



Internet Broadband Router

XRT-401B

User's Guide

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TABLE OF CONTENTS

| | |
|---|----|
| CHAPTER 1 INTRODUCTION..... | 1 |
| XRT-401B Features | 1 |
| Package Contents | 3 |
| Physical Details | 4 |
| CHAPTER 2 INSTALLATION | 7 |
| Requirements..... | 7 |
| Procedure | 7 |
| CHAPTER 3 SETUP..... | 9 |
| Overview | 9 |
| Configuration | 10 |
| Setup Wizard | 12 |
| CHAPTER 4 PC CONFIGURATION..... | 18 |
| Overview | 18 |
| Windows Clients | 18 |
| Macintosh Clients..... | 26 |
| Linux Clients | 26 |
| CHAPTER 5 SYSTEM STATUS AND TOOLS | 27 |
| Operation | 27 |
| Status Screen..... | 27 |
| DHCP | 29 |
| Routing Table..... | 29 |
| DDNS Status | 30 |
| Tools | 30 |
| CHAPTER 6 ADVANCED FEATURES..... | 33 |
| Overview | 33 |
| LAN IP Configuration..... | 33 |
| DHCP Setting | 34 |
| Firewall Settings..... | 35 |
| Privilege | 36 |
| Virtual Servers | 36 |
| Routing Configuration | 39 |
| WAN MAC Clone..... | 40 |
| DDNS Configuration..... | 41 |
| MAC Control..... | 41 |
| APPENDIX A TROUBLESHOOTING | 42 |
| Overview | 42 |
| General Problems..... | 42 |
| Internet Access | 42 |
| APPENDIX B SPECIFICATIONS | 44 |
| XRT-401B | 44 |

Chapter 1

Introduction

1

This Chapter provides an overview of XRT-401B's features and capabilities.

Congratulations on the purchase of your new Broadband Router. Internet Broadband Router XRT-401B 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.

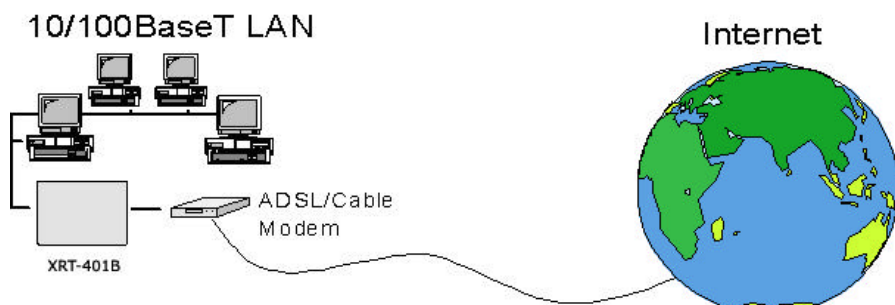


Figure 1-1: Broadband Router

XRT-401B Features

XRT-401B 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 or WLAN can access the Internet through XRT-401B, 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.** XRT-401B has a 10/100BaseT Ethernet port for connecting a DSL or Cable Modem. Via the WAN connectivity port, users can optimize their connection to the Internet with the most scalability, either xDSL (PPPoE, leased IP, PPTP client), All popular DSL and Cable Modems are supported.
- **PPPoE and PPTP Support.** The Internet (WAN port) connection supports PPPoE (PPP over Ethernet) and PPTP (Peer-to-Peer Tunneling Protocol), as well as "Direct Connection" type services.
- **Fixed or Dynamic IP Address.** On the Internet (WAN port) connection, XRT-401B supports both Dynamic IP Address (IP Address is allocated on connection) and Fixed IP Address.
- **DDNS Support.** 3 built-in DDNS clients will bring greatest convenience to users with dynamic IP address.

Advanced Functions

- **Virtual Servers.** This feature allows Internet users to access Internet servers on your LAN. The required setup is quick and easy.
- **Privilege.** Privilege setting allows users to keep control numbers of workstations which are allowed or denied from accessing to the Internet.
- **Multiple DMZ.** XRT-401B can translate multiple public IP addresses to multiple private IP addresses. Up to 5 PCs on your local LAN can be configured to allow unrestricted 2-way communication with Servers or individual users on the Internet. This provides the ability to run programs which are incompatible with Firewalls.
- **URL Filter.** Use the URL Filter to block access to undesirable Web sites by LAN users.
- **MAC Control.** This feature allows users to block specific PCs via MAC assignment to access Internet via XRT-401B.
- **VPN Pass-Through** VPN (Virtual Private Networking) connections via PPTP, L2TP and IPSec are transparently supported - no configuration is required.

LAN Features

- **4-Port Switching Hub.** XRT-401B 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. XRT-401B can act as a **DHCP Server** for devices on your local LAN and WLAN.
- **Multi Segment LAN Support.** LANs containing one or more segments are supported, via XRT-401B's RIP-I & RIP-II (Routing Information Protocol) support and built-in static routing table.

Configuration & Management

- **Easy Setup.** Use your WEB browser from anywhere on the LAN for configuration.
- **Remote Management.** XRT-401B can be managed from any PC on your LAN. And, if the Internet connection exists, it can also (optionally) be configured via the Internet.

Security Features

- **Password - protected Configuration.** Logon 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 - Broadband Router XRT-401B.
- **Hacker Attack Protect** Keeps your network away from malicious attacking.
- **Block Hacker Scan** Disable ping response from WAN side to hide router on the net and prevent from hacker attack.

Package Contents

The following items should be included:

- Broadband Router Unit
- Power Adapter
- CD-ROM containing the on-line manual.

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

Physical Details

Front Panel

The front panel of XRT-401B has 3 LEDs for each 10/100 Mbps ports and one 10/100 Mbps WAN port, two Module Status LED at the left. WAN port, LAN ports and the uplink port are at the right. Figure 2 displays a front panel of the router.

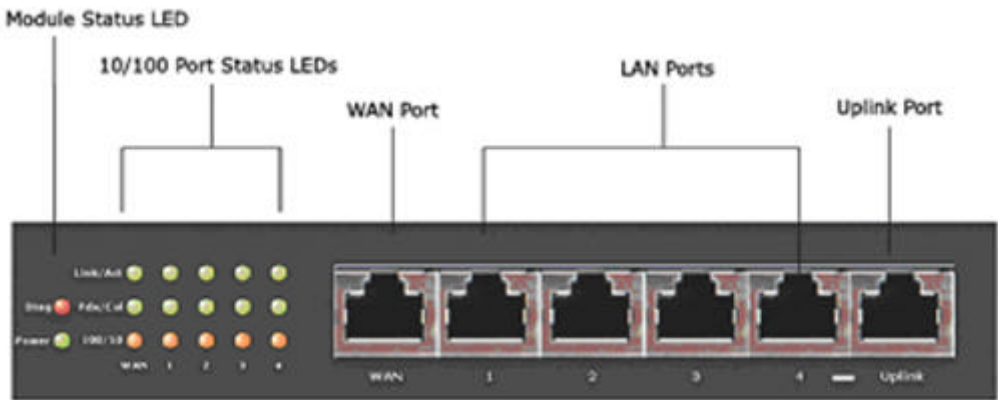


Figure 1-2: Front Panel

LED definitions

| | | |
|------------------------|--------|---|
| Power | Green | Lights to indicate XRT-401B is powered on. |
| Diag | Red | Lights to indicate XRT is under its self-diagnosis mode during system boot-up. Off to indicate that self-diagnosis successfully proceeded. |
| Link/Act | Green | On – XRT-401B is successfully connected to a device through the corresponding port (1, 2, 3, or 4). Flashing - Transmitting or receiving data over that port. |
| FDX/COL | Green | Lights to indicate that the connection made through the corresponding port is running in Full Duplex mode. Blinks periodically to indicate that the connection is experiencing collisions. |
| LAN Port LEDs - 10/100 | Orange | On - LAN port connection is using a 100BaseT connection. Off - If the port is being used, OFF indicates a 10BaseT connection. |
| WAN Port LED | Green | On - While connection to DSL/Cable modem is built OFF - No connection to DSL/Cable modem. |

**10/100BaseTX
LAN connectors**

Use standard LAN cables (RJ45 connectors) to connect this port to your PCs. Both 10BaseT and 100BaseT connections can be used simultaneously.

If the "Uplink" port is used, port 4 can NOT be used.

**WAN port
(10/100BaseTX)**

Connect the DSL or Cable Modem here. If your modem came with a cable, use the supplied cable. Otherwise, use a standard LAN cable.

