

# **4-port Router**

## **User's Manual**

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# I. Introduction

This 4-port router is a multi-function device providing the following services:

- **Shared Broadband Internet Access** for all LAN users.
- **4-Port Switching Hub** for 10BaseT or 100BaseT connections.

## Wireless Router Features

The 4-Port Router incorporates many advanced features, carefully designed to provide sophisticated functions while being easy to use.

### Internet Access Features

- **Shared Internet Access.** All users on the LAN can access the Internet through the WAN, using only a single external IP Address. The local (invalid) IP Addresses are hidden from external sources. This process is called NAT (Network Address Translation).
- **DSL & Cable Modem Support.** The 4-Port Router has a 10/100BaseT Ethernet port for connecting a DSL or Cable Modem. All popular DSL and Cable Modems are supported.
- **PPPoE Support.** The Internet (WAN port) connection supports PPPoE (PPP over Ethernet), Unnumbered IP with PPPoE & Multiple PPPoE are also supported.
- **Dynamic IP Address.** On the Internet (WAN port) connection, the 4-port Router support Dynamic IP Address (IP Address is allocated on connection) .

### Advanced Internet Functions

- **Communication Applications.** Support for Internet communication applications, such as interactive Games, Telephony, and Conferencing applications, which are often difficult to use when behind a Firewall, is included.
- **Special Internet Applications.** Applications which use non-standard connections or port numbers are normally blocked by the Firewall. The ability to define and allow such applications is provided, to enable such applications to be used normally.
- **DDNS Support.** DDNS (Dynamic DNS) allows Internet users to connect to Virtual Servers on your LAN using a domain name, even if your IP address is not fixed.
- **DMZ.** One PC on your local LAN can be configured to allow unrestricted 2-way communication with Servers or individual users on the Internet.
- **URL Filter.** Use the URL Filter to block access to undesirable Web sites by LAN users.
- **Internet Access Log.** See which Internet connections have been made.

### LAN Features

- **4-Port Switching Hub.** The 4-port Router incorporates a 4-port 10/100BaseT switching hub, making it easy to create or extend your LAN.
- **DHCP Server Support.** Dynamic Host Configuration Protocol provides a dynamic IP address to PCs and other devices upon request. The 4-port Router can act as a **DHCP Server** for devices on your local LAN.

### Configuration & Management

- **Easy Setup.** Use your WEB browser from anywhere on the LAN for configuration.
- **Remote Management.** The 4-port

- Router can be managed from any PC on your LAN. And, if the Internet connection exists, it can also (optionally) be configured via the Internet.
- **Network Diagnostics.** You can use the 4-port Router to perform a *Ping*.
- **UPnP Support.** UPnP (Universal Plug and Play) allows automatic discovery and configuration of the 4-port Router. UPnP is supported by Windows ME, XP, or later.

## Security Features

- **Password - protected Configuration.** Optional password protection is provided to prevent unauthorized users from modifying the configuration data and settings.
- 
- **NAT Protection.** An intrinsic side effect of NAT (Network Address Translation) technology is that by allowing all LAN users to share a single IP address, the location and even the existence of each PC is hidden. From the external viewpoint, there is no network, only a single device - the 4-port Router.
- **Protection against DoS attacks.** DoS (Denial of Service) attacks can flood your Internet connection with invalid packets and connection requests, using so much bandwidth and so many resources that Internet access becomes unavailable. The 4-port Router incorporates protection against DoS attacks.

## Package Contents

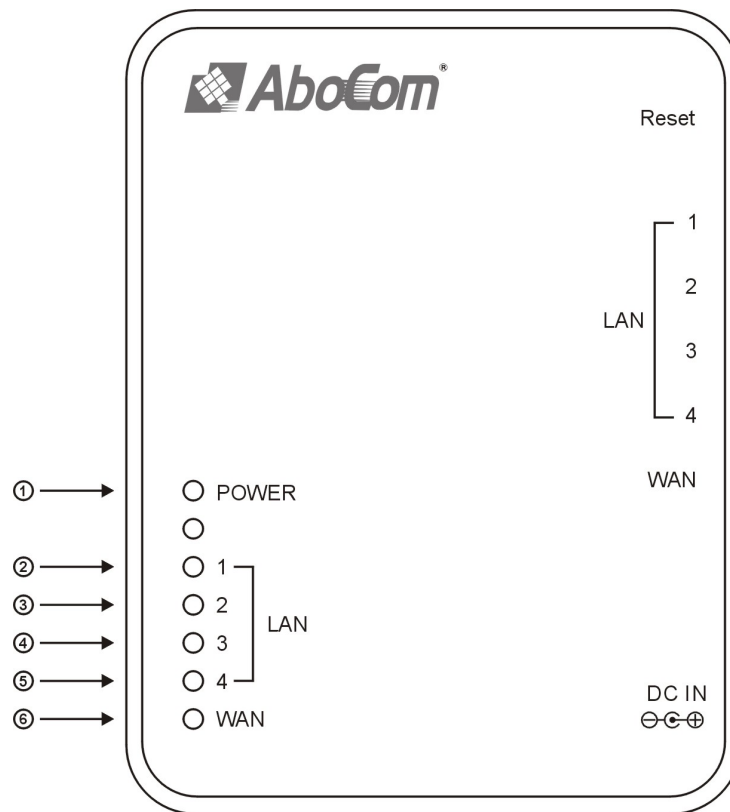
The following items should be included:

- The 4-port Router Unit
- Power Adapter DC 7.5V/2A
- Quick Installation Guide
- CD-ROM containing the on-line manual and QIG.

If any of the above items are damaged or missing, please contact your dealer immediately.

## Physical Details

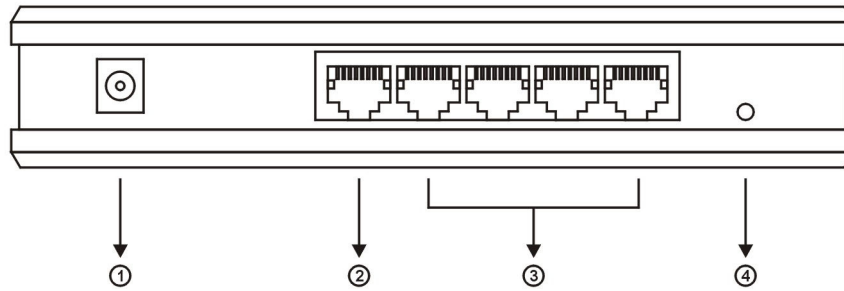
### Front-mounted LEDs



**Figure 1: Front Panel**

|         |                  |  |
|---------|------------------|--|
| ①       | <b>Power LED</b> | <b>On</b> - Power on.<br><b>Off</b> - No power.  |
| ②~<br>⑤ | <b>LAN LEDs</b>  | <b>On</b> - Corresponding LAN (hub) port has Ethernet connection.<br><b>Off</b> - Corresponding LAN (hub) port has no Ethernet connection.   |
| ⑥       | <b>WAN LED</b>   | <b>On</b> - Connection to the Broadband Modem attached to the WAN (Internet) port is established.<br><b>Off</b> - No connection to the Broadband Modem.<br><b>Flashing</b> - Data is being transmitted or received via the WAN port. |

## Rear Panel



**Figure 2: Rear Panel**

|          |                                    |  |
|----------|------------------------------------|--|
| <b>1</b> | <b>Power port</b>                  | Connect the supplied power adapter here.   |
| <b>2</b> | <b>Internet port (10/100BaseT)</b> | Connect a DSL or Cable Modem here. If your modem came with a cable, use the supplied cable. Otherwise, use a standard LAN cable.   |
| <b>3</b> | <b>10/100BaseT LAN port</b>        | Use standard LAN cables (RJ45 connectors) to connect your PCs to these ports.<br><br>If required, any port can be connected to another hub. Any LAN port will automatically function as an "Uplink" port when necessary. |
| <b>4</b> | <b>Reset button</b>                | Press this button and release it to reboot this device.<br><br>Press this button for 3 seconds and release it to reboot this device and reset it to the <b>factory default setting</b> .                                 |

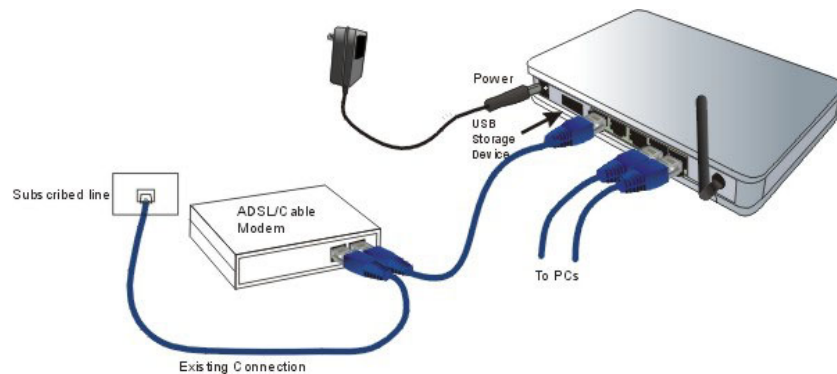
# 2. Installation

*This Chapter covers the physical installation of the 4-port Router.*

## Requirements

- Network cables. Use standard 10/100BaseT network (UTP) cables with RJ45 connectors.
- TCP/IP protocol must be installed on all PCs.
- For Internet Access, an Internet Access account with an ISP, and either of a DSL or Cable modem (for WAN port usage)
- To use the 4-port Router, all Wireless devices must be compliant with the IEEE802.11g specifications.

## Cable Connection



**Figure 3: Installation Diagram**

### 1. Choose an Installation Site

Select a suitable place on the network to install the 4-port Router.  
Ensure the 4-port Router and the DSL/Cable modem are powered OFF.

