



# **Internet Broadband Router**

**XRT-402D/104D**

**User's Manual**

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This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the instructions provided with the equipment, may cause interference to radio and TV communication. The equipment has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If you suspect this equipment is causing interference, turn your Ethernet Switch on and off while your radio or TV is showing interference, if the interference disappears when you turn your Ethernet Switch off and reappears when you turn it back on, there is interference being caused by the Ethernet Switch.

You can try to correct the interference by one or more of the following measures:

- w Reorient the receiving radio or TV antenna where this may be done safely.
- w To the extent possible, relocate the radio, TV or other receiver away from the Switch.
- w Plug the Ethernet Switch into a different power outlet so that the Switch and the receiver are on different branch circuits.

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## **Revision**

User's Manual for PLANET Internet Broadband Router:  
Model: XRT-402D/104D  
Rev: 1.0 (Jan 2005)  
Part No.: EM-XRT104DV1

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# Chapter 1 Introduction

Thank you for purchasing Planet XRT-402D/104D (XRT-D router, in the following section). This Broadband router is a cost-effective IP Sharing Router that enables multiple users to share the Internet through ADSL or cable modems. Simply configure your Internet connection settings in XRT-D and plug your PC to the LAN port and you're ready to share files and access the Internet. The XRT-402D/104D's multi-homing function can combine two/four WAN lines into one virtual high bandwidth WAN line, and let you get a better Internet surfing experience. As your network grows, you can connect another hub or switch to the router's LAN ports, allowing you to easily expand your network. XRT-D provides a total solution for the Small and Medium-sized Business (SMB) and the Small Office/Home Office (SOHO) markets, giving you an instant network today, and the flexibility to handle tomorrow's expansion and speed.

## 1.1 Features

- High Internet Access throughput
- Allow multiple users to share a single Internet line
- Supports up to 253 users
- Internet Access via Cable or xDSL modem
- Access Private LAN Servers from the Public Network
- Equipped with four LAN ports (10/100M), two WAN ports (10/100M) for XRT-402D.
- Equipped with one LAN ports (10/100M), four WAN ports (10/100M) for XRT-104D.
- Support DHCP (Server/Client) for easy setup
- Support advance features such as: Special Applications, DMZ, Virtual Servers, Access Control, and Firewall.
- Allow you to monitor the router's status such as: DHCP Client Log, Security Log and Device/Connection Status
- Easy to use Web-based GUI for configuration and management purposes
- Remote Management allows configuration and upgrades from a remote site (over the Internet)

## 1.2 Minimum Requirements

- One External xDSL (ADSL) or Cable modem with an Ethernet port (RJ-45)
- Network Interface Card (NIC) for each Personal Computer (PC)
- PCs with a Web-Browser (Internet Explorer 4.0 or higher, Netscape Navigator 4.7 or higher)

## 1.3 Package Contents

- One broadband router unit
- One Quick Installation Guide
- One User Manual CD
- One Power Adapter

## 1.4 Get to know XRT-D

### Back Panel

The diagram (fig1.0/1.1) below shows XRT-402D/104D's back panel. The router's back panel is divided into three sections, **LAN**, **WAN** and **Reset**:

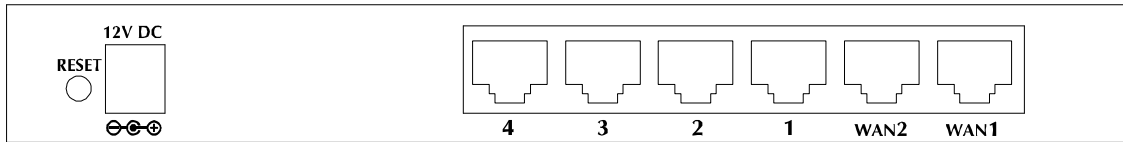


Figure 1.0 XRT-402D

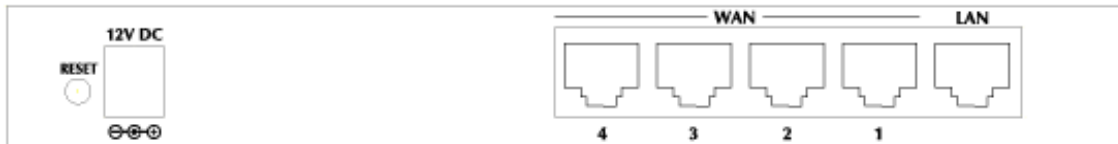


Figure 1.1 XRT-104D

### 1) Local Area Network (LAN)

XRT-D's LAN ports are where you connect your LAN's PCs, printer servers, hubs and switches etc.

### 2) Wide Area Network (WAN)

The WAN ports are the segment connected to your xDSL or Cable modem and are linked to the Internet.

### 3) Reset

The Reset button allows you to do one of two things.

- 1) If problems occur with your router, press the router's reset button with a pencil tip (for less than 7 seconds) and the router will re-boot itself, keeping your original configurations.
- 2) If problems persist or you experience extreme problems or you forgot your password, press the reset button for longer than 7 seconds and the router will reset itself to the factory default settings. (**warning:** your original configurations will be replaced with the factory default settings)

## Front Panel

On XRT-D's front panel there are LED lights that inform you of machine current status. Below is an explanation of each LED and its description.



LED	Light Status	Description
PWR	ON	Router's power supply is on
WAN 100	ON	WAN port 100Mbps is connected
	Off	WAN port 10Mbps is connected
WAN LNK/ACT	ON	WAN is connected
	OFF	No WAN connection
	Flashing	WAN port has Activity (ACT), data being sent
LAN 100 (Port 1-4)	ON	LAN port 100Mbps is connected
	OFF	LAN port 10Mbps is connected
LAN LNK/ACT (Port 1-4)	ON	LAN is connected
	OFF	No LAN connection
	Flashing	LAN port has Activity (ACT), data being sent

## 1.5 Setup Diagram

Figure 1.2 below shows a typical setup for a Local Area Network (LAN).

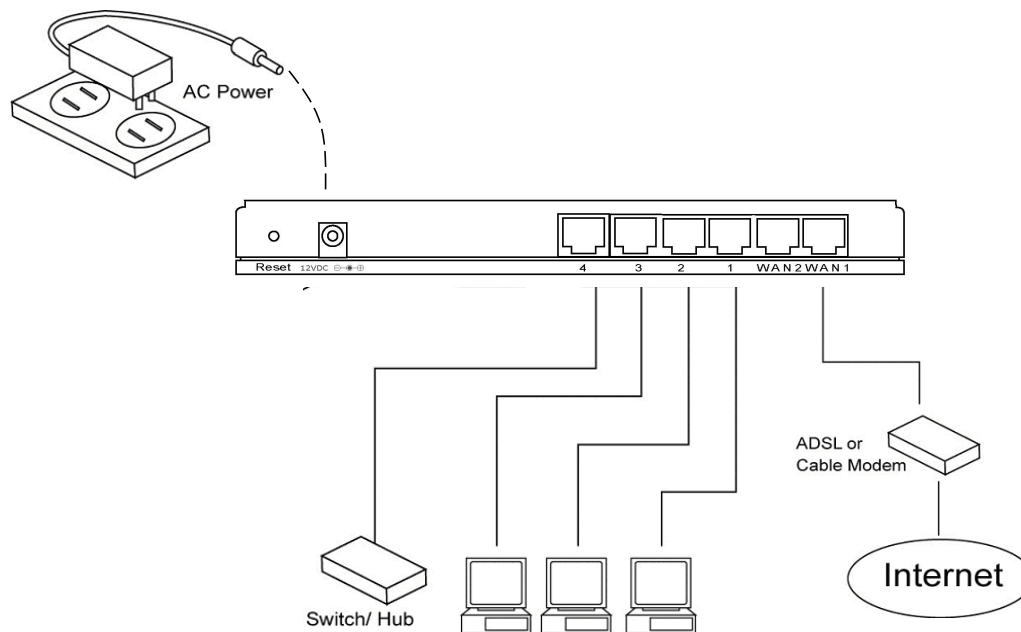


Figure 1.2

## 1.6 Getting started

This is a step-by-step instruction on how to start using the router and get connected to the Internet.