Rear Panel

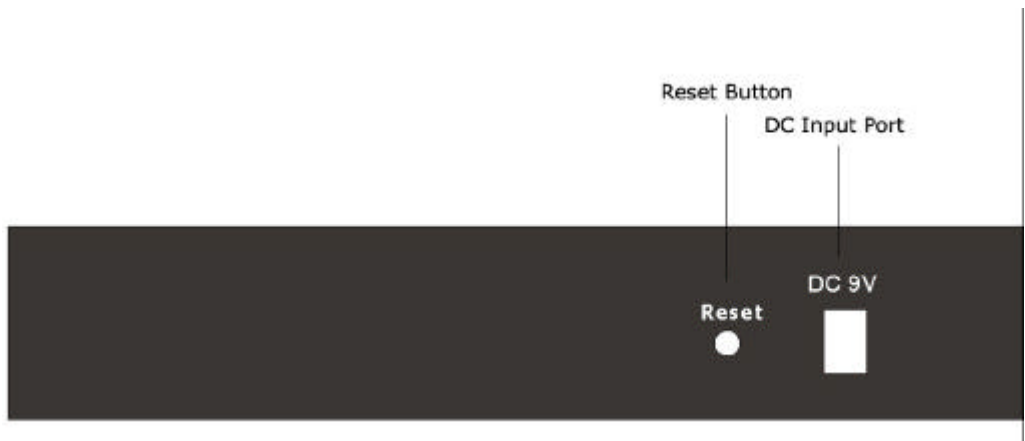


Figure 1-3: *Rear panel*

| | |
|-----------------------|--|
| Reset Button | Pressing the Reset button for more than 3 seconds. XRT-401B will restore to factory default setting. |
| DC Power Input | To connect the adapter to receive power. |

Restore Default IP Address and Clear Password

If XRT-401B's IP Address or password is lost, the following procedure can be used to recover from this situation.

Pressing the Reset button for more than 3 seconds. XRT-401B will restore to factory default setting. Note that this should be done only when you had tried all the troubleshooting options. Pressing the Reset button during operation may bring you into the risk of creating IP address conflict between your PC and the router. In such a case, you may be compelled to reboot your entire system(s).

Chapter 2

Installation

2

This Chapter covers the physical installation of XRT-401B.

Requirements

- DSL or Cable modem, and an Internet Access account with an ISP, for shared Internet resources.
- Network cables. Use standard 10/100BaseT network (UTP) cables with RJ45 connectors
- TCP/IP network protocol must be installed on all PCs.

Procedure

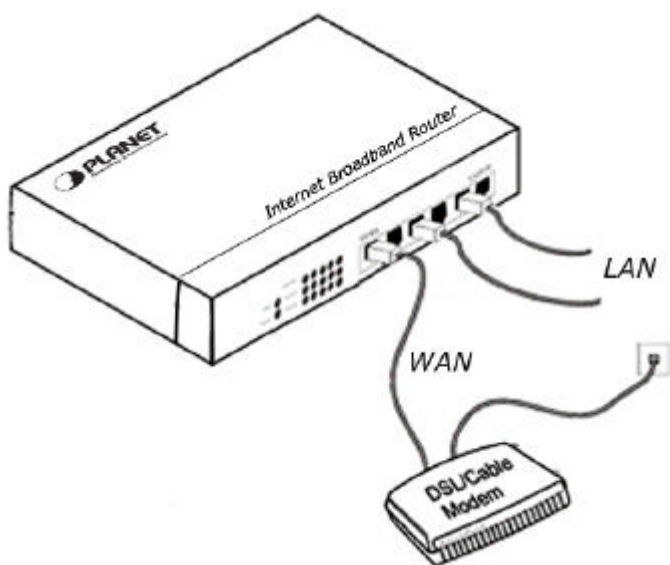


Figure 2-1: *Installation Diagram*

1. Choose an Installation Site

Select a suitable place on the network to install XRT-401B.
Ensure XRT-401B 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 XRT-401B. Both 10BaseT and 100BaseT connections can be used simultaneously.
- If required, use a standard LAN cable to connect the "Uplink" port to a standard port on another hub.

Note: If the "Uplink" port is used, port 4 can NOT be used.

3. Connect WAN Cable

Connect the DSL or Cable modem to the WAN port on XRT-401B. 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 XRT-401B and power up.
Use only the power adapter provided. Using a different one may cause hardware damage

5. Check the LEDs

- The *LAN* LED should flash in Orange, then turn Off. If it stays Orange, there is a hardware error.
- For each LAN (PC) connection, the LAN *Link/Act* LED should be ON (provided the PC is also ON.)
- The *WAN* LED should be ON.

Chapter 3

Setup



This Chapter provides details of the Setup process.

Overview

This chapter describes the setup procedure for:

- Internet Access
- LAN configuration
- Assigning a Password to protect the configuration data.

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

Other configuration may also be required, depending on which features and functions of XRT-401B you wish to use. Use the table below to locate detailed instructions for the required functions.

| To Do this: | Refer to: |
|---|---------------------------------------|
| Configure PCs on your LAN. | Chapter 4: PC Configuration |
| Check machine Status, and system tools | Chapter 5: System Status and Tools |
| Use any of the following Internet features: <ul style="list-style-type: none">• LAN IP configuration• DHCP setting• Firewall Configuration• Privilege• Virtual Servers• Routing• WAN MAC Clone• DDNS setting• MAC control | Chapter 6: Advanced Features |



Where use of a certain feature requires that PCs or other LAN devices be configured, this is also explained in the relevant chapter.

Configuration

XRT-401B contains an HTTP server. This enables you to connect to it, and configure it, using your Web Browser. **Your Browser must support JavaScript.** The configuration program has been tested on the following browsers:

- Netscape V4.08 or later
- Internet Explorer V4 or later

Preparation

Before attempting to configure XRT-401B, please ensure that:

- Your PC can establish a physical connection to XRT-401B. The PC and XRT-401B must be directly connected (using the Hub ports on XRT-401B) or on the same LAN segment.
- XRT-401B must be installed and powered ON.
- If XRT-401B's default IP Address (192.168.0.1) is already used by another device, the other device must be turned OFF until XRT-401B is allocated a new IP Address during configuration.

Connecting to XRT-401B

To establish a connection from your PC to XRT-401B:

1. After installing XRT-401B 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 XRT-401B, as in this example, which uses XRT-401B's default IP Address:
[HTTP://192.168.0.1](http://192.168.0.1)
4. If connection is established, a pop-up password request page will show up. Insert "**admin**" into the Password field and leave the User Name field empty.

If you can't connect

If XRT does not respond, check the following:

- Machine is properly installed, LAN connection is OK, and it is powered ON. You can test the connection by using the "Ping" command:
 - Open the MS-DOS window or command prompt window.
 - Enter the command:
ping 192.168.0.1
If no response is received, either the connection is not working, or your PC's IP address is not compatible with XRT-401B's IP Address. (See next item.)
- If your PC is using a fixed IP Address, its IP Address must be within the range 192.168.0.2 to 192.168.0.254 to be compatible with XRT-401B's default IP Address of 192.168.0.1. Also, the *Network Mask* must be set to 255.255.255.0. See *Chapter 4 - PC Configuration* for details on checking your PC's TCP/IP settings.
- Ensure that your PC and XRT-401B are on the same network segment. (If you don't have a router, this must be the case.)

Setup Wizard

The first time connecting to XRT-401B, Setup Wizard will show up at home page automatically. (Setup Wizard will also run if XRT-401B's default settings are restored.)

1. Ensure the Cable/DSL modem is connected and powered ON.
Also, you need the data provided by your ISP.
2. Start the Wizard, and step through it until finished.
It is required to know the type of Internet connection service used by your ISP. The common types are explained below.



Figure 3-1: Home Screen

PPPoE Connection for WAN

If your ISP uses PPPoE (Point-to-Point Over Ethernet) to establish communications with end-users, you will receive information such as **User Name** and **Password** from them. To set up a PPPoE connection for WAN, follow the instructions as shown in Figure 3-1 *Cable/DSL Setup Menu Screen* and Figure 3-2 *Cable/DSL Setup Menu with "No" Option Screen*. Then, it is required to configure following values to make your router work. (See Figure 3-3 *PPPoE Menu Screen*)

-User Name and Password: Fill in the entries with the information you get from your ISP.

-Service Name: If your ISP provides this info, please type it into the field.

-Connect on Demand: If you have been disconnected due to inactivity,

Connect on Demand will enable you to establish a connection again between your Router and ISP.

-Max Idle Time: The Max Idle time is the amount of time you would like to pass before the Router drops your Internet connection due to inactivity. Enter zero (0) in the field to remain Internet connection on at all time. The idle time ranges from 0 to 60 minutes.

Home

- Setup Wizard
- Setup
 - Password
 - Configure
 - Alias IP
 - DNS
 - Time
- Status
- Tools
- Advanced
- Help

Cable/DSL Setup

Most of ISPs doesn't provide IP address to the users. In such case, the Router will obtain IP address automatically.

Has your Internet Service Provider given you any information?
(Fixed IP address or PPPoE/PPPoA User name/Password)

☒ YES ☐ NO (Dynamic IP)

Has your Internet Service Provider required you a Host Name?