### 2. Connect LAN Cables

Use standard LAN cables to connect PCs to the Switching Hub ports on the 4-port Router.  
Both 10BaseT and 100BaseT connections can be used simultaneously.

If required, connect any port to a normal port on another Hub, using a standard LAN cable.  
Any LAN port on the 4-port Router will automatically function as an "Uplink" port when required.

### 3. Connect WAN Cable

Connect the DSL or Cable modem to the WAN port on the 4-port Router. Use the cable supplied with your DSL/Cable modem. If no cable was supplied, use a standard cable.

### 4. Power Up

- Power on the Cable or DSL modem.



- Connect the supplied power adapter to the 4-port Router and power up.  
Use only the power adapter provided. Using a different one may cause hardware damage

#### **5. Check the LEDs**

- The *Power* LED should be ON.
- For each LAN (PC) connection, the LAN LED should flash (provided the PC is also ON.)
- The *WAN* LED should be ON.

# 3. Configuration

*This Chapter provides Setup details of the 4-port Router.*

## Overview

This chapter describes the setup procedure for:

- Internet Access
- Management ( user account/ password, Network Time Protocol, firmware)
- Advanced Setup (PPPoE, DHCP, UPnP, Dynamic DNS, Access Control, Server Port, special application, DMZ, URL Filter, Ping, DoS, UDP Block, ALG, Static Router, and EventLog)

PCs on your local LAN may also require configuration. For details, see *Chapter 4 - PC Configuration*.

## Configuration Program

- The 4-port Router contains an HTTP server. This enables you to connect the router, and configure it by using your web browser.

### Preparation

Before attempting to configure the 4-port Router, please ensure that:

- Your PC can establish a physical connection to the 4-port Router. The PC and the 4-port Router must be directly connected (using the Hub ports on the 4-port Router) or on the same LAN segment.
- The 4-port Router must be installed and powered ON.
- If the 4-port Router's default IP Address (192.168.1.254) is already used by another device, the other device must be turned OFF until the 4-port Router is allocated a new IP Address during configuration.

### Using UPnP

If your Windows system supports UPnP, an icon for the 4-port Router will appear in the system tray, notifying you that a new network device has been found, and offering to create a new desktop shortcut to the newly-discovered device.

- Unless you intend to change the IP Address of the 4-port Router, you can accept the desktop shortcut.
- Whether you accept the desktop shortcut or not, you can always find UPnP devices in *My Network Places* (previously called *Network Neighborhood*).
- Double click the icon for the 4-port Router (either on the Desktop, or in *My Network Places*) to start the configuration.

### Using your Web Browser

To establish a connection from your PC to the 4-port Router:

1. After installing the 4-port Router in your LAN, start your PC. If your PC is already running, restart it.
2. Start your WEB browser.
3. In the *Address* box, enter "HTTP://" and the IP Address of the 4-port Router, as in this example, which uses the 4-port Router's default IP Address:

HTTP://**192.168.1.254**




**Figure 4: Login Dialog**

1. Type “**admin**” into the User Name field, as set on the Enter Network Password screen above.
2. Enter the password for the 4-port Router, as set on the *Password* screen above. If no password has been set (or the first time entry), leave the Password field blank and enter OK.

#### **Navigation & Data Input**

- Use the menu bar on the top of the screen for navigation.
- Changing to another screen without clicking "Save" does NOT save any changes you may have made. You must "Save" before changing screens or your data will be ignored.

|   |   |
|---|---|
|  | <p><b>If you can't connect</b></p> <p>If the 4-port Router does not respond, check the following:</p> <ul style="list-style-type: none"> <li>• The 4-port Router is properly installed, LAN connection is OK, and it is powered ON. You can test the connection by using the "Ping" command: <ul style="list-style-type: none"> <li>• Open the MS-DOS window or command prompt window.</li> <li>• Enter the command:<br/> <pre>ping 192.168.1.254</pre> <p>If no response is received, either the connection is not working, or your PC's IP address is not compatible with the 4-port Router's IP Address. (See next item.)</p> </li> </ul> </li> <li>• If your PC is using a fixed IP Address, its IP Address must be within the range from 192.168.1.1 to 192.168.1.253 to be compatible with the 4-port Router's default IP Address of 192.168.1.254. Also, the <i>Network Mask</i> must be set to 255.255.255.0. See <i>Chapter 4 - PC Configuration</i> for details on checking your PC's TCP/IP settings.</li> <li>• Ensure that your PC and the 4-port Router are on the same network segment. (If you don't have a router, this must be the case.)</li> <li>• Ensure you are using the wired LAN interface. The Wireless interface can only be used if its configuration matches your PC's wireless settings.</li> </ul> |
|---|---|

## Setup Wizard

After you log in the configuration utility, you can use the Setup Wizard to setup the 4-port Router and have the Internet access in a snap. To set up through the Wizard, please note:

- You need to know the type of Internet connection service used by your ISP. Check the data supplied by your ISP.
- The common connection types are explained in the tables below.

### Common Connection Types

#### Cable Modems

| Type                      | Details  | ISP Data required   |
|---------------------------|--|---|
| Dynamic IP Address (DHCP) | Your IP Address is allocated automatically, when you connect to you ISP. | Usually, none.<br>However, some ISP's may require you to use a particular Hostname, Domain name, or MAC (physical) address.           |
| Static (Fixed) IP Address | Your ISP allocates a permanent IP Address to you.                        | IP Address allocated to you.<br>Some ISP's may also require you to use a particular Hostname, Domain name, or MAC (physical) address. |

#### DSL Modems

| Type                      | Details   | ISP Data required            |
|---------------------------|---|------------------------------|
| Dynamic IP Address (DHCP) | Your IP Address is allocated automatically, when you connect to you ISP.                      | None.                        |
| Static (Fixed) IP Address | Your ISP allocates a permanent IP Address to you.   | IP Address allocated to you. |
| PPPoE                     | You connect to the ISP only when required. The IP address is usually allocated automatically. | User name and password.      |

# Status Screen

Use the *Status* link on the main menu to view this screen.

Setup Wizard

**STATUS** MANAGEMENT ADVANCED FIREWALL

**System**

|                  |                                 |
|------------------|---------------------------------|
| Product Model    | Router                          |
| Firmware Version | 1.1.0.19r , 2007/05/28 18:57:45 |
| NAT              | Enable                          |

**LAN**

|             |                   |
|-------------|-------------------|
| IP Address  | 192.168.1.254     |
| Subnet Mask | 255.255.255.0     |
| MAC Address | 00:E0:98:00:00:13 |
| DHCP Server | Enable            |

**WAN**

|                   |                   |
|-------------------|-------------------|
| Connection Method | DHCP Client       |
| IP Address        | 192.168.200.45    |
| Subnet Mask       | 255.255.255.0     |
| Default Gateway   | 192.168.200.254   |
| DNS IP Address    | 192.168.200.254   |
| MAC Address       | 00:E0:98:00:00:11 |

ReFresh

## Management Screen

In the Management screen, you can:

- change the user account and its password for managing this device;
- enter your time zone and NTP ( network time protocol) servers;
- upgrade the firmware of this device.

### User management

The default user account for managing this device is **admin**, password is not required. It is recommended that you change this default setting to other to have better protection of the settings saved in this 4-port router.

STATUS MANAGEMENT ADVANCED FIREWALL

Setup Wizard User Management Time Zone Management Firmware Management

### User Management

Account  (Up to 15 characters)

Password  (Up to 15 characters)

Confirm

Save

| User Management |  |
|-----------------|--|
| <b>Account</b>  | <ul style="list-style-type: none"><li>• Enter the user name for managing this device. Maximum Input is 15 alphanumeric characters.</li></ul> |
| <b>Password</b> | <ul style="list-style-type: none"><li>• Enter the password. Maximum Input is 15 alphanumeric characters.</li></ul>                           |
| <b>Confirm</b>  | <ul style="list-style-type: none"><li>• Re-enter the password to confirm.</li></ul>  |

## Time Zone Management

You can set your system time according to your time zone. Click ▼ to select your Time zone.

The screenshot shows a web interface for Time Zone Management. At the top, there are navigation tabs: STATUS, MANAGEMENT, ADVANCED, and FIREWALL. Below these are sub-tabs: Setup Wizard, User Management, Time Zone Management (selected), and Firmware Management. The main heading is "Time Zone Management". The form contains the following fields:

- Time Zone: A dropdown menu with "Asia/Taipei" selected.
- NTP Server 1: A text input field containing "watch.stdtime.gov.tw".
- NTP Server 2: A text input field containing "time-b.nist.gov".
- NTP Server 3: A text input field containing "time.nist.gov".
- Time: A text field displaying "Fri Jul 6 11:11:51 2007 (GMT +08:00)".

At the bottom of the form are two buttons: "Save" and "ReFresh".