- 1) Setup your network as shown in the setup diagram above (fig 1.2).



- 2) You then need to set your LAN PC clients so that it can obtain an IP address automatically. All LAN clients require an IP address. Just like an address, it allows LAN clients to find one another.

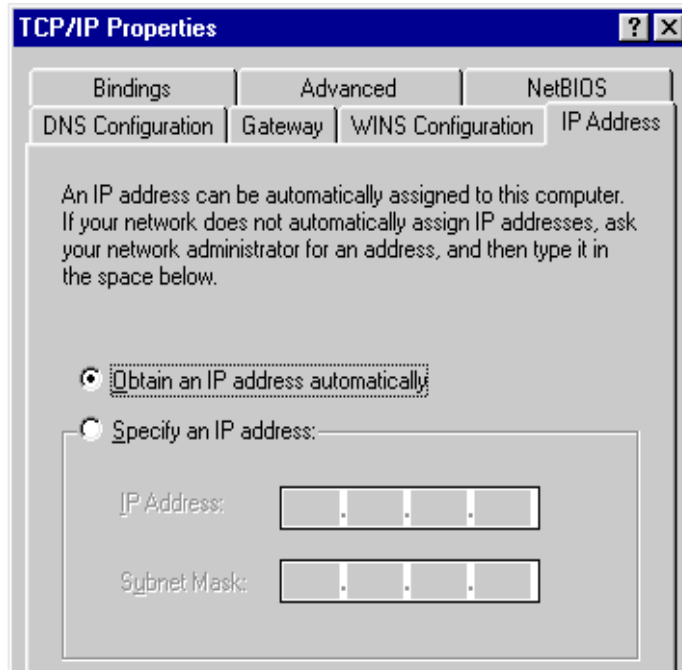
### **Configure your PC to obtain an IP address automatically**

By default XRT-D's DHCP is on, this means that you can obtain an IP address automatically once you've configured your PC to obtain an IP address automatically. This section will show you how to configure your PC so that it can obtain an IP address automatically for either Windows 95/98/Me, 2000 or NT operating systems.

For other operating systems (Macintosh, Sun, etc.), please follow the manufacturer's instructions. The following is a step-by-step illustration on how to configure your PC to obtain an IP address automatically for 2a) **Windows 95/98/Me**, 2b) **Windows XP**, 2c) **Windows 2000** and 2d) **Windows NT**.

#### **2a) Windows 95/98/Me**

- 1: Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.
- 2: Double-click *Network* icon. The *Network* window will appear.
- 3: Check your list of Network Components. If TCP/IP is not installed, click the *Add* button to install it now. If TCP/IP is installed, go to **step 6**.
- 4: In the *Network Component Type* dialog box, select *Protocol* and click *Add* button.
- 5: In the *Select Network Protocol* dialog box, select *Microsoft* and *TCP/IP* and then click the *OK* button to start installing the TCP/IP protocol. You may need your Windows CD to complete the installation.
- 6: After installing TCP/IP, go back to the *Network* dialog box. Select *TCP/IP* from the list of *Network Components* and then click the *Properties* button.
- 7: Check each of the tabs and verify the following settings:
  - **Bindings:** Check *Client for Microsoft Networks* and *File and printer sharing for Microsoft Networks*.
  - **Gateway:** All fields are blank.
  - **DNS Configuration:** Select *Disable DNS*.
  - **WINS Configuration:** Select *Disable WINS Resolution*.
  - **IP Address:** Select *Obtain IP address automatically*.



- 8: Reboot the PC. Your PC will now obtain an IP address automatically from your Broadband Router's DHCP server.