☐ YES ☒ NO

Cancel Next >>

Figure 3-2 Cable/DSL Setup Menu Screen

Cable/DSL Setup

ISP account with fixed IP setting: Some ISPs will allow you to connect to the Internet using a fixed, or static IP address. Enter the related information, (Network mask, Default Gateway and DNS), into the proper fields on the Setup screen. Please input information that may have been provided by your cable or DSL Internet Service Provider.

Has your Internet Service Provider given you static IP address?

☐ YES ☒ NO

Cancel <<Back Next >>

Figure 3-3 Cable/DSL Setup Menu with "No" Option

PPPoE

Enter this page, your Internet Service Provider must provide you PPPoE authentication such as User name and password.

Please fill the PPPoE information to make the route work. The Connect On Demand is to save the PPPoE connection charge. After the Max Idle Time passing without any traffic, the connection will be disconnected.

User Name: 84532106@hinet.net

Password:

Confirm Password:

Service Name:

Connect on Demand: ☐ Enabled ☒ Disabled

Max Idle Time: 0 Min.

Cancel <<Back Next >>

Figure 3-4 PPPoE Menu Screen

Fixed IP for WAN

If your ISP has assigned your home a static IP address (See Appendix A *About Static and Dynamic IP Address*), you may connect to the Internet by using a fixed, or static address. To set up a Fixed IP for WAN, do the following steps as an example.

Step 1 Choose “**YES**” when you see the question: (See Figure 3-1 *Cable/DSL Setup Menu*).

Has your Internet Service Provider given you static IP address?

Then select ” Fixed IP”.

Step 2 Enter the information of **IP Address**, **Subnet Mask** and **Default Gateway** as required. Then click the “**NEXT**” button. You should obtain above information from your ISP. If not, contact your ISP.

Home

- Setup Wizard
- Setup
 - Password
 - Configure
 - Alias IP
 - DNS
 - Time
- Status
- Tools
- Advanced
- Help

Cable/DSL Setup

ISP account with fixed IP setting: Some ISPs will allow you to connect to the Internet using a fixed, or static IP address. Enter the related information, (Network mask, Default Gateway and DNS), into the proper fields on the Setup screen. Please input information that may have been provided by your cable or DSL Internet Service Provider.

Has your Internet Service Provider given you static IP address?

☒ YES ☐ NO

☒ Fixed IP ☐ PPTP

IP Address : 210 . 61 . 152 . 101

Subnet Mask : 255 . 255 . 255 . 0

Default Gateway : 210 . 61 . 152 . 254

Cancel <<Back Next >>

Figure 3-5 *Cable/DSL Setup Menu*

Step 3 Enter the **DNS Address**. (See Figure 3-6 *DNS Menu Screen*) Your ISP should provide you with at least one DNS IP Address. If not, contact your ISP.

Home

- Setup Wizard
- Setup
 - Password
 - Configure
 - Alias IP
 - DNS
 - Time
- Status
- Tools
- Advanced
- Help

DNS

Has your Internet Service Provider given you the DNS address(es)?

☒ YES ☐ NO

DNS Address: 168 . 192 . 1 . 1

Cancel <<Back Next >>

Figure 3-6 *DNS Setup Menu*

PPTP For WAN

Step 1 Choose “YES” when you see the question: (See Figure 3-1 *Cable/DSL Setup Menu*)

Has your Internet Service Provider given you static IP address? Then select “PPTP”.



Figure 3-7 *Cable/DSL Setup Menu*

Step 2 Click “Next>>”, and then the following screen will appear. Enter the information of “PPTP Account”, “PPTP Password”, and “Host Name”. “My IP Address” and “My Subnet Mask” assigned by your Internet Service Provider should be filled in.

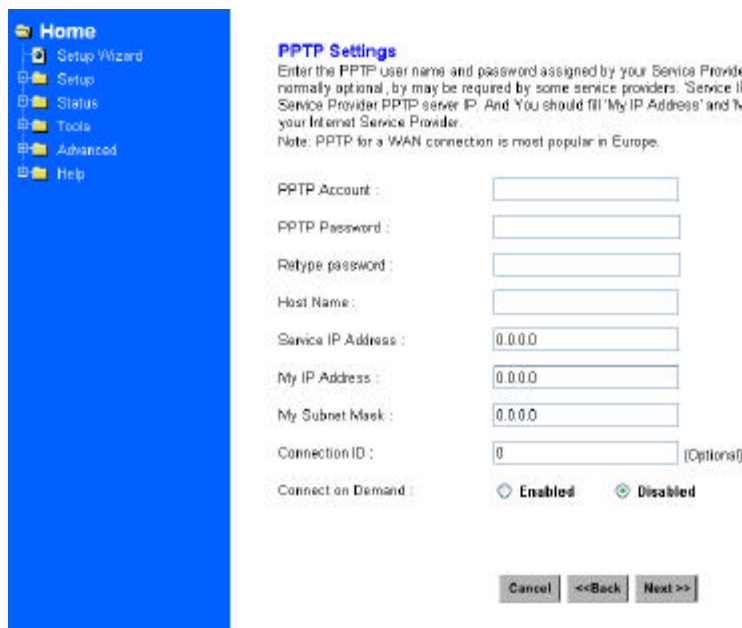


Figure 3-8 *PPTP Setting Screen*

Dynamic IP for WAN

If you did not receive any values such as fixed IP address, Subnet Mask, Default Gateway and Primary DNS IP address from your ISP, choose the “**NO**” option in both Figure 3-3 *Cable/DSL Setup Menu Screen* and Figure 3-10 *DNS Menu Screen*.

Alias IP Setup

Alias IP Setup allows you to enter maximum 5 IP addresses that can be distributed to your computer. The error message will pop up if you enter more than 5 IP addresses. See Figure 3-11 *Alias IP Setup*. Note that this function is effective only when your ISP supports it. If you want to delete the entered IP address, pull down the IP address and highlight the IP address you want to delete. Click *Delete this entry*. Then this IP address will be deleted.

The application of Virtual Server and DMZ Host IP Addresses requires more than one IP address. Alias IP provides a good support for such applications.

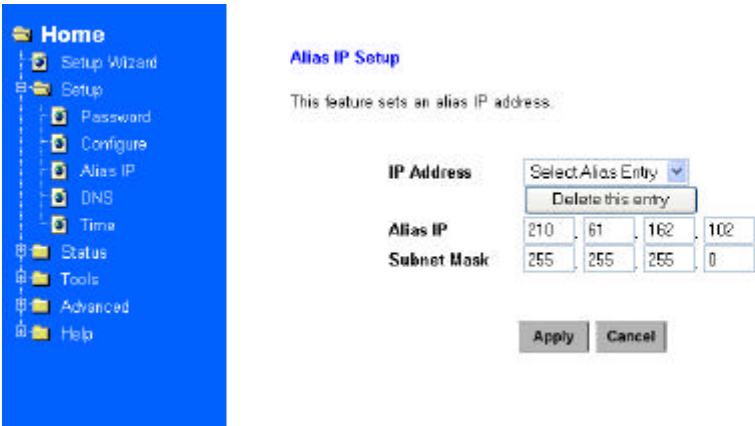


Figure 3-9 *Alias IP Setting*

DNS

Select the item of DNS from the Setup menu. The following screen will appear. You can enter the **DNS Address**. Your ISP should provide you with at least one DNS IP Address. If not, contact your ISP.



Figure 3-10 *DNS Setting*

Time Zone

You can get the data of log files by setting the time zone.

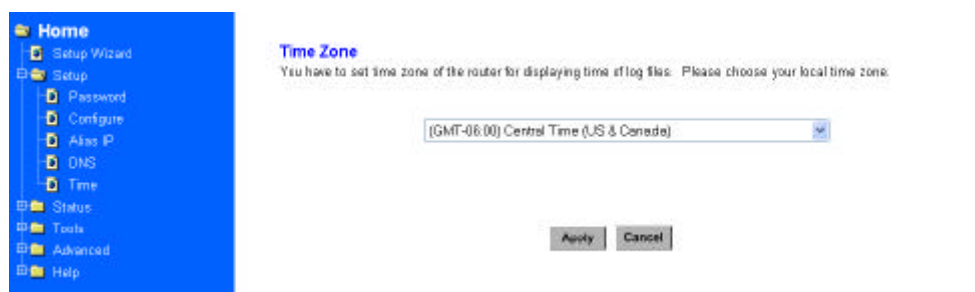


Figure 3-10 *Time Zone Setting*

4

Chapter 4 PC Configuration

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

Overview

For each PC, the following may to be configured:

- TCP/IP network settings
- Internet Access configuration

Windows Clients

This section describes how to configure Windows clients for Internet access via XRT-401B.

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

XRT-401B 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

If using the default Broadband Router settings, and the default Windows 95/98/ME/2000 TCP/IP settings, no changes need to be made.