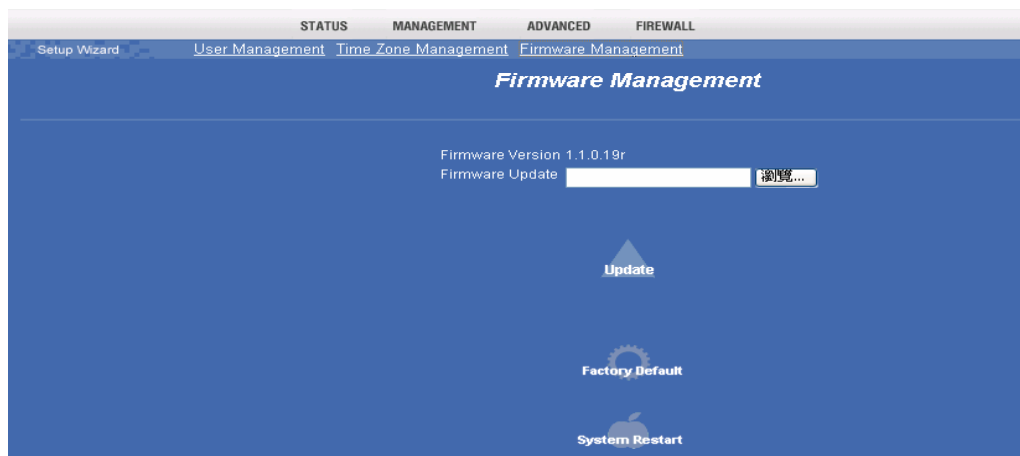
### Time Zone Management

|                     |  |
|---------------------|--|
| <b>Time Zone</b>    | <ul style="list-style-type: none"><li>Click the down arrow ▼ to select your time zone.</li></ul>   |
| <b>NTP Server #</b> | <ul style="list-style-type: none"><li>You can enter the Internet addresses of three NTP (Network Time Protocol) Servers for your system to synchronize with.</li></ul> |



## Firmware Management

The firmware (software) in the 4-port Router can be upgraded by using your Web Browser.



| Firmware Management    |   |
|------------------------|---|
| <b>Firmware Update</b> | <ul style="list-style-type: none"><li>• You must first download the upgrade file to your PC, then enter the file name with the right path in the field or click <b>Browse</b> to direct to the file location.</li><li>• Press <b>Update</b> when file has been uploaded and directed.</li></ul> |
| <b>Factory Default</b> | <ul style="list-style-type: none"><li>• Press to restore the 4-port Router to its factory default settings.</li></ul>   |
| <b>System Restart</b>  | <ul style="list-style-type: none"><li>• Press to reboot this 4-port Router.</li></ul>   |

## Advanced Screen

### PPPoE

STATUS MANAGEMENT **ADVANCED** FIREWALL

Setup Wizard PPPoE DHCP Server UPnP DDNS ServerPort SpecialApplication Ping Static Route Eventlog

PPPoE Type PPPoE

#### PPPoE Configuration

Login ID  (Up to 31 characters)

Password  (Up to 31 characters)




Confirm  (Up to 31 characters)

Service Name  (Up to 31 characters)

MTU

Dial-On-Demand  Silent Timeout  seconds

Auto Reconnect  Dial Status Disconnect

| PPPoE                                  |  |
|--|--|
| <b>Login ID</b>                        | Maximum input is 32 alphanumeric characters (case sensitive).  |
| <b>Password</b>                        | Maximum input is 32 alphanumeric characters (case sensitive).  |
| <b>Service Name</b>                    | For identification purpose. Maximum input is 32 alphanumeric characters (case sensitive). If it is required, your ISP will provide you with the information.   |
| <b>MTU (Maximum Transmission Unit)</b> | <p>Click the down arrow ▼ to select the most appropriate MTU (Maximum Transmission Unit, namely the maximum packet size, the default value is 1492) for your application.</p> <p>Reducing the packet size can help connecting to certain web sites or speeding up packet transfer rate. If the incorrect selection is entered, you may not be able to open certain web sites.</p>  |
| <b>Dial on demand</b>                  | <p>Configure this device to disconnect the PPPoE connection when there is no activity for a predetermined period of time (set in the following Silent timeout field).</p> <ul style="list-style-type: none"> <li>▪ <b>Silent timeout</b> : Enter the number for the time (unit is second) To keep the line always connected, set 0 for the silent timeout.</li> </ul>  |
| <b>Auto-reconnect</b>                  | <p>Check to enable auto-reconnected with PPPoE line. This function allows the device to automatically reconnect to your ISP when there is a request being sent.</p> <p>When you enable this function, the “<b>Dial on demand</b>” will be automatically enabled too.</p> <p>To enable “<b>Auto-reconnect</b>”, you will also have to set “silent timeout” to 0 or just leave the field blank, otherwise the following warning message appears.</p> |



## Unnumbered PPPoE

The unnumbered PPPoE enables users to configure a range of IP addresses but only need to dial PPPoE once. When an IP is received at gateway, driver uses the netmask (previously configured in the unnumbered PPPoE web page) to configure the subnet to ASIC. At the server side, users must delete the corresponding host route and add a new network route so packets can be correctly routed to gateway.

The screenshot shows the 'Unnumbered PPPoE Configuration' page. At the top, there are navigation tabs: STATUS, MANAGEMENT, ADVANCED, and FIREWALL. Below these are sub-tabs: Setup Wizard, PPPoE, DHCP Server, UPnP, DDNS, ServerPort, SpecialApplication, Ping, Static Route, and Eventlog. The main heading is 'Unnumbered PPPoE Configuration'. The configuration fields are as follows:

- Login ID: [ ] (Up to 31 characters)
- Password: [ ] (Up to 31 characters)
- Confirm: [ ] (Up to 31 characters)
- Service Name: [ ] (Up to 31 characters)
- MTU: 1492
- IP Address: [ ] [ ] [ ] [ ]
- Network Mask: 255.255.255.254
- NAPT:
- Dial-On-Demand:  Silent Timeout: 0 seconds
- Auto Reconnect:  Dial Status: Disconnect

## Unnumbered PPPoE

|                        |   |
|------------------------|---|
| <b>Login ID</b>        | Refer to the corresponding description for PPPoE.   |
| <b>Password</b>        |   |
| <b>Service Name</b>    |   |
| <b>MTU</b>             |   |
| <b>Dial on demand</b>  |   |
| <b>☉Auto-reconnect</b> |   |
| <b>IP Address</b>      | Enter the information provided by your ISP.   |
| <b>Subnet Mask</b>     |   |
| <b>NAPT</b>            | Check to enable the NAPT function so that LAN can use one set of IP address for internal traffic. |

## Multiple PPPoE

With Multiple PPPoE, you can logon two ISPs for concurrent Internet connection. The all packets that do not match the policy set in the non-default session will be routed to the default session, whereas packets match policy routes are routed to the non-default session.

The screenshot shows the configuration page for Multiple PPPoE. The 'PPPoE Type' is set to 'Multiple PPPoE'. The 'Default' session is set to 'PPPoE 0'. The configuration for 'Multiple PPPoE 0' includes: Login ID, Password, Confirm, Service Name, MTU (1492), LAN Type (NAPT), Unnumbered IP Address (0.0.0.0), Unnumbered Network Mask (255.255.255.254), Destination Network 1-4 (all NONE), Default (checked), Dial-On-Demand (unchecked), Silent Timeout (0 seconds), and Auto Reconnect (checked). The configuration for 'Multiple PPPoE 1' includes: Login ID, Password, Confirm, Service Name, MTU (1492), LAN Type (NAPT), Unnumbered IP Address (0.0.0.0), Unnumbered Network Mask (255.255.255.254), Destination Network 1-4 (all NONE), Default (unchecked), Dial-On-Demand (unchecked), Silent Timeout (0 seconds), and Auto Reconnect (checked). At the bottom, there are 'Save', 'Refresh', and 'Undo' buttons.

### Multiple PPPoE 0 Configuration

|                        |  |
|------------------------|--|
| <b>Default</b>         | Click the down arrow ▼ to select your default session  |
| <b>Login ID</b>        | Refer to the corresponding section described in PPPoE. |
| <b>Password</b>        |  |
| <b>Service Name</b>    |  |
| <b>MTU</b>             |  |
| <b>Dial on demand</b>  |  |
| <b>☉Auto-reconnect</b> |  |

| Multiple PPPoE 1 Configuration                         |   |
|--|---|
| <b>Login ID</b>  | Refer to the corresponding section described in PPPoE.  |
| <b>Password</b>  |   |
| <b>Service Name</b>                                    |   |
| <b>MTU</b>   |   |
| <b>Dial on demand</b>                                  |   |
| <input checked="" type="radio"/> <b>Auto-reconnect</b> |   |
| <b>LAN Type</b>  | Click the down arrow ▼ to select using <b>Unnumbered</b> or <b>NAPT</b> .   |
| <b>Unnumbered IP Address</b>                           | Provided by your ISP. Required only when you select <b>Unnumbered</b> to be your LAN type.  |
| <b>Unnumbered Subnet Mask</b>                          |   |
| <b>Destination Network 1~4</b>                         | <p>These fields are valid only when you select NAPT to be your LAN type.</p> <p><b>None:</b> No policy has been set for this session, which means all packets to all ports or domains are allowed to take this session when the default PPPoE (PPPoE 0) fails. Note that when the default session is functioning, all packets will be routed to default session.</p> <p><b>Port Range:</b> you can set a single port or use a hyphen to set a range of ports for policy, e.g. if you enter 80-90 in this field, it means all packets with destination to port 80-90 will be routed to this non-default session. .</p> <p><b>Domain:</b> you can set one single domain name for policy, e.g. if you enter yahoo.com in this field, it means all packets with destination to yahoo.com will be routed to this non-default session.</p> <p><b>UDP port :</b> you can set one single UDP or use a hyphen to set a range of UDP ports for policy.</p> <p><b>TCP port:</b> you can set one single TCP or use a hyphen to set a range of TCP ports for policy.</p> |

## DHCP

A **DHCP (Dynamic Host Configuration Protocol) Server** allocates a valid IP address to a **DHCP Client** (PC or device) upon request.

