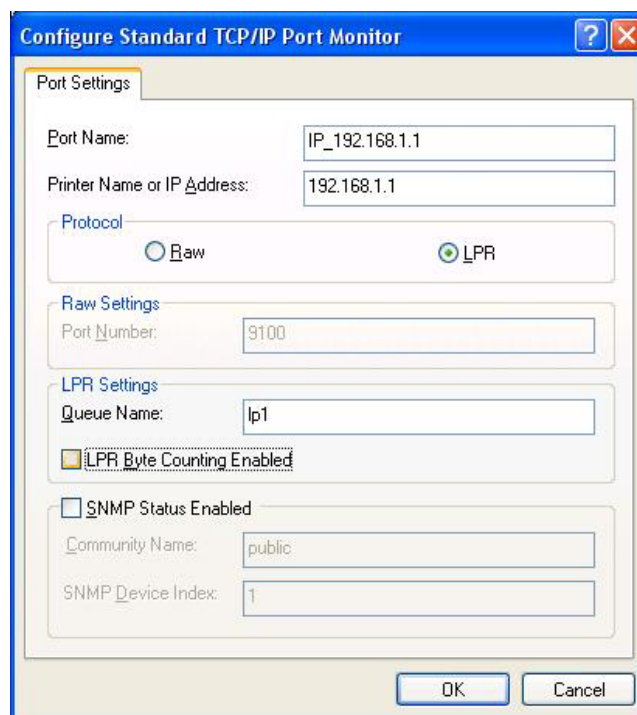
Note: *Please DO NOT type any other name than lp1, lp2 in this step.*

8. Click **Finish**.

9. Select the appropriate printer manufacturer and printer type list and click **Next**.

10. Type in a new **Printer name** or leave it in default, and click **Next** button.

11. A message reading, "To confirm that the printer is installed properly, you can print a test page". Select **Yes (Recommended)** and click **Next**.

12. Click **Finish**.

13. Done.

Windows SMB Printing

1. Click **Print Server Setup** in the top column, and the following box will appear.

Print Server's Settings

This setup page allows you to configure the settings of the print server.

Device Name For Windows Network	
Name :	Router931201

Workgroup Name For Windows Network	
Name :	Workgroup

Shared Names	
Printer 1 (Parallel Port):	OKI_391
Printer 2 (USB Port) :	

Bi-Directional Communication	
Printer 1 (Parallel Port only) :	Auto Detect

Apply   Reset

2. Assume your computers use the "**WORKGROUP**" as the SMB workgroup name in Windows. Please assign the same SMB name to your print server. If print server uses the different SMB name from computers', the SMB printing won't active. And you have to assign a name to the print server's port, which connects your printer. (EX: OKI_391)