- By default, XRT-401B 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 you wish to check your TCP/IP settings, the procedure is described in the following sections.

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

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

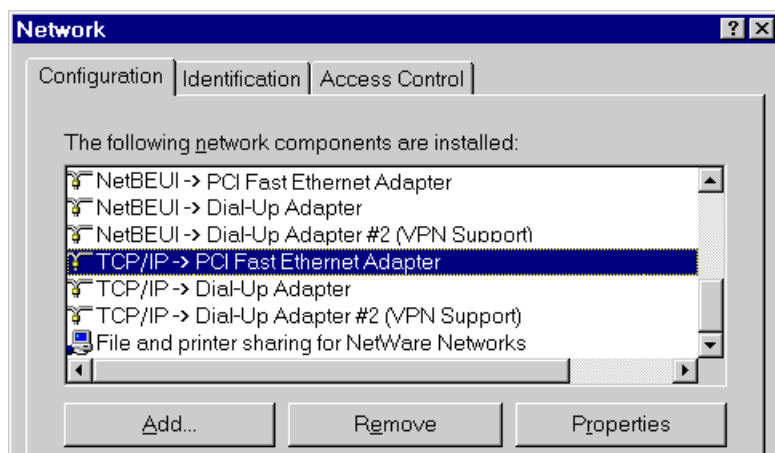


Figure 4-1: Network Configuration

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.

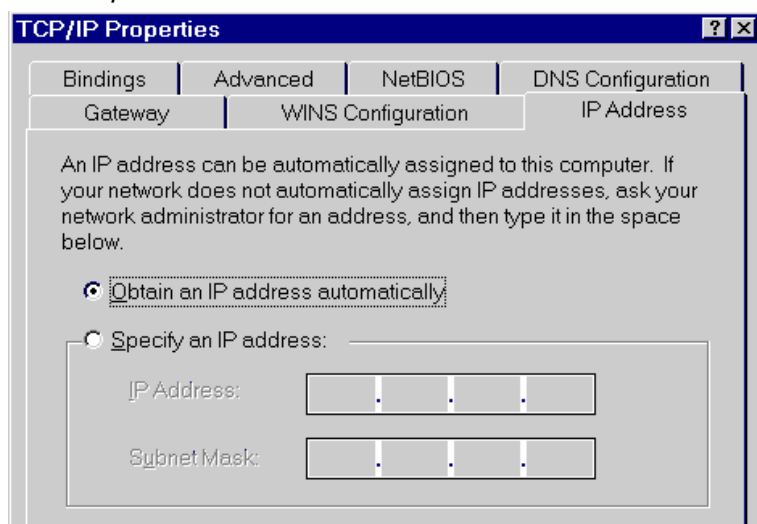


Figure 4-2: IP Address (Win 95)

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 settings.

Restart your PC to ensure it obtains an IP Address from XRT-401B.

Using "Specify an IP Address"

- If your PC is already configured, do NOT change the settings on the IP Address tab shown in **Figure** above.

- On the *Gateway* tab, enter XRT-401B'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 XRT-401B.

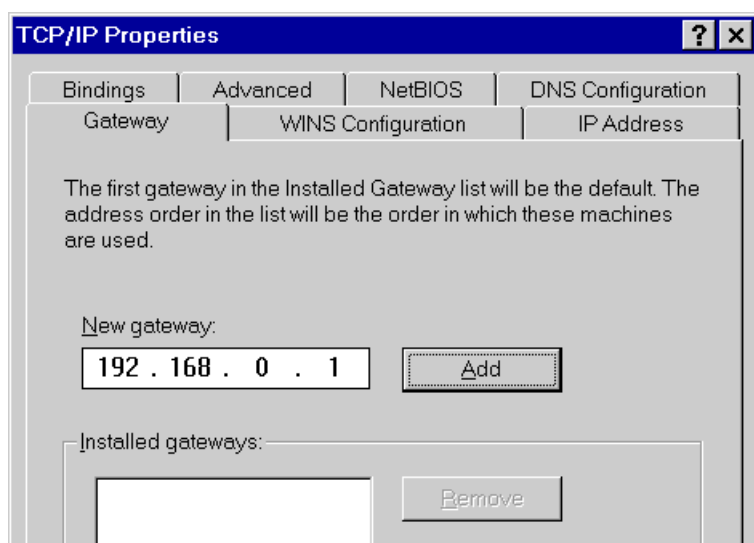


Figure 4-3: Gateway Tab (Win 95/98)

- 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*.

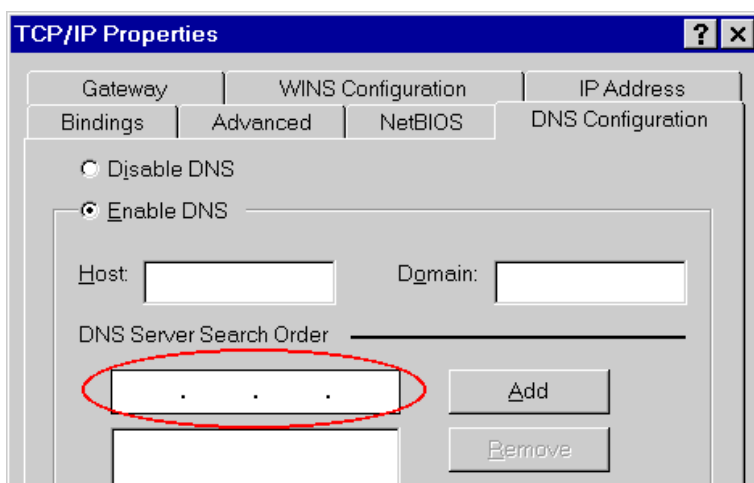


Figure 4-4: DNS Tab (Win 95/98)

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:

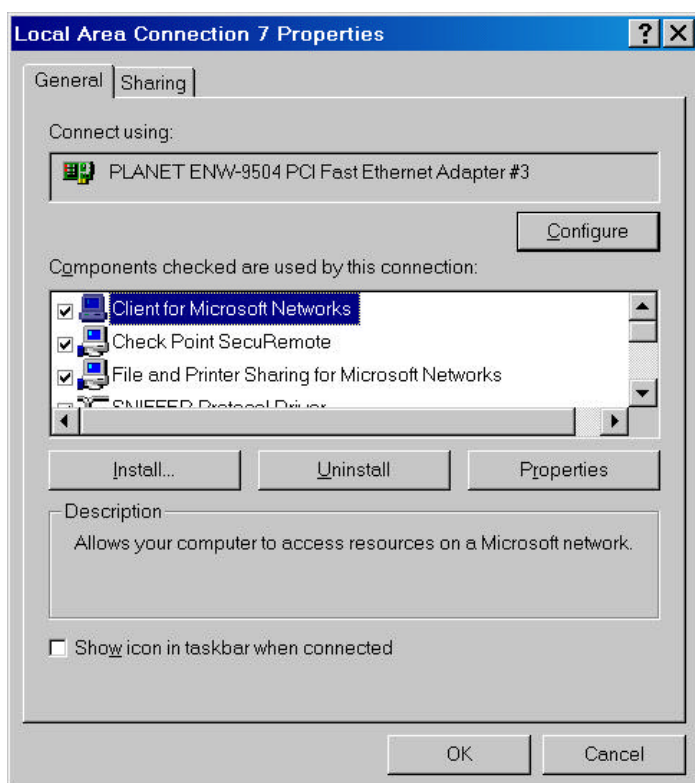


Figure 4-5: Network Configuration (Win 2000)

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.

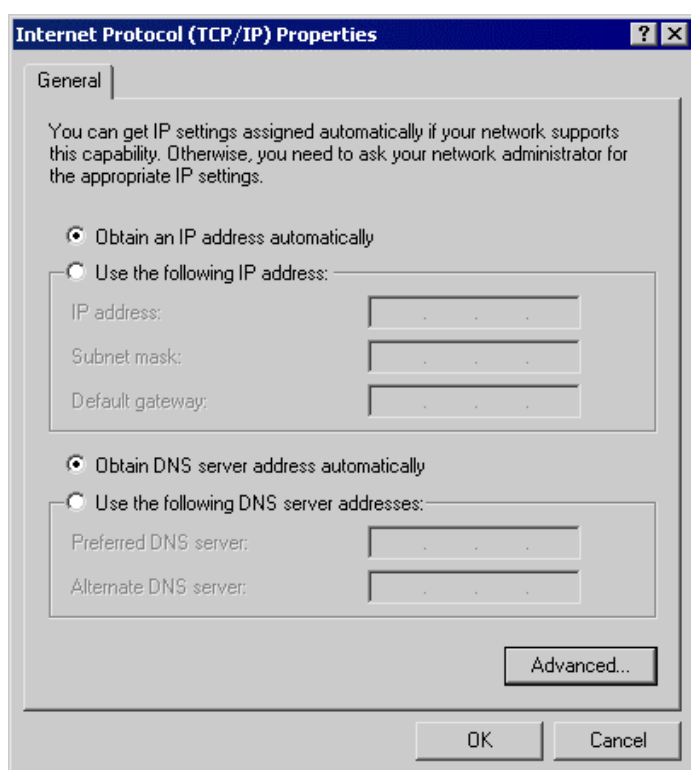


Figure 4-6: *TCP/IP Properties (Win 2000)*

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 settings.