**DHCP Server Configuration**

DHCP Server Status  Enable

DHCP Server IP Pool Start IP 192 168 1 1

DHCP Server IP Pool End IP 192 168 1 20

**Save** **Undo**

**DHCP Client List**

| Hardware Address  | Assigned IP | Hostname        |
|-------------------|-------------|-----------------|
| 00:0E:A6:36:AE:F5 | 192.168.1.1 | 888tiger-769b59 |

| DHCP Server                         |  |
|-------------------------------------|--|
| <b>DHCP Server Status</b>           | <ul style="list-style-type: none"> <li>You can set to distribute IP address to local PCs by enabling this function.</li> </ul>   |
| <b>DHCP Server IP Pool Start IP</b> | <ul style="list-style-type: none"> <li>The range of IP addresses (from Start IP to End IP) decides the number of clients allowed for the assigned IP addresses. <i>Note that all the PCs on the same LAN should use the same subnet Mask.</i></li> </ul> |
| <b>DHCP Server IP Pool End IP</b>   |  |
| <b>Save</b>                         | <ul style="list-style-type: none"> <li>Press to save the new settings on the screen.</li> </ul>  |
| <b>Undo</b>                         | <ul style="list-style-type: none"> <li>Press to discard the data you have entered since last time you press <b>Save</b>.</li> </ul>  |

## UPnP

If your Windows system supports UPnP, and when UPnP is enabled, an icon for the 4-port Router will appear in the system tray, notifying you that a new network device has been found, and offering to create a new desktop shortcut to the newly-discovered device.



## UPnP

UPnP Service

- Check the box to enable the service.



## DDNS (Dynamic DNS)

With DDNS, this 4-port Router will ensure that your current IP Address is recorded at the DDNS server, so that users will be able to connect to your Server Port (or DMZ PC) by using your Domain Name (URL) rather IP address over the Internet.

This also solves the problem of having a dynamic IP address. With a dynamic IP address, your IP address may change whenever you connect, which makes it difficult for others to connect to you.

The screenshot shows the 'Dynamic DNS Server' configuration page. At the top, there are navigation tabs: STATUS, MANAGEMENT, ADVANCED, and FIREWALL. Below these are sub-tabs: Setup Wizard, PPPoE, DHCPSErver, UPnP, DDNS, ServerPort, SpecialApplication, Ping, Static Route, and Eventlog. The main heading is 'Dynamic DNS Server' with a dropdown menu set to 'DynDNS.org'. The page content includes the DynDNS.org logo, a link to 'Create a new account', and a checked checkbox for 'Enable Dynamic DNS'. The form fields are: Login (test), Password (masked), Confirm (masked), Domain name (test.dyndns.tv), Update Interval (30 minutes), and Result (NULL). An 'Apply' button is located at the bottom center.

### DDNS Service

|  |  |
|--|--|
| <b>DDNS Service</b>                                | <ul style="list-style-type: none"> <li>This 4-port Router provides two DDNS servers for the dynamic DNS service. You can select from DynDNS.org or No-IP.com as listed in the pull-down menu.</li> <li>After registration, follow the service provider's procedure to request a Domain Name and have it allocated to you.</li> </ul> |
| <input type="checkbox"/> <b>Enable Dynamic DNS</b> | <ul style="list-style-type: none"> <li>The DDNS function will only work when this is checked.</li> </ul>   |
| <b>Login (User Name)</b>                           | <ul style="list-style-type: none"> <li>Enter your Username for the DDNS Service.</li> </ul>  |
| <b>Password</b>                                    | <ul style="list-style-type: none"> <li>Enter your current password for the DDNS Service.</li> </ul>  |
| <b>Confirm</b>                                     | <ul style="list-style-type: none"> <li>Re-enter your password for confirmation.</li> </ul>   |
| <b>Domain name</b>                                 | <ul style="list-style-type: none"> <li>Enter the host name of DDNS, e.g. myname.dyndns.org.</li> </ul>   |
| <b>Update Interval</b>                             | <ul style="list-style-type: none"> <li>Enter the time interval that the DDNS will update your host name. Valid interval is within the range from 30 to 4320 minutes.</li> </ul>  |
| <b>Result</b>                                      | <ul style="list-style-type: none"> <li>Messages for updating IP replied by your DDNS server.</li> </ul>  |
| <b>Apply</b>                                       | <ul style="list-style-type: none"> <li>Press to save the new settings on the screen, and to start the DDNS updating when the above "Enable Dynamic DNS" is also checked.</li> </ul>  |

## Server Port

The Server Port function enables users to set a local server with specific port number that stands for the service (e.g. web(80), FTP(21), Telnet(23)). When this device receives an incoming access request for this specific port, it will be forwarded the request to the corresponding internal server.

Virtual servers are added by port number.

**NOTE: To enable Server Port is like to open the firewall, which exposes your network to users on the Internet, that means the 4-port Router's NAT will no longer be able to provide protection from hackers.**

| WAN Port Range | Server IP Address | Server Port Range | Protocol | Enable                              |
|----------------|-------------------|-------------------|----------|-------------------------------------|
| 10000 - 10000  | 192.168.1.1       | 10000 - 10000     | TCP      | <input checked="" type="checkbox"/> |
| 0 - 0          | 192.168.1.0       | 0 - 0             | TCP      | <input type="checkbox"/>            |
| 0 - 0          | 192.168.1.0       | 0 - 0             | TCP      | <input type="checkbox"/>            |
| 0 - 0          | 192.168.1.0       | 0 - 0             | TCP      | <input type="checkbox"/>            |
| 0 - 0          | 192.168.1.0       | 0 - 0             | TCP      | <input type="checkbox"/>            |
| 0 - 0          | 192.168.1.0       | 0 - 0             | TCP      | <input type="checkbox"/>            |
| 0 - 0          | 192.168.1.0       | 0 - 0             | TCP      | <input type="checkbox"/>            |
| 0 - 0          | 192.168.1.0       | 0 - 0             | TCP      | <input type="checkbox"/>            |

| Server Port              |   |
|--------------------------|---|
| <b>WAN Port Range</b>    | <ul style="list-style-type: none"> <li>Enter the port number that is used for Internet application, for example port 21 is usually used for ftp, port 80 for www, etc. For applications that require multiple ports, you will have to assign a range of ports.</li> </ul> |
| <b>Server IP address</b> | <ul style="list-style-type: none"> <li>This is the destination IP address that the wireless router will redirect service request from outside users to the corresponding local server.</li> </ul>   |
| <b>Server Port Range</b> | <ul style="list-style-type: none"> <li>Enter the port number that you want to set for server port. This can be a port number or a range of ports. When an incoming packet matches the port number or within the range, it will be forwarded to the port(s).</li> </ul>    |
| <b>Port Type</b>         | <ul style="list-style-type: none"> <li>Select the port type (TCP or UDP) for the port number that was entered for server port.</li> </ul>   |
| <b>Save</b>              | <ul style="list-style-type: none"> <li>Press to save the new settings on the screen.</li> </ul>   |
| <b>Undo</b>              | <ul style="list-style-type: none"> <li>Press to discard the data you have entered since last time you press <b>Save</b>.</li> </ul>   |

## Special Application

If you use Internet applications that use non-standard connections or port numbers, you may find that they do not function correctly because they are blocked by the 4-portRouter's firewall. In this case, you can define those applications as "**Special Application**" so that they can function properly.

You can define your Special Applications. You will need detailed information about the application such as number of port required; this is normally available from the supplier of the application.

Also, note that "**Incoming**" on this screen refer to traffic from the client (PC) viewpoint.

You have to firstly check **Enable** before you can add/edit an application.

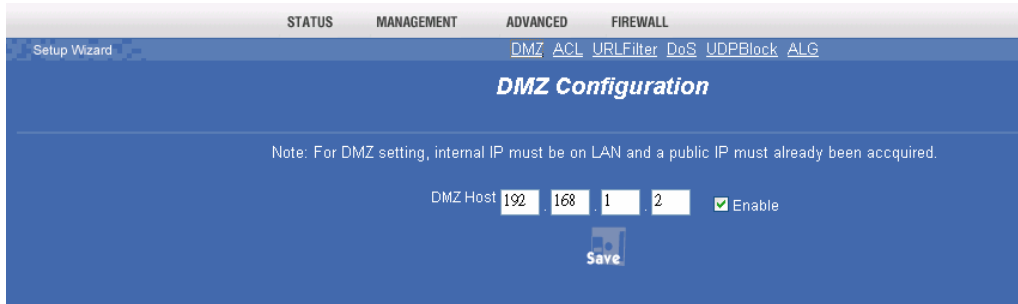
| Name            | Incoming Type | Incoming Port Range | Trigger Type | Trigger Start Port | Trigger Finish Port | Enable                              |
|-----------------|---------------|---------------------|--------------|--------------------|---------------------|-------------------------------------|
| Quick Time 4    | UDP           | 6970-6999           | TCP          | 554                | 554                 | <input checked="" type="checkbox"/> |
| MSN Gaming Zone | TCP           | 28800-29000         | TCP          | 6667               | 6667                | <input type="checkbox"/>            |
|                 | TCP           |                     | TCP          | 0                  | 0                   | <input type="checkbox"/>            |
|                 | TCP           |                     | TCP          | 0                  | 0                   | <input type="checkbox"/>            |
|                 | TCP           |                     | TCP          | 0                  | 0                   | <input type="checkbox"/>            |
|                 | TCP           |                     | TCP          | 0                  | 0                   | <input type="checkbox"/>            |
|                 | TCP           |                     | TCP          | 0                  | 0                   | <input type="checkbox"/>            |
|                 | TCP           |                     | TCP          | 0                  | 0                   | <input type="checkbox"/>            |

| Special Applications       |  |
|----------------------------|--|
| <b>Name</b>                | <ul style="list-style-type: none"> <li>Enter the application name.</li> </ul>  |
| <b>Incoming Type</b>       | <ul style="list-style-type: none"> <li>Click the down arrow ▼ to select the incoming application type (TCP or UDP)</li> </ul>  |
| <b>Incoming Port Range</b> | <ul style="list-style-type: none"> <li>Enter one or more set(s) of port number range as the incoming ports. Once the trigger port is detected, the incoming packets are allowed to pass the firewall to these already specified Incoming Ports.</li> </ul> |
| <b>Trigger Type</b>        | <ul style="list-style-type: none"> <li>Click the down arrow ▼ to select the trigger type (TCP or UDP)</li> </ul>   |
| <b>Trigger Start Port</b>  | <ul style="list-style-type: none"> <li>Enter a port number as the starting outbound port for the special application defined in the preceding field.</li> </ul>  |
| <b>Trigger Finish Port</b> | <ul style="list-style-type: none"> <li>Enter a port number as the ending outbound port for the special application defined in the preceding field.</li> </ul>  |
| <b>Save</b>                | <ul style="list-style-type: none"> <li>Press to save the new settings on the screen.</li> </ul>  |
| <b>Undo</b>                | <ul style="list-style-type: none"> <li>Press to discard the data you have entered since last time you press <b>Save</b>.</li> </ul>  |

# Firewall Screen

## DMZ

This feature, if enabled, allows the DMZ computer (the DMZ Host) on your LAN to be exposed to all users on the Internet.