3. Now you can find the print server from the SMB workgroup of Windows. Then, double click it.
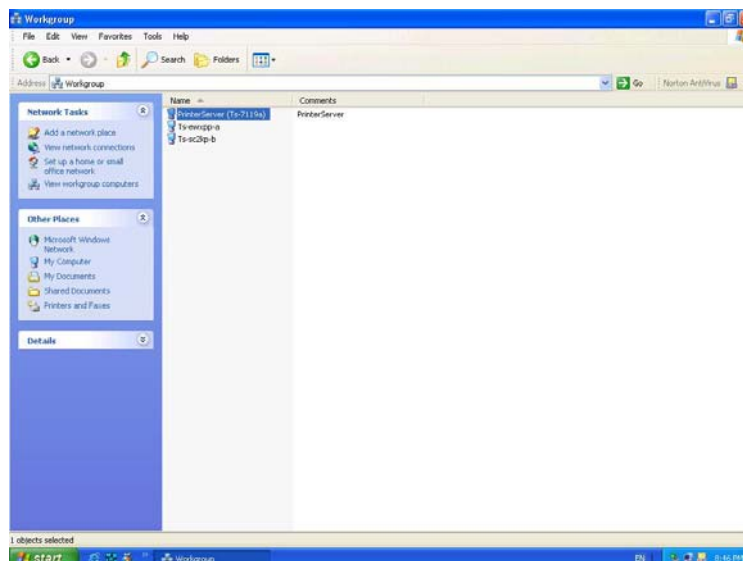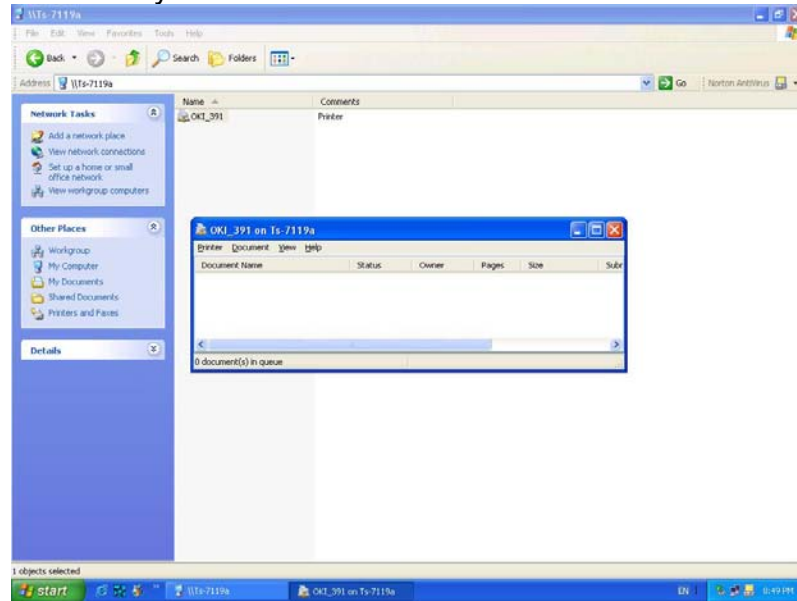
4. Double click it again.
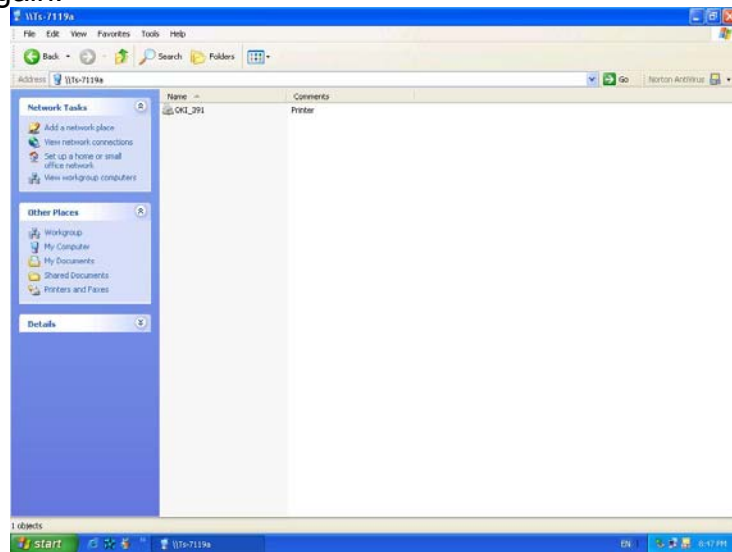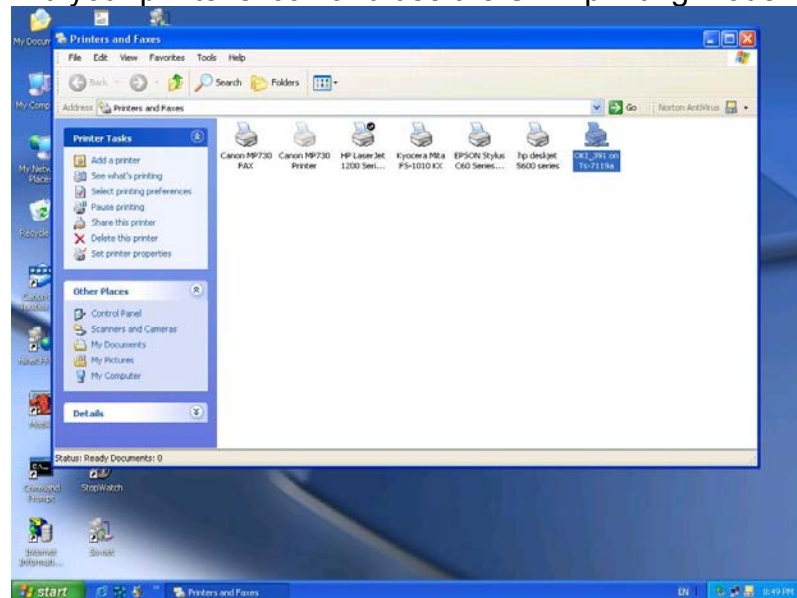