Restart your PC to ensure it obtains an IP Address from XRT-401B.

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 XRT-401B's IP address in the *Default gateway* field and click *OK*. (Your LAN administrator can advise you of the IP Address they assigned to XRT-401B.)
- 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:

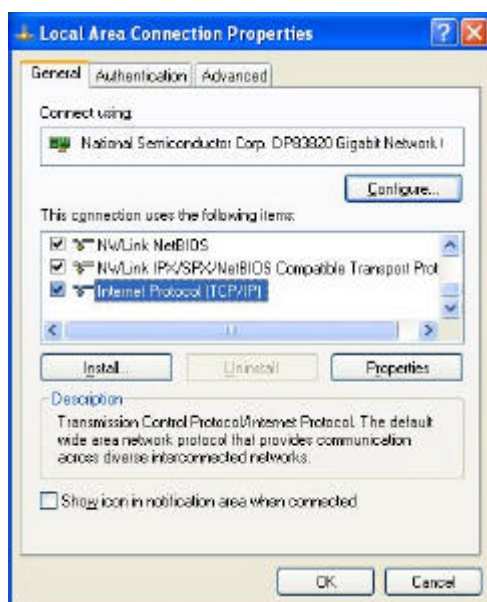


Figure 4-7: Network Configuration (Windows XP)

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.

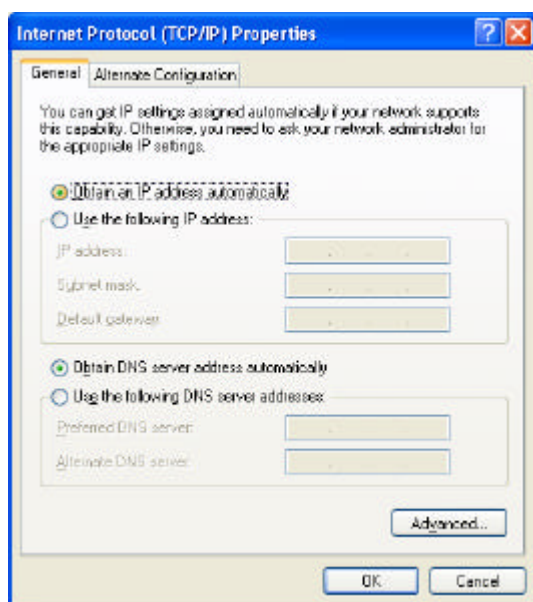


Figure 4-8: TCP/IP Properties (Windows XP)

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 settings.

Restart your PC to ensure it obtains an IP Address from XRT-401B.

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

- If your PC is already configured, do NOT change the settings on the screen shown in **Figure** above, unless advised to do so by your network administrator.
- You can enter XRT-401B's IP address in the *Default gateway* field and click *OK*. Your LAN administrator can advise you of the IP Address they assigned to XRT-401B.
- 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 XRT-401B 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/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.

Macintosh Clients

From your Macintosh, you can access the Internet via XRT-401B. The procedure is as follows.

1. Open the TCP/IP Control Panel.
2. Select *Ethernet* from the *Connect via* pop-up menu.
3. Select *Using DHCP Server* from the *Configure* pop-up menu. The DHCP Client ID field can be left blank.
4. Close the TCP/IP panel, saving your settings.

Note:

If using manually assigned IP addresses instead of DHCP, the only change required is to set the *Router Address* field to XRT-401B's IP Address.

Linux Clients

To access the Internet via XRT-401B, it is only necessary to set XRT-401B as the "Gateway".

Ensure you are logged in as "root" before attempting any changes.

Fixed IP Address

By default, most Unix installations use a fixed IP Address. If you wish to continue using a fixed IP Address, make the following changes to your configuration.

- Set your "Default Gateway" to the IP Address of XRT-401B.
- Ensure your DNS (Name server) settings are correct.

To act as a DHCP Client (recommended)

The procedure below may vary according to your version of Linux and X -windows shell.

1. Start your X Windows client.
2. Select *Control Panel - Network*
3. Select the "Interface" entry for your Network card. Normally, this will be called "eth0".
4. Click the *Edit* button, set the "protocol" to "DHCP", and save this data.
5. To apply your changes
 - Use the "Deactivate" and "Activate" buttons, if available.
 - OR, restart your system.

Chapter 5

System Status and Tools

5

This Chapter details the operation of XRT-401B and the status screens.

Operation

Once both XRT-401B and the PCs are configured, operation is automatic.

However, there are some situations where additional Internet configuration may be required:

- If using Internet-based applications, it may be necessary to specify which PC receives an incoming connection.
- Some non-standard applications may require use of the **DMZ** feature.

Status Screen

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

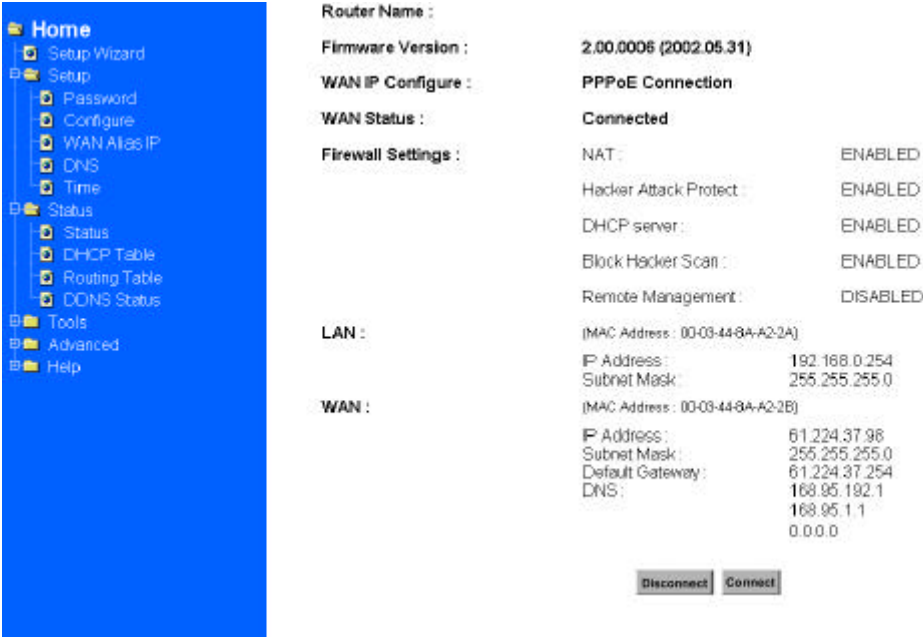


Figure 5-1: Status Screen

Status Screen

| System | |
|-------------------|---|
| Router Name | Name of device. |
| Firmware Version | Firmware version installed on machine. |
| WAN IP Configure | This field shows type of connection enabled on device. (PPPoE, PPTP connection, Static IP or Dynamic IP) |
| Internet Status | |
| WAN | These fields display the <i>IP Address</i> , <i>Subnet Mask</i> and <i>Default Gateway</i> of the router as seen by external users on the Internet. <i>DNS (Domain Name Server)</i> shows the IP address of the DNS currently being used. |
| Connection Status | Current connection status: <ul style="list-style-type: none">• Connected• Connecting• Disconnected |
| LAN Status | |
| LAN | These fields display the current <i>IP address</i> and <i>Subnet Mask</i> of the router as seen by the users on your internal network |
| Network Mask | The Network Mask (Subnet Mask) for the IP Address above. |
| DHCP Server | This shows the status of the DHCP Server function - either "Enabled" or "Disabled". For additional information about the PCs on your LAN, and the IP addresses allocated to them, use the <i>PC Database</i> option on the <i>Advanced</i> menu. |



DHCP

This table shows the number of clients who exist on your DHCP pool and their information such as MAC Address, Computer name and IP Address. Figure 3-15 shows the *DHCP Table Screen*.