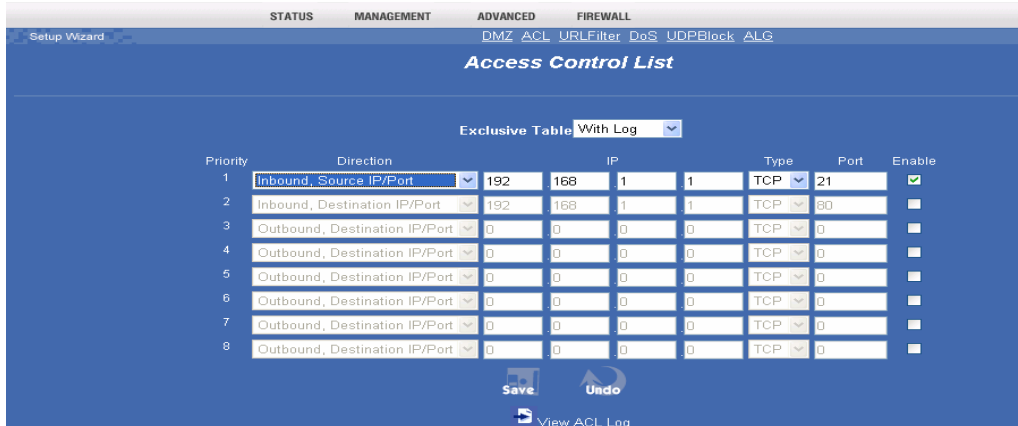
### Special Applications

|                 |   |
|-----------------|---|
| <b>DMZ Host</b> | <ul style="list-style-type: none"><li>• This allows almost any application to be used on the "<b>DMZ Host</b>".</li><li>• The "<b>DMZ Host</b>" will receive all "Unknown" connections and data.</li><li>• If the DMZ feature is enabled, you must enter the IP Address of this PC to be used as the "<b>DMZ Host</b>".</li></ul> |
| <b>Save</b>     | <ul style="list-style-type: none"><li>• Press to save the new settings on the screen.</li></ul>   |

## ACL

The Access Control allows administrators to restrict the level of Internet access available for PCs on your LAN. PCs with their IP addresses listed will be restricted to the Internet access with this function being enabled; or certain Internet services with their IP and ports listed will be blocked. With the default settings, everyone has unrestricted to the Internet access.

From the policy field you can click the down arrow ▼ to select with or without log. If you select to have log recorded, you can press “**View ACL Log**” to list all attempted Internet accesses that have been **blocked** by the *Access Control* function. This will be useful for trouble-shooting or for managing purpose.



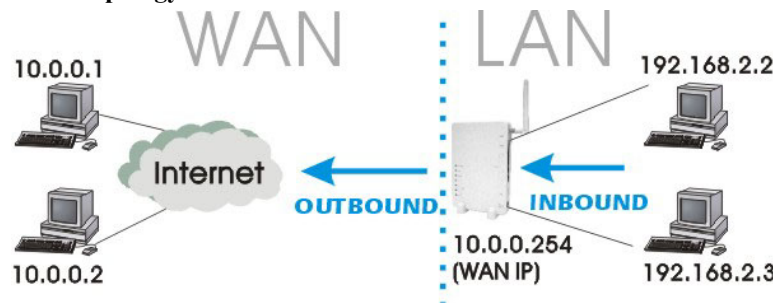
### Access Control

#### Policy

You can click the down arrow ▼ to select with or without log record. If you select to have log, you can press “**View ACL Log**” below to display all activities that have been **blocked**.

#### Direction

#### ACL Topology:






- **Outbound, Destination IP/Port:** Outbound packets (packets from this wireless router to WAN) that are sent to the destination IP and port will be blocked.

#### Example:

Outbound, Destination IP/Port: 10.0.0.1 TCP 80

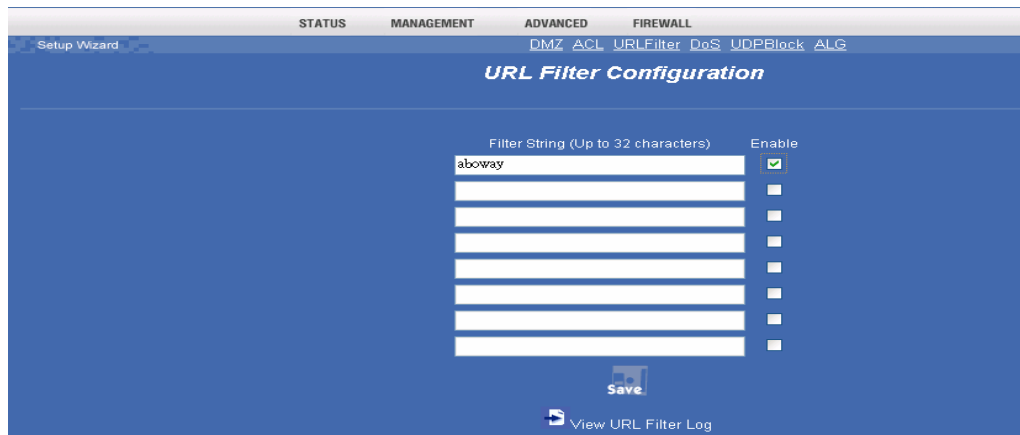
#### Consequence:

192.168.2.2 → ✗ → 10.0.0.1 (port: 80)  
 192.168.2.3 → ✗ → 10.0.0.1 (port: 80)  
 192.168.2.2 → → 10.0.0.2  
 192.168.2.2 → → 10.0.0.2

|             |  |
|-------------|--|
|             | <ul style="list-style-type: none"> <li> <b>Inbound, Destination IP/Port:</b> Inbound packets (packets from LAN to this wireless router) that are sent to the destination IP and port will be blocked.<br/> <b>Example:</b><br/>  <br/> <b>Consequence:</b><br/>           192.168.2.2 —✘→ 10.0.0.1(21)<br/>           192.168.2.2 —→ 10.0.0.2<br/>           192.168.2.3 —✘→ 10.0.0.1 (21)<br/>           192.168.2.3 —→ 10.0.0.2         </li> <li> <b>Outbound, Source IP/Port:</b> Outbound packets (packets from this 4-port router to WAN) will be blocked. Note that the IP address given in this illustration (10.0.0.254) is the WAN IP of this wireless router.<br/> <b>Example:</b><br/>  <br/> <b>Consequence:</b><br/>           192.168.2.2 —✘→ 10.0.0.1<br/>           192.168.2.2 —✘→ 10.0.0.2<br/>           192.168.2.3 —✘→ 10.0.0.1<br/>           192.168.2.3 —✘→ 10.0.0.2         </li> <li> <b>Inbound, Source IP/Port:</b> Inbound packets (packets from LAN to this wireless router) that are sent from the source IP will be blocked.<br/> <b>Example:</b><br/>  <br/> <b>Consequence:</b><br/>           192.168.2.2 —✘→ 10.0.0.1<br/>           192.168.2.2 —✘→ 10.0.0.2<br/>           192.168.2.3 —→ 10.0.0.1<br/>           192.168.2.3 —→ 10.0.0.2         </li> </ul> |
| <b>IP</b>   | <ul style="list-style-type: none"> <li>Enter the IP address that you want to block.</li> </ul>   |
| <b>Type</b> | <ul style="list-style-type: none"> <li>Enter the port type (TCP, UDP or IP) for the port number that was entered in the previous field.</li> </ul>   |
| <b>Port</b> | <ul style="list-style-type: none"> <li>Enter the port number to or from which you want to block activities.</li> </ul>   |

## URL Filter

The URL Filter allows you to block access to undesirable Web site(s).



| URL Filter                 |  |
|----------------------------|--|
| <b>Filter String</b>       | <ul style="list-style-type: none"><li>To use this feature, you must <b>enable</b> and then enter String(s) that you define to be filtered. If the "Filter String" appears in a requested URL, the request will be blocked.</li></ul> |
| <b>Save</b>                | <ul style="list-style-type: none"><li>Press to save the new settings on the screen.</li></ul>  |
| <b>View URL Filter Log</b> | <ul style="list-style-type: none"><li>Press to display URL Filter log events.</li></ul>  |

## Ping

This screen allows you to perform a "**Ping**". The **response** messages that will appear below can be useful in diagnosing network problems.

The screenshot shows a network management interface with a top navigation bar containing 'STATUS', 'MANAGEMENT', 'ADVANCED', and 'FIREWALL'. Below this is a sub-menu with 'Setup Wizard', 'PPPoE', 'DHCP Server', 'UPnP', 'DDNS', 'ServerPort', 'SpecialApplication', 'Ping', 'Static Route', and 'Eventlog'. The main content area is titled 'Ping Toolkit' and features a text input field labeled 'IP Address / Host Name' with a search icon to its right. Below the input field is a label 'Response' followed by the text '<Empty>'. The entire interface has a blue background.