5. Now you have to install the printer's driver.
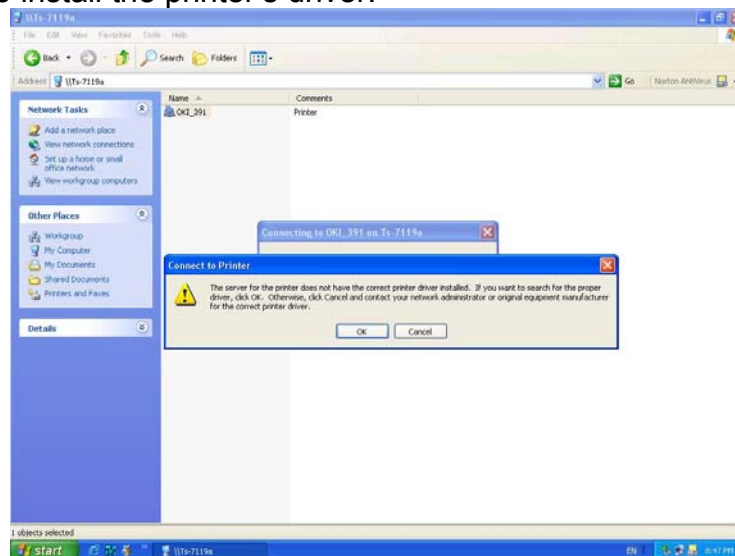
6. Choose it from the "Add Printer Wizard".
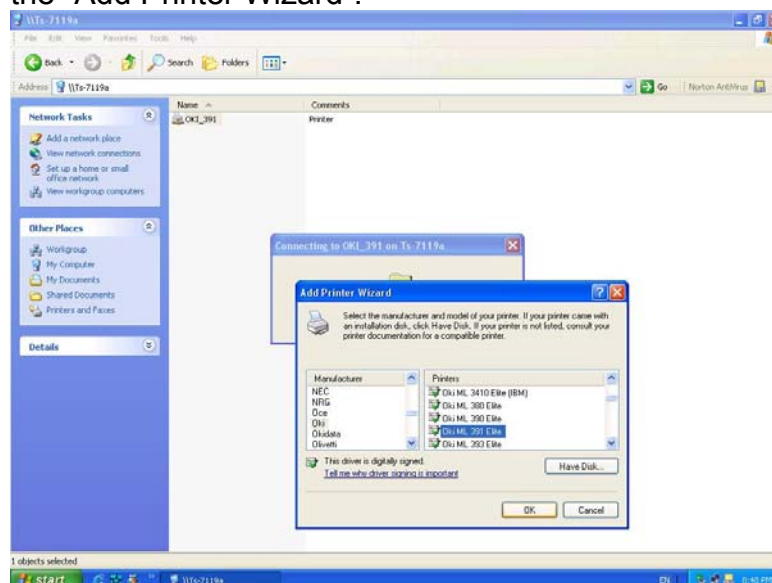
7. Install printer successfully.

8. Now, you can find your printer's icon and use the SMB printing mode.
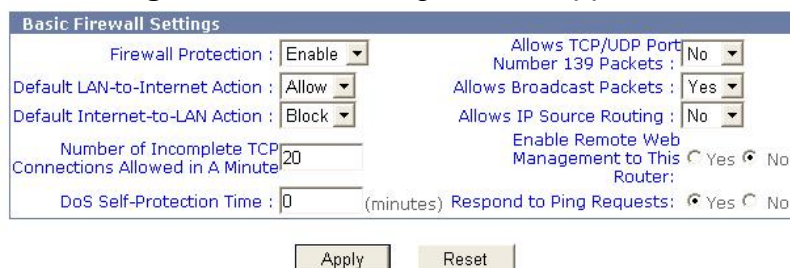
6.Firewall Configuration

Overview

An Internet firewall allows approved traffic in and out according to a predetermined plan. A firewall is a safeguard security mechanism that provides protection between LAN and WAN. It protects the intranet from intrusion by outsides and hackers, thus providing a secure environment for users. The Broadband Firewall Router provides a number of functions to user, including:

Basic Setting

Follow the procedure below to setup the Broadband Firewall Router's Basic Setting.

1. Click **Advanced Settings** in the top column. Then click **Firewall Setup**.

2. Click "**Basic Setting**", and the following box will appear.

3. If you want to start up the firewall, you must choose "**Yes**" in "**Firewall Protection**". The default is "**Disable**".

4. "Default LAN-to-Internet Action" allow you to use 'Internet service'. The default is "**Allow**".