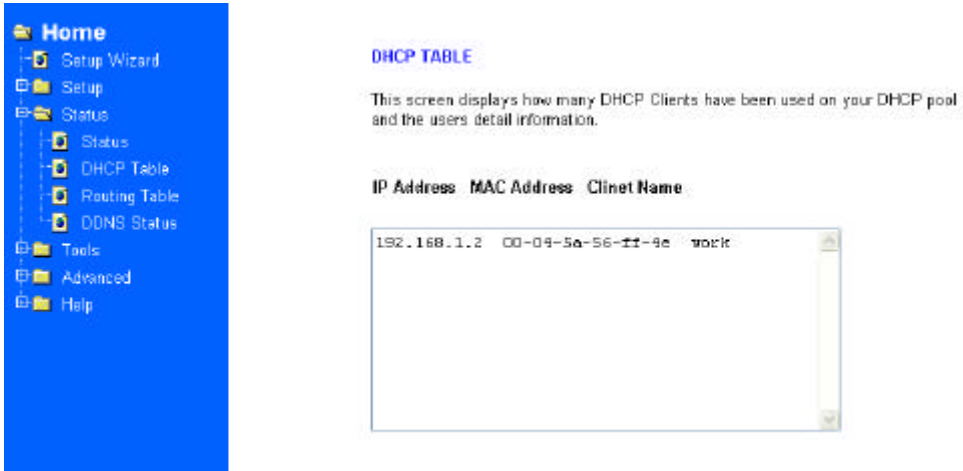


Figure 5-2: DHCP Status Screen

Routing Table

You will see the current routing configuration such as the address of Destination LAN IP, Default Gateway, Subnet Mask, Metric and the Interface (LAN or WAN). See Figure 3-16 *Routing Table Menu Screen*

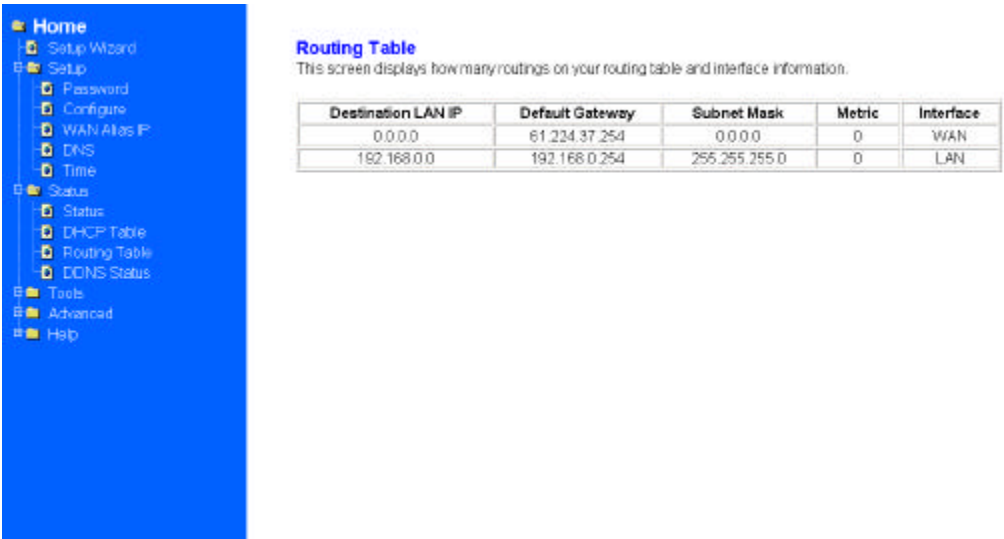
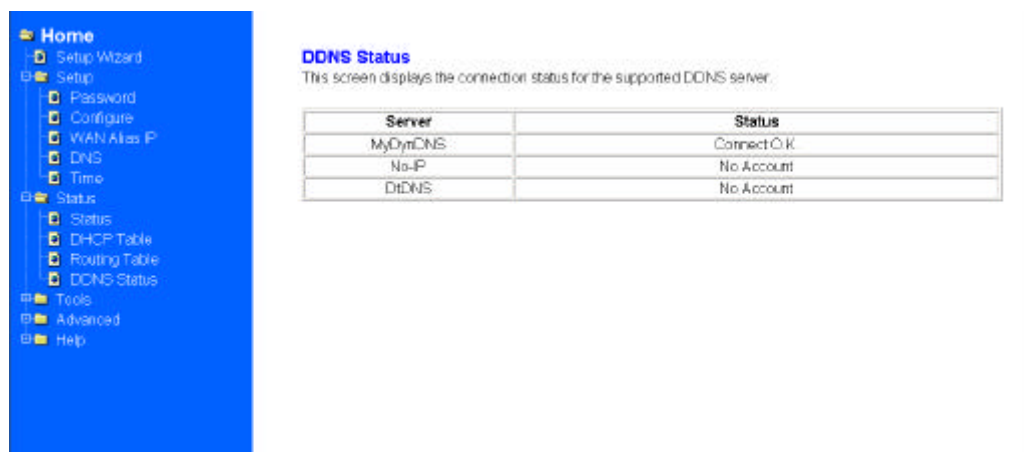


Figure 5-3 Routing Table Menu Screen

DDNS Status

XRT-401B supports the DDNS service allowing you to use one specific DNS name while the actual IP address changes. You can see the Dynamic DNS status from this screen. This screen shows the information of the connection status for the supported DDNS server.



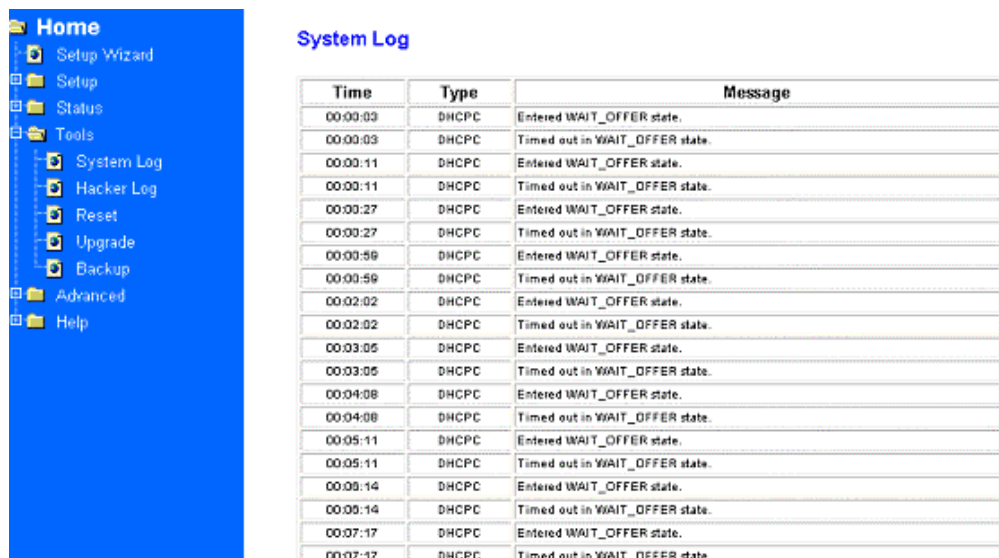
| Server | Status |
|---------|--------------|
| MyDyDNS | Connect O.K. |
| No-IP | No Account |
| DiDNS | No Account |

Figure 5-4 DDNS Status Screen

Tools

System Log

Users may acquire information of the system in this screen, including the time, the type and the message.



| Time | Type | Message |
|----------|------|--------------------------------|
| 00:00:03 | DHCP | Entered WAIT_OFFER state. |
| 00:00:03 | DHCP | Timed out in WAIT_OFFER state. |
| 00:00:11 | DHCP | Entered WAIT_OFFER state. |
| 00:00:11 | DHCP | Timed out in WAIT_OFFER state. |
| 00:00:27 | DHCP | Entered WAIT_OFFER state. |
| 00:00:27 | DHCP | Timed out in WAIT_OFFER state. |
| 00:00:59 | DHCP | Entered WAIT_OFFER state. |
| 00:00:59 | DHCP | Timed out in WAIT_OFFER state. |
| 00:02:02 | DHCP | Entered WAIT_OFFER state. |
| 00:02:02 | DHCP | Timed out in WAIT_OFFER state. |
| 00:03:05 | DHCP | Entered WAIT_OFFER state. |
| 00:03:05 | DHCP | Timed out in WAIT_OFFER state. |
| 00:04:08 | DHCP | Entered WAIT_OFFER state. |
| 00:04:08 | DHCP | Timed out in WAIT_OFFER state. |
| 00:05:11 | DHCP | Entered WAIT_OFFER state. |
| 00:05:11 | DHCP | Timed out in WAIT_OFFER state. |
| 00:06:14 | DHCP | Entered WAIT_OFFER state. |
| 00:06:14 | DHCP | Timed out in WAIT_OFFER state. |
| 00:07:17 | DHCP | Entered WAIT_OFFER state. |
| 00:07:17 | DHCP | Timed out in WAIT OFFER state |

Figure 5-5 System Log Screen

Hacker Log

You can detect the intrusion from this screen. This screen shows the information of the unauthorized access request to your network.



Figure 5-6 *Hacker Log Screen*

Reset

You have two options to reset your Router. If you choose “**Restart**”, the router will reboot yet retain all the previous configuration settings. On the other hand, if you choose “**Restore Factory Settings**”, the Router will remove all the previous settings and go back to the factory state.