## Ping

**Ping Address/  
Host name**

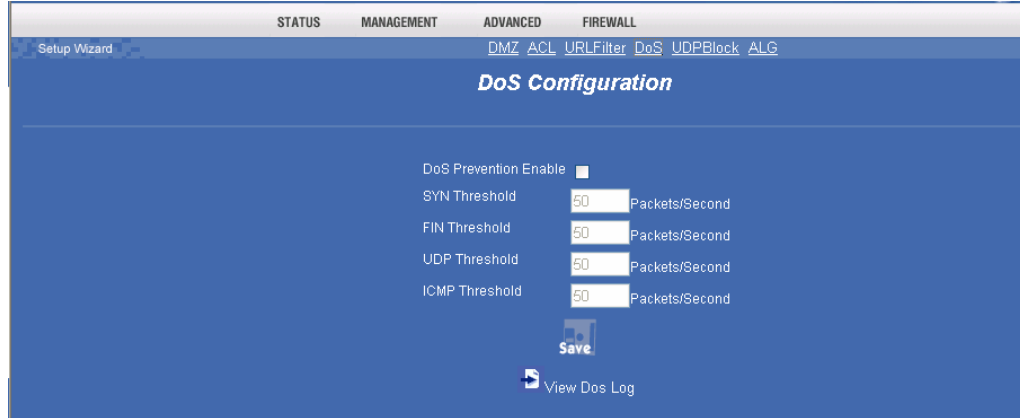
- Enter the IP address or domain name that you want to ping.



## DoS

A **DoS** (Denial of Service) attack does not attempt to steal data or damage your PCs, but overloads your Internet connection so you cannot use it - the service is therefore unavailable.

If DoS function is enabled, DoS attacks will be detected and blocked. The default is **unabled**. It is strongly recommended that this setting be left enabled.



### DoS (Denial of Service )

|                       |  |
|-----------------------|--|
| <b>SYN Threshold</b>  | <ul style="list-style-type: none"><li>Set the threshold for the frequency of packets that are allowed to pass through. The default value is 50 packets per seconds. You can adjust the value according to your need. It is recommended that you set a practical number so that your network performance won't be hampered.</li></ul> |
| <b>FIN Threshold</b>  |  |
| <b>UDP Threshold</b>  |  |
| <b>ICMP Threshold</b> |  |
| <b>Save</b>           | <ul style="list-style-type: none"><li>Press to save the new settings on the screen.</li></ul>  |
| <b>View DoS log</b>   | <ul style="list-style-type: none"><li>Press to display DoS log events.</li></ul>   |

## ALG (Application Layer Gateway)

The application layer serves the purpose of a window between correspondent application processes so that they may exchange information on the open environment.

To use the Application Layer Gateway, the appropriate Application Layer Gateway definition was selected in the service configuration item. Network traffic, that matches the service definition (service has to be also enabled) will be managed by the selected Application Layer Gateway.

The screenshot shows the 'ALG Configuration' page in a web interface. At the top, there are tabs for 'STATUS', 'MANAGEMENT', 'ADVANCED', and 'FIREWALL'. Below these, there are links for 'DMZ', 'ACL', 'URLFilter', 'DoS', 'UDPBlock', and 'ALG'. The main heading is 'ALG Configuration' with a sub-note: 'Enable these functions when you can not run !'. The configuration area is a table with two columns: the application name and its status. Applications like PPTP, IPSec, L2TP, and mIRC are set to 'Client'. Applications like FTP, Net Meeting, DirectX 7, SIP, and ICUI are set to 'Client/Server' and have an input field for the local IP address, all of which are currently set to '0.0.0.0'. A 'Save' button is located at the bottom right of the configuration area.

| Application     | Enable   |
|-----------------|--|
| ALG             | Enable   |
| PPTP            | <input checked="" type="checkbox"/> Client                     |
| IPSec           | <input checked="" type="checkbox"/> Client                     |
| L2TP            | <input checked="" type="checkbox"/> Client                     |
| FTP             | <input checked="" type="checkbox"/> Client/Server(IP: 0.0.0.0) |
| Net Meeting     | <input checked="" type="checkbox"/> Client/Server(IP: 0.0.0.0) |
| DirectX 7       | <input checked="" type="checkbox"/> Client/Server(IP: 0.0.0.0) |
| SIP             | <input checked="" type="checkbox"/> Client/Server(IP: 0.0.0.0) |
| ICUI            | <input checked="" type="checkbox"/> Client/Server(IP: 0.0.0.0) |
| ICQ             | <input checked="" type="checkbox"/> Client/Server              |
| Yahoo Messenger | <input checked="" type="checkbox"/> Client/Server              |
| mIRC            | <input checked="" type="checkbox"/> Client/Server              |

| ALG                                  |  |
|--------------------------------------|--|
| Enable <input type="checkbox"/>      | <ul style="list-style-type: none"> <li>Check to enable the specified two-ways applications to work in this open environment.</li> </ul>                                      |
| <input type="text" value="0.0.0.0"/> | <ul style="list-style-type: none"> <li>For applications that support multi-users, e.g. FTP, you will have to specify the local IP port used for this application.</li> </ul> |
| Save                                 | <ul style="list-style-type: none"> <li>Press to save the new settings on the screen.</li> </ul>  |

## Static Route

If you connect several routers with this 4-port

Router, you may need to set up a predefined routing rule to have more effective network topology/traffic, this is called static route between those routers and the 4-port Router.

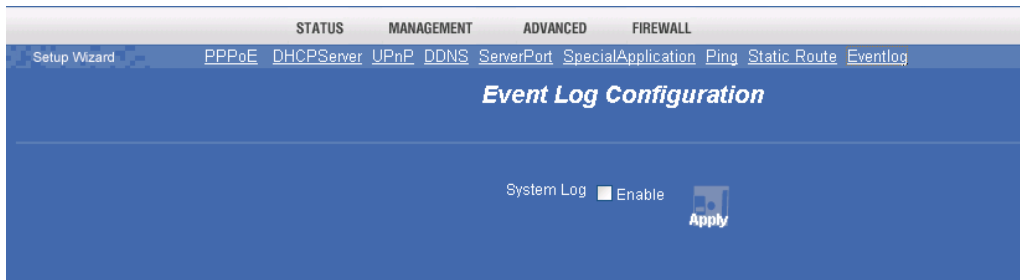
To set static routers, enter the settings including route IP address, route mask route gateway the route Interface from LAN or WAN.

### Static Route

|                        |   |
|------------------------|---|
| <b>Route</b>           | <ul style="list-style-type: none"> <li>The network address of the destination LAN segment. When a packet with destination IP address that matches to this field, it will route to the device set in the Route Gateway field (see below).</li> </ul> |
| <b>Route Mask</b>      | <ul style="list-style-type: none"> <li>The network mask for the destination LAN segment. For standard class “C” LAN, the default mask is 255.255.255.0.</li> </ul>  |
| <b>Route Gateway</b>   | <ul style="list-style-type: none"> <li>The IP address of the gateway where packets are routed.</li> </ul>   |
| <b>Route Interface</b> | <ul style="list-style-type: none"> <li>You can select to use LAN or WAN as the physical interface from where the packets will be sent.</li> </ul>   |
| <b>Save</b>            | <ul style="list-style-type: none"> <li>Press to save the new settings on the screen.</li> </ul>   |
| <b>Undo</b>            | <ul style="list-style-type: none"> <li>Press to discard the data you have entered since last time you press <b>Save</b>.</li> </ul>   |

## Eventlog

Event Logs records various types of activities on the 4-port Router. This data is useful for troubleshooting, but enabling all logs will generate a large amount of data and adversely affect performance.



| Event Log                           |   |
|-------------------------------------|---|
| System Log <input type="checkbox"/> | Check the box to enable this function.        |
| Apply                               | Press to immediately generate the log events. |

# Chapter 4

## PC Configuration

*This Chapter details the PC Configuration required on the local ("Internal") LAN.*

### Overview

For each PC, the following may need to be configured:

- TCP/IP network settings
- Internet Access configuration

### Windows Clients

This section describes how to configure Windows clients for Internet access via the Wireless Router.

The first step is to check the PC's TCP/IP settings.

The 4-port Router uses the TCP/IP network protocol for all functions, so it is essential that the TCP/IP protocol be installed and configured on each PC.

### TCP/IP Settings - Overview

**If using the default 4-port Router settings, and the default Windows TCP/IP settings, no changes need to be made.**

- By default, the 4-port Router will act as a DHCP Server, automatically providing a suitable IP Address (and related information) to each PC when the PC boots.
- For all non-Server versions of Windows, the default TCP/IP setting is to act as a DHCP client.

**If using a Fixed (specified) IP address, the following changes are required:**

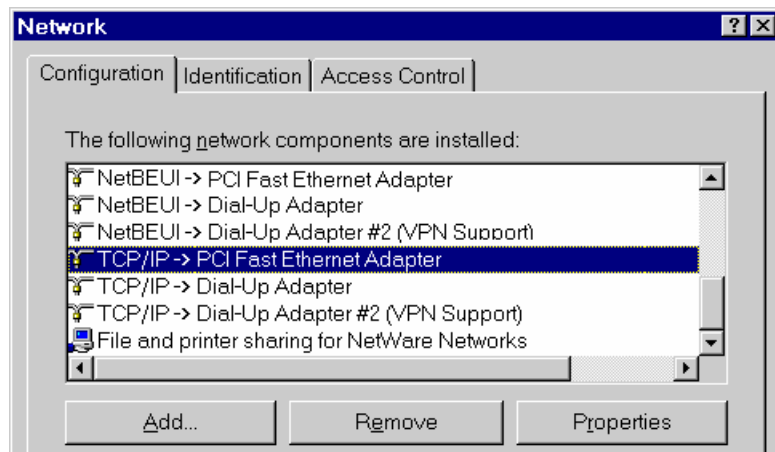
- The *Gateway* must be set to the IP address of the 4-port Router
- The *DNS* should be set to the address provided by your ISP.