5. "Default Internet-to-LAN Action" allow you to discard service from Internet. The default is "**Allow**".

6. "Number of Incomplete TCP Connections Allowed in A Minute" judges how many packets of incomplete TCP connection constitute an attack. The default is "**20**" packets.

7. "DoS Self-Protection Time" could protect your network. If somebody attacks your network, the Broadband Firewall Router will lock up. The default time is "**0 minute**".

8. "Allows TCP/UDP Port Number 139 Packets" allows for TCP/UDP port 139 by-pass. The default is "**No**".

9. "Allows Broadcast Packets" allows for broadcast packets by-pass. The default is "**Yes**".

10. "Allows IP Source Routing" could protect against a hacker using another IP to attack your network. The default is "**No**".

11. "Enable Remote Web Management to this Router" default is "**No**".

12. "Respond to Ping Requests" default is "**No**".

13. Click **Apply**.

14. The Broadband Firewall Router's Basic Setting is now in place.

LAN to Internet (WAN) Access Rule

Broadband Firewall Router could be according to administrator's request to create LAN to WAN Access Rules. You could follow the procedure to setup it.

1. Click **Advanced Settings** in the top column. Then click **Firewall Setup**.

2. Click "**Access Rules**", and select the direction LAN →Internet (WAN), then it will appear a picture as below.

3. Type into the Private IP Address Group's name (LAN IP).

4. Type into the Internet IP Address Group's name (WAN IP).

5. Select the Service Group's name (Port number) from LAN to Internet (WAN).

6. Select Scheduling to your pre-define name.

7. Select Action to "**Allow**" or "**Deny**".

8. You want to record the "**Log**" or not.

9. Click "**Add**".

10. The setup is now completed.

Internet (WAN) to LAN Access Rule

Broadband Firewall Router could be according to administrator's request to create WAN to LAN Access Rules. You could follow the procedure to setup it.

1. Click **Advanced Settings** in the top column. Then click **Firewall Setup**.

2. Click "**Access Rules**", and select the direction Internet (WAN) → LAN, then it will appear a picture as below.

3. Type into the Internet IP Address Group's name (WAN IP).

4. Type into the Private IP Address Group's name (LAN IP).

5. Select the Service Group's name (Port number) from Internet (WAN) to LAN.

6. Select Scheduling to your pre-define name.

7. Select Action to "**Allow**" or "**Deny**".

8. You want to record the "**Log**" or not.

9. Click "**Add**".

10. The setup is now completed.

URL Blocking

The Broadband Firewall Router can be used to restrict users browsing the Home Page. You can fill in the URL or key word. To setup this restriction, please use the following procedure:

1. Click **Advanced Settings** in the top column. Then click **Firewall Setup**.

2. Click "**Content Filtering**", and the box pictured below will appear.

3. If you want to start up the feature, you must choose "**Yes**" in "**Enable URL Blocking**". The default is "**No**".

4. Fill in the **URL** or **Key Word** that you want to restrict access to.

5. Webpage Content Filtering:

   A. Active X: Allows or disallows the Active X packet pass-through.
   B. Java: Allows or disallows the Java packet pass-through.
   C. Cookies: Allows or disallows the Cookie packet pass-through.
   D. Web Proxy: Allows or disallows the Proxy packet pass-through.

6. Click "**Apply**".

7. URL Blocking is now in place.

E-mail Alerts

The Broadband Firewall Router can setup the administrator's e-mail address and the Mail server's IP. If a hacker attacks your network, the Firewall Router can automatically send an e-mail to the administrator. Use the following procedure to setup this facility:

1. Click **Advanced Settings** in the top column. Then click **Firewall Setup**.

2. Click "**E-mail Alerts**", and the box pictured below will appear.

3. Select "**Yes**" in '**Enable E-mail Alerts'**.

4. Fill in administrator's e-mail.

5. Fill in SMTP mail server's IP address.

6. Click "**Apply**".

7. The facility is now set up.

7. Upgrading the Broadband Firewall Router

Overview

As new firmware for the Broadband Firewall Router is released in the future, you can upgrade your Broadband Firewall Router. The upgrade procedure will use the DOS-based TFTP program on Windows NT/2000/XP. For Windows 95/98/Me and NT/2000/XP, we provide user upgrade firmware via your browser.