Figure 5-7 *Reset Screen*

Upgrade

You may download the latest firmware version from us. To upgrade Router' s firmware, simply click the “Browse” button on the Upgrade Menu Screen and find the firmware upgrade file that you download from the our website. Then, double-click the “Start” button.

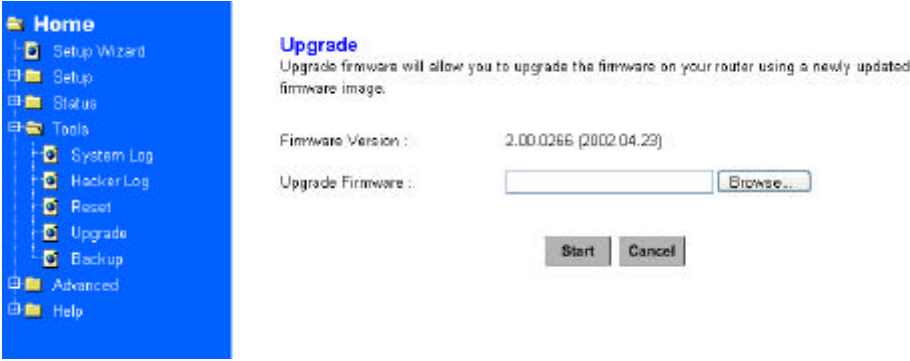


Figure 5-8 Upgrade Screen

Backup

You can save the current configuration file to your PC or restore the configuration from PC.

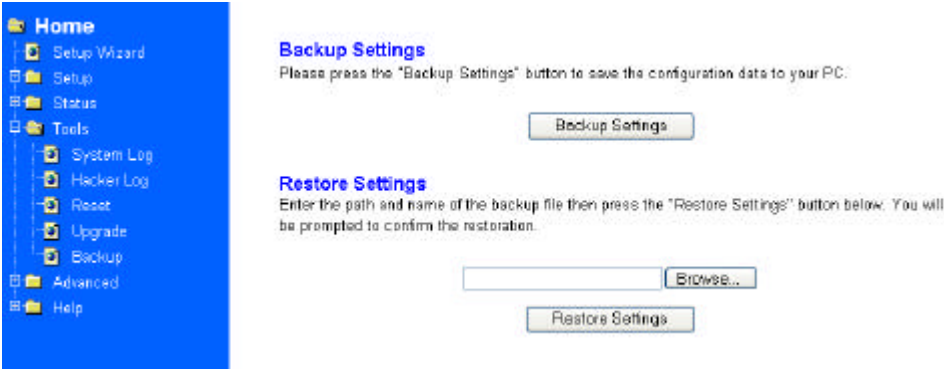


Figure 5-9 System Backup Screen

Chapter 6

Advanced Features

This Chapter explains when and how to use XRT-401B's "Advanced" Features.

Overview

Once you've configured the basic settings discussed in *chapter 3*, you may move to the settings of Advanced Features. In this section, we'll explain the setting of LAN IP, DHCP, Firewall, Privilege, Virtual Servers and the Routing. You may set up the Advanced Features by clicking the "Advanced Features" button on the left column of the page.

The following advanced features are provided.

- LAN IP configuration
- DHCP setting
- Firewall Configuration
- Privilege
- Virtual Servers
- Routing
- WAN MAC Clone
- DDNS setting
- MAC control

LAN IP Configuration

The LAN IP and Subnet Mask of XRT-401B are the values seen by the users on their internal network. The default value is 192.168.0.1 for IP and 255.255.255.0 for Subnet Mask.



Figure 6-1: LAN IP menu

DHCP Setting

Overview

A DHCP (Dynamic Host Configuration Protocol) Server automatically assigns IP address to each computer on your network. Unless you already have one, it is highly recommended that your router be set up as a DHCP server. Simply fill out the values of each entry and click the **“Apply”** button. DHCP Setting:

- **Do you want to enable DHCP Server on this router?**
Click the **“Enable”** option to enable the DHCP server. Note that you can't have two DHCP servers on the network at the same time. Set the router's DHCP option to **“Disable”** if you already have one DHCP server on your network.
- **Number of DHCP Users**
Enter the maximum number of PC that you want the DHCP server to assign IP addresses to, with the absolute maximum being 253.
- **Starting IP Address**
Enter a numerical value for the DHCP server to start with when issuing IP address.



Figure 6-1: DHCP Setting Screen

Firewall Settings

NAT allows all of the computers on your network to use one IP address.

Hacker Attack Protect keeps your network away from hacker attacking.

Block Hacker Scan is used to hide the router so that the hackers won't find it on the network.

Remote Management makes you able to manage the router from Internet.

DMZ Host IP Addresses can allow one local user to be exposed to the Internet. As local user wish to use some special-purpose service such as Internet game or Video-conferencing.

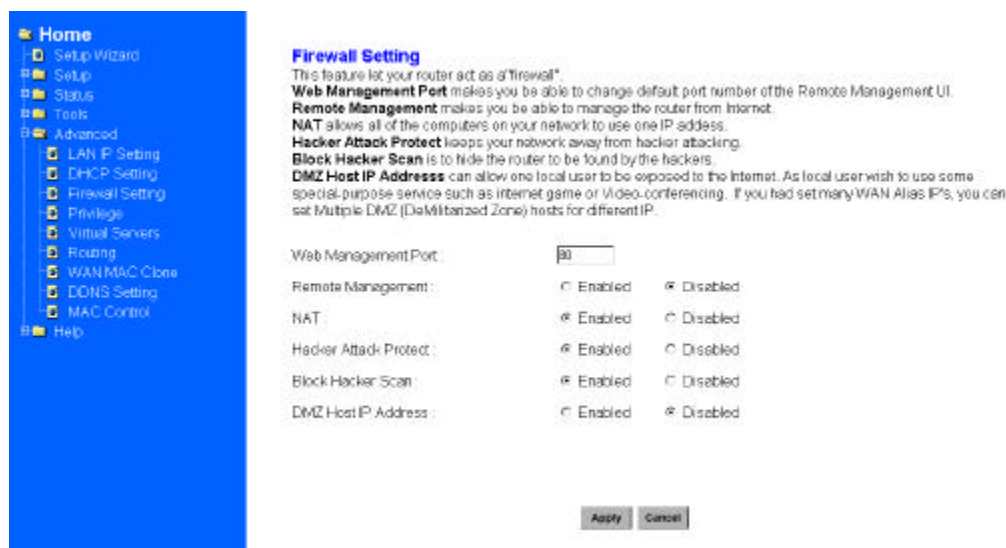


Figure 6-3: Firewall Setting menu

If you make the DMZ Host IP Address enabled, the following screen will appear.



Figure 6-4: Firewall Setting menu with DMZ enabled

You can choose the WAN IP set up previously in 3.2.4 *Alias IP Setup* as your IP address. You can enter the desired IP address number in the blank of the LAN IP.

Privilege

Privilege setting allows you to keep certain PCs on your network from accessing to the Internet. You can set up a filter through an IP address or network port number. Users who have their IP address or Port number listed on the “Blocked Private Address” field or “Block Private Ports” field will no longer be able to access the Internet. Figure 3-27 shows the screen of Privilege setting

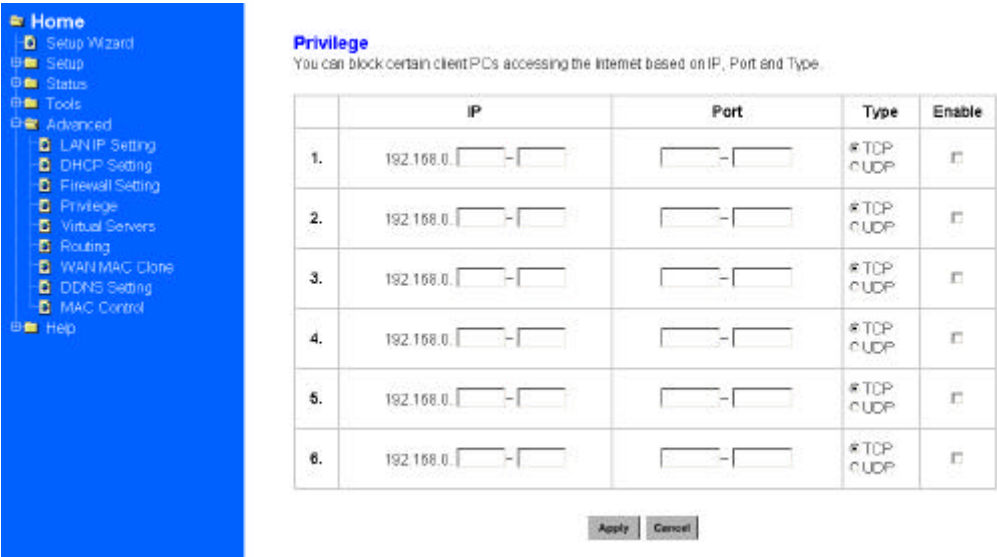


Figure 6-5: Privilege Setting Screen

Virtual Servers

This feature allows you to make Servers on your LAN accessible to Internet users. Normally, Internet users would not be able to access a server on your LAN because:

- Your Server does not have a valid external IP Address.
- Attempts to connect to devices on your LAN are blocked by the firewall in this device.