**If your LAN has a Router, the LAN Administrator must re-configure the Router itself.**

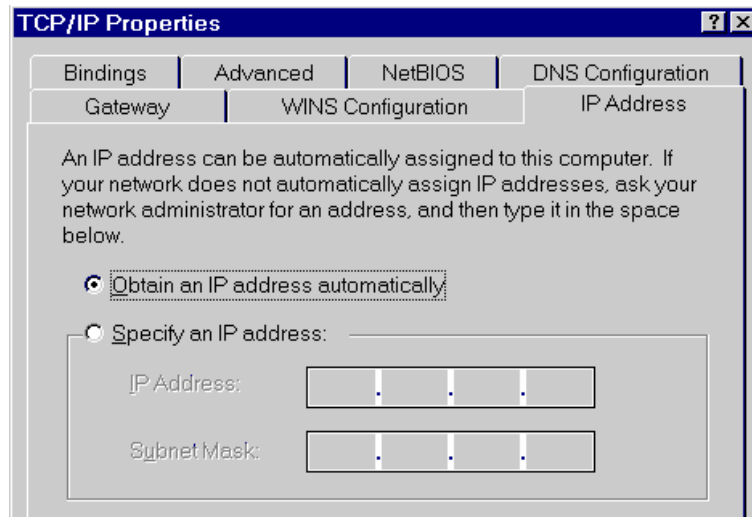
## Checking TCP/IP Settings - Windows 9x/ME:

1. Select *Control Panel - Network*. You should see a screen like the following:



**Figure 5: Network Configuration**

2. Select the *TCP/IP* protocol for your network card.
3. Click on the *Properties* button. You should then see a screen like the following.



**Figure 6: IP Address (Win 95/98)**

Ensure your TCP/IP settings are correct, as follows:

### Using DHCP

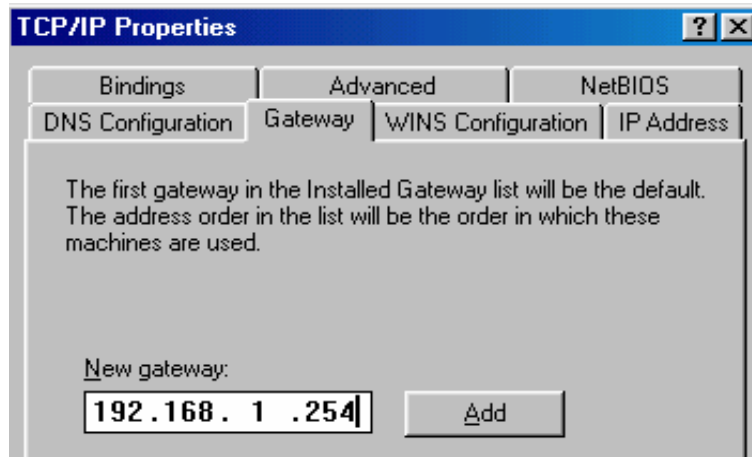
To use DHCP, select the radio button *Obtain an IP Address automatically*. This is the default Windows setting. **Using this is recommended.** By default, the Wireless Router will act as a DHCP Server.

Restart your PC to ensure it obtains an IP Address from the Wireless Router.

### Using "Specify an IP Address"

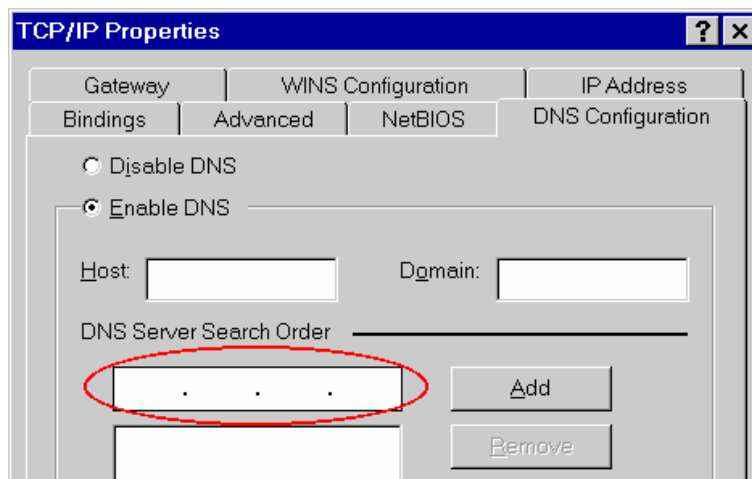
If your PC is already configured, check with your network administrator before making the following changes:

- On the *Gateway* tab, enter the 4-port Router's IP address in the *New Gateway* field and click *Add*, as shown below. Your LAN administrator can advise you of the IP Address they assigned to the 4-port Router.



**Figure 7: Gateway Tab (Win 95/98)**

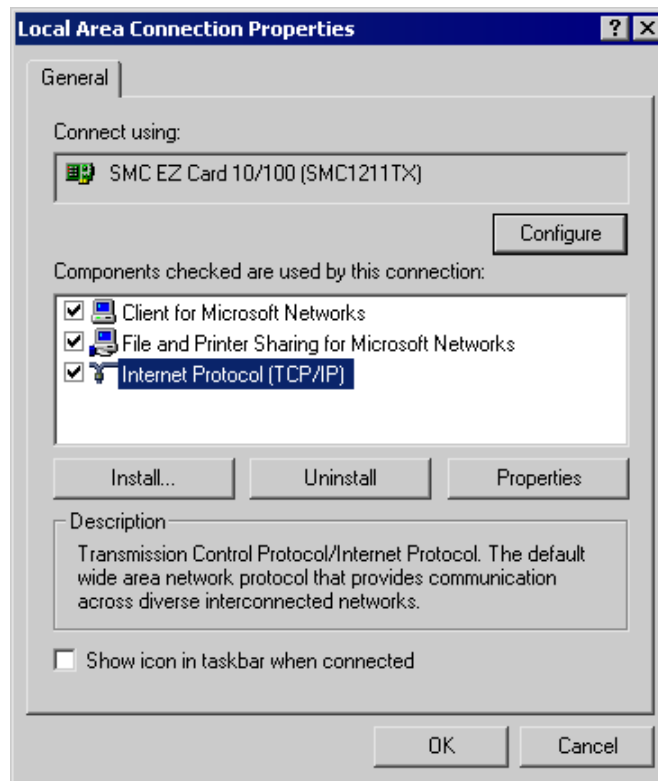
- On the *DNS Configuration* tab, ensure *Enable DNS* is selected. If the *DNS Server Search Order* list is empty, enter the DNS address provided by your ISP in the fields beside the *Add* button, then click *Add*.



**Figure 8: DNS Tab (Win 95/98)**

## Checking TCP/IP Settings - Windows 2000:

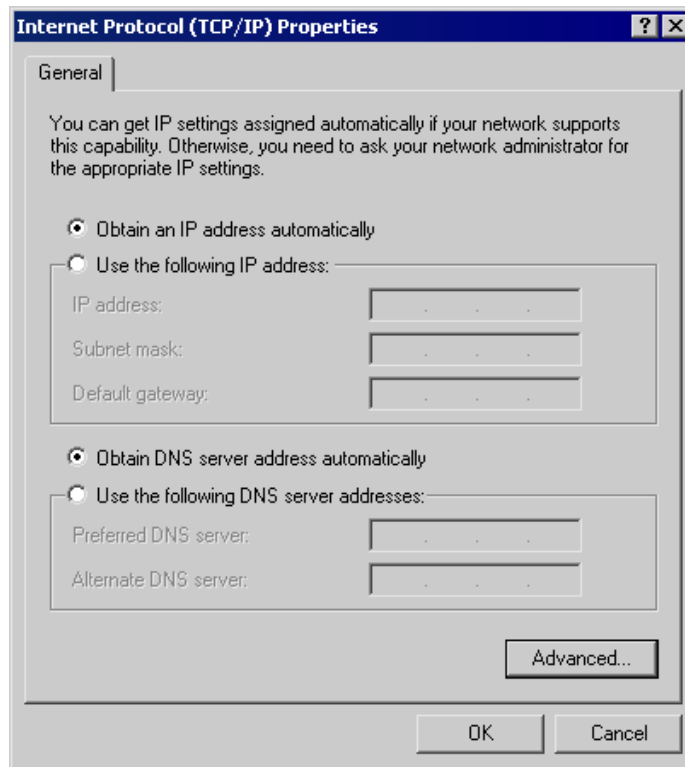
1. Select *Control Panel - Network and Dial-up Connection*.
2. Right - click the *Local Area Connection* icon and select *Properties*. You should see a screen like the following:



**Figure 9: Network Configuration (Win 2000)**

3. Select the *TCP/IP* protocol for your network card.
4. Click on the *Properties* button. You should then see a screen like the following.





**Figure 10: TCP/IP Properties (Win 2000)**

5. Ensure your TCP/IP settings are correct, as described below.

### **Using DHCP**

To use DHCP, select the radio button *Obtain an IP Address automatically*. This is the default Windows setting. **Using this is recommended.** By default, the 4-port Router will act as a DHCP Server.

Restart your PC to ensure it obtains an IP Address from the 4-port Router.