**Note:**

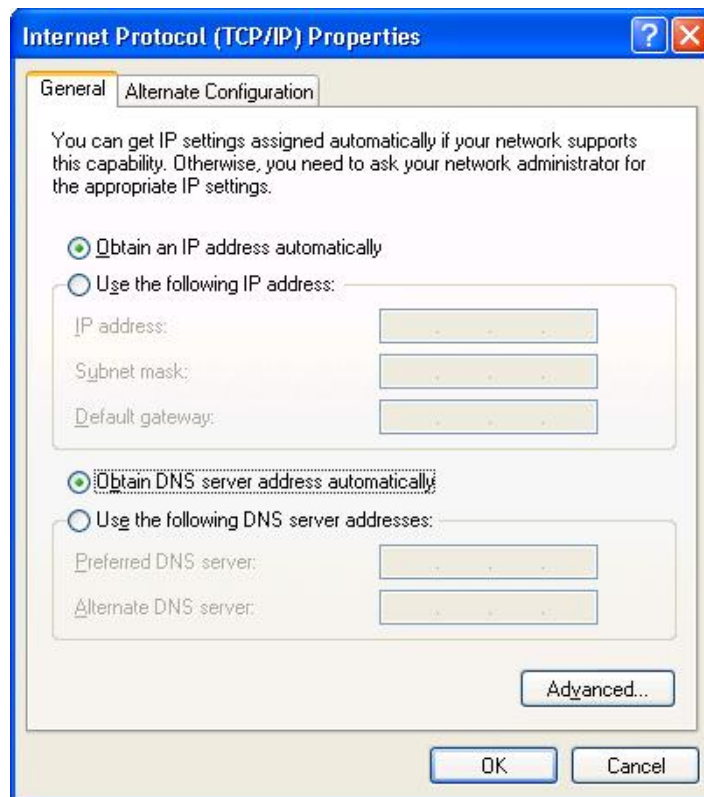
Please make sure that XRT-D's DHCP server is the only DHCP server available on your LAN.

---

Once you've configured your PC to obtain an IP address automatically, please proceed to Step 3

## 2b) Windows XP

- 1: Click the *Start* button and select *Settings*, then click *Network Connections*. The *Network Connections* window will appear.
- 2: Double-click *Local Area Connection* icon. The *Local Area Connection* window will appear.
- 3: Check your list of Network Components. You should see *Internet Protocol [TCP/IP]* on your list. Select it and click the *Properties* button.
- 4: In the Internet Protocol (TCP/IP) Properties window, select *Obtain an IP address automatically* and *Obtain DNS server address automatically* as shown on the following screen.



- 5: Click *OK* to confirm the setting. Your PC will now obtain an IP address automatically from your Broadband Router's DHCP server.



**Note:**

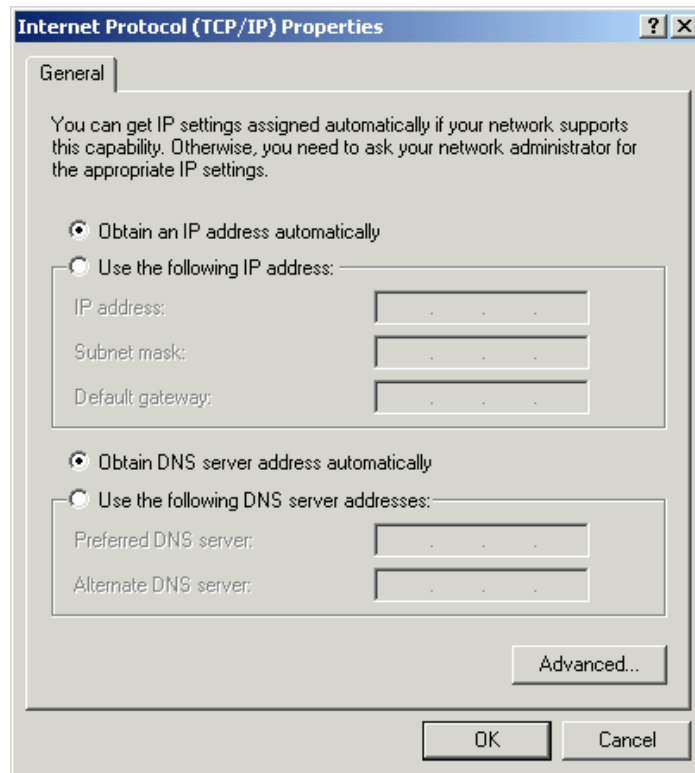
Please make sure that XRT-D's DHCP server is the only DHCP server available on your LAN.