Upgrading the Router in Windows NT/2000/XP (using TCP/IP)

1. Ensure that upgrade BIN file is located in your current working directory.

2. At the NT/2000/XP's DOS prompt, type "**tftp –i <the Firewall router's IP address> put <upgrade filename>**".

3. Wait for the "**transfer successful**" message.

4. The upgrade is now completed.

Upgrading the Router in Windows 95/98/Me & NT/2000/XP (using Browser)

1. Type the default IP address (192.168.1.1) in the **Location box** and press **Enter**.

2. The **authentication dialog** for the Broadband Firewall Router then appears. Type the default administration user name, **admin**, and type the default configuration password **0000** and click the **OK** button as shown in following figure.

3. Click **Basic Settings** in the top column. Then click **Tool**.

4. Select "**Firmware Upgrade**".

This page allows you to upgrade the firmware of the router from this Web browser.Please click Browse button to select the file and press the Upgrade button. After the firmware upgrade is complete, the router reboots itself and automatically brings you back to the Home Page.

Load A Firmware : [_____] [Browse...]

[Upgrade] [Reset]

5. Click the "**Browse**" button, and pick the firmware file.

6. Click the "**Upgrade**" button.

7. The upgrade is now completed.

Upgrading the Router on UNIX (using TCP/IP)

1. Log in as root.

2. Ensure that upgrade BIN file is located in your current working directory.

3. Type "**tftp <the Firewall router's IP address>**".

4. At the tftp prompt, type "**get upgrade**".

5. Change to *binary* transfer mode.

6. At the tftp prompt, type "**put <upgrade filename>**".

7. Wait for the file transfer to finish.

8. Quit out of tftp.

9. The upgrade is now completed.

8. Troubleshooting

Problem A

IP Address Conflicts

If you start up your Windows 95/98/Me or Windows NT/2000/XP computer and the following message dialog box shows — indicating an IP address conflict — please follow the directions given below.
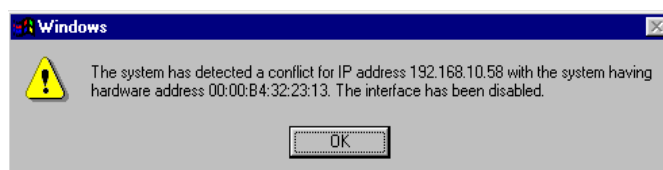
Solution

Windows 95/98/Me

1. Click **Start**, point to **Run**, and type **winipcfg**. When done, click the **Run** button.

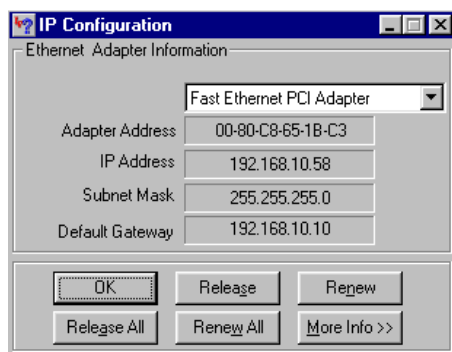2. The Winipcfg screen will then appear as shown in Figure A.

Figure A

3. Click the **Release All** button. The Winipcfg will then release your current TCP/IP configuration as shown in Figure B.
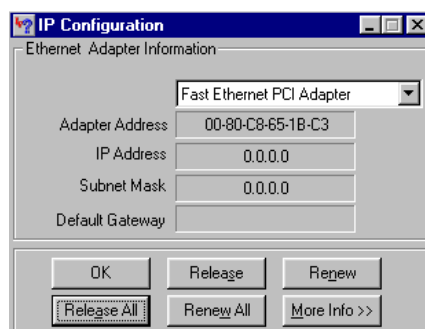

Figure B

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4. Click OK.

5. Done.

Windows NT/2000/XP

1. At your NT's DOS prompt, type **ipconfig /release** and press [*Enter*].

2. Next, type **ipconfig /renew** and press [*Enter*].

3. The conflict should now be resolved.

Appendix

Loading the Default Values

Once you have configured the Broadband Firewall Router (see Chapters 3 and 4), the configuration settings are saved in the Broadband Firewall Router's internal memory. However, you can manually reset them to factory defaults by using the web browser or by following the steps given below:

1. Power off and on the Broadband Firewall Router.

2. After power on, the Status indicator will flash 1 times. Now hold down the reset button on the Broadband Firewall Router. The red LED marked **Status** will give 1 short flash.

3. The factory defaults are now loaded.

After loading the default values, you might need to re-configure the Broadband Firewall Router by following the steps in Chapter 3. Please see Chapter 3 for details.