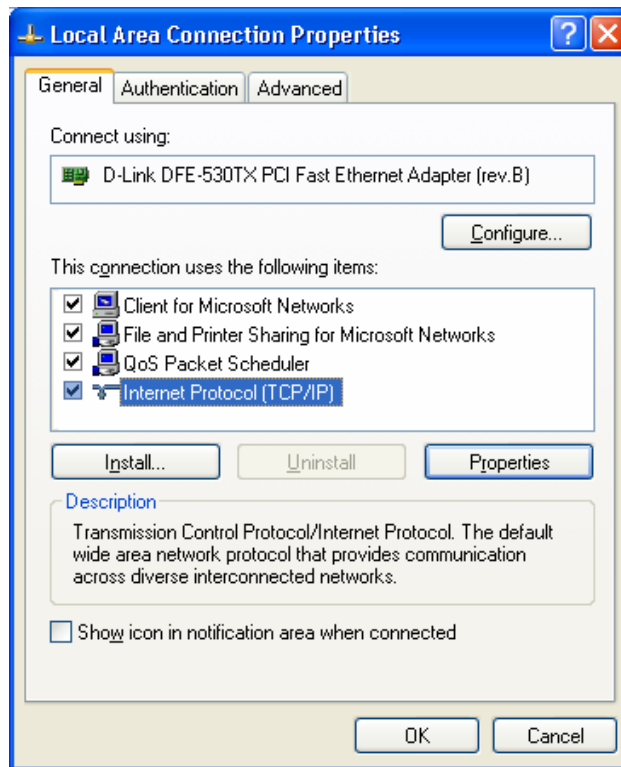
### **Using a fixed IP Address ("Use the following IP Address")**

If your PC is already configured, check with your network administrator before making the following changes.

- Enter the 4-port Router's IP address in the *Default gateway* field and click *OK*. (Your LAN administrator can advise you of the IP Address they assigned to the 4-port Router.)
- If the *DNS Server* fields are empty, select *Use the following DNS server addresses*, and enter the DNS address or addresses provided by your ISP, then click *OK*.

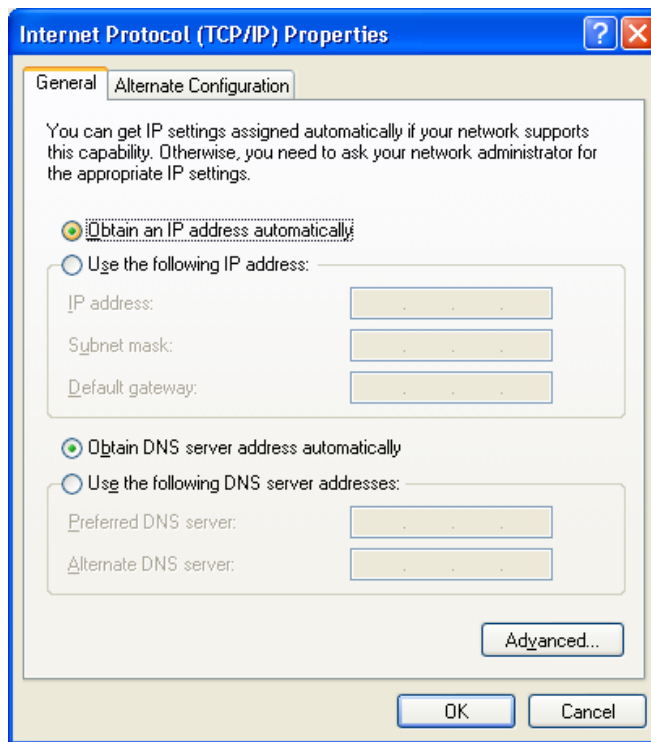
## Checking TCP/IP Settings - Windows XP

1. Select *Control Panel - Network Connection*.
2. Right click the *Local Area Connection* and choose *Properties*. You should see a screen like the following:



**Figure 11: Network Configuration (Windows XP)**

3. Select the *TCP/IP* protocol for your network card.
4. Click on the *Properties* button. You should then see a screen like the following.



**Figure 12: TCP/IP Properties (Windows XP)**

5. Ensure your TCP/IP settings are correct.

### **Using DHCP**

To use DHCP, select the radio button *Obtain an IP Address automatically*. This is the default Windows setting. **Using this is recommended.** By default, the 4-port Router will act as a DHCP Server.

Restart your PC to ensure it obtains an IP Address from the 4-port Router.

### **Using a fixed IP Address ("Use the following IP Address")**

If your PC is already configured, check with your network administrator before making the following changes.

- In the *Default gateway* field, enter the 4-port Router's IP address and click *OK*. Your LAN administrator can advise you of the IP Address they assigned to the 4-port Router.
- If the *DNS Server* fields are empty, select *Use the following DNS server addresses*, and enter the DNS address or addresses provided by your ISP, then click *OK*.

## Internet Access

To configure your PCs to use the 4-port Router for Internet access:

- Ensure that the DSL modem, Cable modem, or other permanent connection is functional.
- Use the following procedure to configure your Browser to access the Internet via the LAN, rather than by a Dial-up connection.

### For Windows 9x/ME/2000

1. Select *Start Menu - Settings - Control Panel - Internet Options*.
2. Select the *Connection* tab, and click the *Setup* button.
3. Select "I want to set up my Internet connection manually, or I want to connect through a local area network (LAN)" and click *Next*.
4. Select "I connect through a local area network (LAN)" and click *Next*.
5. Ensure all of the boxes on the following Local area network Internet Configuration screen are **unchecked**.
6. Check the "No" option when prompted "Do you want to set up an Internet mail account now?".
7. Click *Finish* to close the Internet Connection Wizard.  
Setup is now completed.

### For Windows XP

1. Select *Start Menu - Control Panel - Network and Internet Connections*.
2. Select *Set up or change your Internet Connection*.
3. Select the *Connection* tab, and click the *Setup* button.
4. Cancel the pop-up "Location Information" screen.
5. Click *Next* on the "New Connection Wizard" screen.
6. Select "Connect to the Internet" and click *Next*.
7. Select "Set up my connection manually" and click *Next*.
8. Check "Connect using a broadband connection that is always on" and click *Next*.
9. Click *Finish* to close the New Connection Wizard.  
Setup is now completed.

### Accessing AOL

To access AOL (America On Line) through the 4-port Router, the *AOL for Windows* software must be configured to use TCP/IP network access, rather than a dial-up connection. The configuration process is as follows:

- Start the *AOL for Windows* communication software. Ensure that it is Version 2.5, 3.0 or later. This procedure will not work with earlier versions.
- Click the *Setup* button.
- Select *Create Location*, and change the location name from "New Locality" to "4-port Router".
- Click *Edit Location*. Select *TCP/IP* for the *Network* field. (Leave the *Phone Number* blank.)
- Click *Save*, then *OK*.  
Configuration is now complete.
- Before clicking "Sign On", always ensure that you are using the "4-port Router" location.

# Appendix A

## Troubleshooting

*This Appendix covers the most likely problems and their solutions.*

### Overview

This chapter covers some common problems that may be encountered while using the 4-port Router and some possible solutions to them. If you follow the suggested steps and the 4-port Router still does not function properly, contact your dealer for further advice.

### General Problems

**Problem 1:** **Can't connect to the 4-port Router to configure it.**

**Solution 1:** Check the following:

- The 4-port Router is properly installed, LAN connections are OK, and it is powered ON.
- Ensure that your PC and the 4-port Router are on the same network segment. (If you don't have a router, this must be the case.)
- If your PC is set to "Obtain an IP Address automatically" (DHCP client), restart it.
- If your PC uses a Fixed (Static) IP address, ensure that it is using an IP Address within the range 192.168.1.1 to 192.168.1.253 and thus compatible with the 4-port Router's default IP Address of 192.168.1.254. Also, the Network Mask should be set to 255.255.255.0 to match the 4-port Router.  
In Windows, you can check these settings by using *Control Panel-Network* to check the *Properties* for the TCP/IP protocol.

### Internet Access

**Problem 1:** **When I enter a URL or IP address I get a time out error.**

**Solution 1:** A number of things could be causing this. Try the following troubleshooting steps.

- Check if other PCs work. If they do, ensure that your PCs IP settings are correct. If using a Fixed (Static) IP Address, check the Network Mask, Default gateway and DNS as well as the IP Address.
- If the PCs are configured correctly, but still not working, check the 4-port Router. Ensure that it is connected and ON. Connect to it and check its settings. (If you can't connect to it, check the LAN and power connections.)
- If the 4-port Router is configured correctly, check your Internet connection (DSL/Cable modem etc) to see that it is working correctly.

**Problem 2:** **Some applications do not run properly when using the 4-port Router.**

**Solution 2:** The 4-port Router processes the data passing through it, so it is not transparent.

Use the *Special Applications* feature to allow the use of Internet applications which do not function correctly.

If this does solve the problem you can use the *DMZ* function. This should work with almost every application, but:

- It is a security risk, since the firewall is disabled.
- Only one (1) PC can use this feature.

# Appendix B

## Specifications

### General

|                     |  |
|---------------------|--|
| Standards           |  |
| Firewall /Alert     | NAT, DoS (Denial of Service), Access Control   |
| Management          | Web-based management, Remote Management  |
| Network Interface   | 5 Ethernet:<br>4 * 10/100BaseT (RJ45) LAN connection<br>1 * 10/100BaseT (RJ45) for WAN         |
| Supported Protocols | TCP/IP, PPPoE/Multi-PPPoE, DHCP (client), NTP (Network Time Protocol), DNS Relay, DDNS         |
| Functions           | Exposed Host (DMZ), MAC Address authentication, URL Content Filtering, Ping, Server Port, ALG  |
| Applications        | Dynamic DNS, UPnP, Special Internet Applications, DMZ Host, Dial-on-Demand and Auto-Disconnect |
| Firmware Upgrade    | HTTP, TFTP download or proprietary network protocol download                                   |
| LED Indicators      | 7 LEDs (Power, WAN, 4 x LAN)   |
| Power Adapter       | 7.5 V, 2A (DC External)  |

### Environmental

|                       |                 |
|-----------------------|-----------------|
| Operating Temperature | -5° C to 55° C  |
| Storage Temperature   | -20° C to 70° C |

### Regulatory

|         |                        |
|---------|------------------------|
| EMI/RFI | FCC Class B, CE, TELEC |
|---------|------------------------|

### Physical

|            |                               |
|------------|-------------------------------|
| Dimensions | 141mm(W) * 100mm(D) * 27mm(H) |
| Weight     | 235g                          |