---

Once you've configured your PC to obtain an IP address automatically, please proceed to Step 3.

### 2c) Windows 2000

- 1: Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.
- 2: Double-click *Network and Dial-up Connections* icon. In the *Network and Dial-up Connection* window, double-click *Local Area Connection* icon. The *Local Area Connection* window will appear.
- 3: In the *Local Area Connection* window, click the *Properties* button.
- 4: Check your list of Network Components. You should see *Internet Protocol [TCP/IP]* on your list. Select it and click the *Properties* button.
- 5: In the Internet Protocol (TCP/IP) Properties window, select *Obtain an IP address automatically* and *Obtain DNS server address automatically* as shown on the following screen.



6: Click *OK* to confirm the setting. Your PC will now obtain an IP address automatically from your Broadband Router's DHCP server.



**Note:**

Please make sure that XRT-D's DHCP server is the only DHCP server available on your LAN.

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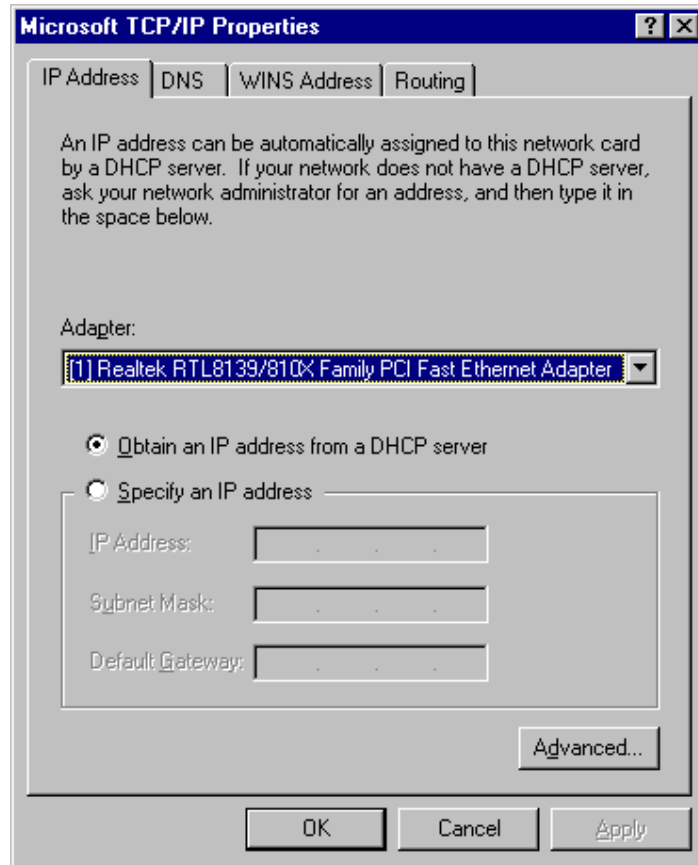
Once you've configured your PC to obtain an IP address automatically, please proceed to Step 3.

## 2d) Windows NT

- 1: Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.
- 2: Double-click *Network* icon. The *Network* window will appear. Select the *Protocol* tab from the *Network* window.
- 3: Check if the *TCP/IP Protocol* is on your list of *Network Protocols*. If TCP/IP is not installed, click the *Add* button to install it now. If TCP/IP is installed, go to **step 5**.
- 4: In the *Select Network Protocol* window, select the *TCP/IP Protocol* and click the *Ok* button to start installing the TCP/IP protocol. You may need your Windows CD to complete the installation.
- 5: After you install TCP/IP, go back to the *Network* window. Select *TCP/IP* from the list of *Network Protocols* and then click the *Properties* button.