The "Virtual Server" feature solves these problems and allows Internet users to connect to your servers.

To Internet users, all virtual Servers on your LAN have the same IP Address. This IP Address is allocated by your ISP.

This address should be static, rather than dynamic, to make it easier for Internet users to connect to your Servers.

However, you can use the *DDNS (Dynamic DNS)* feature to allow users to connect to your Virtual Servers using a URL, instead of an IP Address.

You can set up public services on your network by configuring the values in the Virtual Servers Setting menu. You may assign certain IP addresses as the destination of the

network information. When users from the Internet make certain requests of your network, the Router will forward those requests to the appropriate computer. The DHCP function must be disabled to use this function.

This function is generally used to set up a web server, ftp server, or e-mail server on your network. Figure 3-28 shows the screen of Virtual Servers Menu. If you had set Alias IP for WAN, Figure 3-29 shows the screen of Virtual Servers Menu.

To add a Virtual Server:

1. Select the Profile number used by the server.
2. Click on the “Name” column and enter the application name.
3. Select Enabled or Disabled to enable or disable the profile.
4. Enter the IP Address of the server that you want the Internet users to be able to access.
5. Configure as many entries as you would like until all the link entries are filled.
6. Click the “Apply” button to save the settings.

Virtual Servers and Special Application

If you configure the gateway as a virtual server, remote users accessing services such as Web or FTP at your local site via public IP addresses can be automatically redirected to local servers configured with private IP address. In other words, depending on the requested service (TCP/UDP port number), the gateway redirects the external service request to the appropriate server. You can define up to 10 application profiles and if you had set many WAN Alias IP's, select one of the public IP's as the Virtual Server. Some applications require multiple connections, such as Internet gaming, video conferencing, Internet telephony and others. These applications cannot work when Network Address Translation (NAT) is enabled. If you need to run applications that require multiple connections, enter the service ports associated with an application.

Application to Configure :

Name :

Status :

IP Address :

Well-known Ports (Commonly Used Ports)

| | |
|-----|-------------|
| 7 | (Echo) |
| 21 | (FTP) |
| 23 | (TELNET) |
| 25 | (SMTP) |
| 53 | (DNS) |
| 78 | (Rings) |
| 80 | (HTTP) |
| 110 | (POP3) |
| 119 | (NNTP) |
| 161 | (SNMP) |
| 162 | (SNMP Trap) |

Service Port (0-65535)

| | |
|----|---|
| 1. | <input type="text" value="0"/> ~ <input type="text" value="0"/> |
| 2. | <input type="text" value="0"/> ~ <input type="text" value="0"/> |
| 3. | <input type="text" value="0"/> ~ <input type="text" value="0"/> |
| 4. | <input type="text" value="0"/> ~ <input type="text" value="0"/> |
| 5. | <input type="text" value="0"/> ~ <input type="text" value="0"/> |
| 6. | <input type="text" value="0"/> ~ <input type="text" value="0"/> |
| 7. | <input type="text" value="0"/> ~ <input type="text" value="0"/> |
| 8. | <input type="text" value="0"/> ~ <input type="text" value="0"/> |
| 9. | <input type="text" value="0"/> ~ <input type="text" value="0"/> |

Figure 6-6: Virtual Server Setting Screen

Application to Configure: You can choose one of 10 applications to configure.

Name: Enter the desired name in the column.

Status: Choose *Enabled* to enable it or *Disabled* to ignore.

IP Address: Set IP addresses to be detected by users.

WAN Address:

If more than one Alias Address is set in section 3.2.5 the Alias IP Setup, you can get multiple WAN IP addresses to choose. The following screen will appear with a pull-down column in WAN Address.

Service Port:

You can arrange certain range of ports to each profile. The minimum number is 0, and the maximum port number is 65535.

Routing Configuration

Static Routing:

You may set up a static route if you want to connect your router to more than one network. A static route is a pre-determined pathway that network information must travel to reach a specific host or network.

Create a Static route entry as follows:

1. Select “Static Routing” from the drop down list.
2. Enter the following data to set the Static Routing:

Destination LAN IP

You can create a static route by entering the IP address of the remote host or network. If you wish to build a route to the entire network, be sure to set the network portion of the IP address to zero (0).

Subnet Mask

The Subnet Mask determines which portion of an IP address is the network portion, and which portion is the host portion.

Gateway IP

This is the address of the gateway device that allows for a contact between the Router and the remote network or host.

Dynamic Routing:

Dynamic Routing can be used to cache routes learned by routing protocols, thus allowing the automation of static routing maintenance. The router, using the RIP protocol, determines the network packet's route based on the fewest number of hops between the source and the destination. In this case, you could automatically adjust to physical changes in the network's layout. Complete the following steps to set up dynamic Routing:

Step 1 Choose the Working Mode.

Gateway Mode means the router is served as a gateway that hosts your network's connection to the Internet.

Router Mode means there is more than one router that exists on your network.

Step 2 Select **Dynamic Routing** from the drop down list and choose the protocol you wish to use on your network.

Step 3 Click the “**Apply**” button.

Static Routing

This feature sets a fixed path for data to follow on the network. The router will continue to function properly if you choose not to enable this feature.

Static Routing : Select Route entry

Delete this entry

Destination LAN IP : 0 0 0 0

Subnet Mask : 0 0 0 0

Gateway : 0 0 0 0

Dynamic Routing

The dynamic routing setup allows your network to dynamically adjust to layout changes. Gateway mode should be used if your router is hosting your network's connection to the Internet. Router mode should be selected if the router exists on a network with other routers.

Working Mode : ☒ Gateway ☐ Router

Dynamic Routing : DISABLED

Apply Cancel

Figure 6-7: Routing Configuration Screen

WAN MAC Clone

Enter the MAC Address if your ISP allows access of one specific PC's Ethernet MAC address.

Click **Restore MAC Address** to return to the default setting.

WAN MAC Address Clone

If your ISP allows access by only one specific PC's Ethernet MAC address, please enter the MAC address for the Router.

MAC Address : 00 : 0A : 12 : 1A : 1A : 34

Restore MAC Address : Restore

Apply Cancel

Figure 6-8: WAN MAC Clone Screen

DDNS Configuration

Setting the Dynamic DNS allows others to access your FTP or Web service on your computer using DNS-like address.

DDNS Status: Choose *Enabled* to enable it or *Disabled* to ignore.

Retry Time: It allows the router to make the connection again in the period you set.

DDNS Server: Choose the desired server from the drop down list. Click the **Website** to make the link to the server.

Host name: It is the DNS-like address used to access your FTP or web service.

User Name: This is the user name for your account at DNS server.

Password: This is the password for your account at DNS server.

Figure 6-9: DDNS Setting menu

MAC Control

This feature allows you to block certain specific PCs accessing your ISP.

Figure 6-10: MAC Access Control Screen

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 XRT-401B and some possible solutions to them. If you follow the suggested steps and XRT-401B still does not function properly, contact your dealer for further advice.

General Problems

Problem 1: Can't connect to XRT-401B to configure it.

Solution 1: Check the following:

- XRT-401B is properly installed, LAN connections are OK, and it is powered ON.
- Ensure that your PC and XRT-401B 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 192.168.0.2 to 192.168.0.254 and thus compatible with XRT-401B's default IP Address of 192.168.0.1.

Also, the Network Mask should be set to 255.255.255.0 to match XRT-401B.

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 XRT-401B. 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 XRT-401B 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 XRT-401B.

Solution 2: XRT-401B 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 for the *DMZ* PC.
- Only one (1) PC can use this feature.

Appendix B

Specifications



XRT-401B

| | |
|------------------------|--|
| Model | XRT-401B |
| Dimensions | 141mm(W) * 100mm(D) * 27mm(H) |
| Operating Temperature | 0° C to 50° C |
| Storage Temperature | -10° C to 70° C |
| Network Protocol: | CSMA/CD, PPPoE, PPP, PPTP Client, ARP, DHCP Client and Server, TCP/IP, UDP, ICMP, RIP1/RIP2, DNS Proxy, Dynamic DNS, SNTP |
| Network Interface: | 6 Ethernet: 4 * 10/100BaseT (RJ45) auto-Switching Hub ports for LAN devices 1 * 10/100BaseT (RJ45) "uplink" port 1 * 10/100BaseT (RJ45) for WAN |
| External Power Adapter | 9V DC, 800mA |

FCC Statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

CE Marking Warning

This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.