6: Check each of the tabs and verify the following settings:

- **IP Address:** Select *Obtain an IP address from a DHCP server*.
- **DNS:** Let all fields be blank.
- **WINS:** Let all fields be blank.
- **Routing:** Let all fields be blank.



7: Click *OK* to confirm the setting. Your PC will now obtain an IP address automatically from your Broadband Router's DHCP server.

---

**? Note:** Please make sure that XRT-D's DHCP server is the only DHCP server available on your LAN.

---

Once you've configured your PC to obtain an IP address automatically, please proceed to Step 3.

- 3) Once you have configured your PCs to obtain an IP address automatically, the router's DHCP server will automatically give your LAN clients an IP address. By default XRT-D's DHCP server is enabled so that you can obtain an IP address automatically. To see if you have obtained an IP address, see Appendix A.

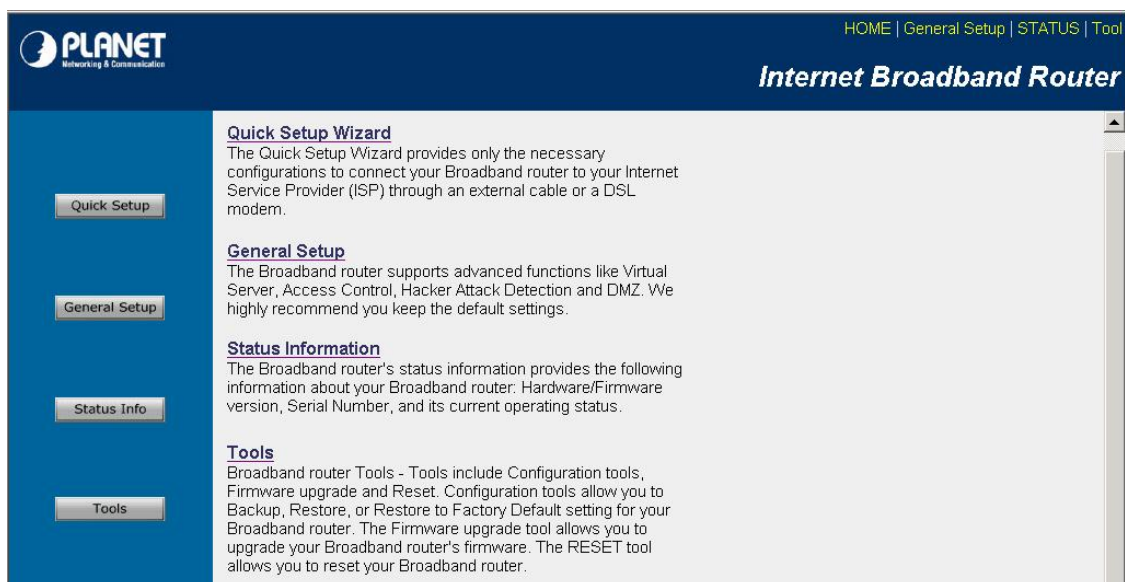
**Note:** Please make sure that XRT-D's DHCP server is the only DHCP server available on your LAN. If there is another DHCP on your network, then you'll need to switch one of the DHCP servers off. (To disable XRT-D's DHCP server please refer to chapter 2 LAN Port)

- 4) Once your PC has obtained an IP address from your router, enter the default IP address (broadband router's IP address **192.168.0.1**) into your PC's web browser and press <enter>
- 5) The login screen below will appear. Enter the "User Name" and "Password" and then click <OK> to login.

**Note:** By default the user name is "**admin**" and the password is "**1234**". For security reasons it is recommended that you change the password as soon as possible (in General setup/system/password, see chapter 2)



- 6) The **HOME** page screen below will appear. The **Home** Page is divided into four sections, **Quick Setup Wizard**, **General Setup**, **Status Information** and **Tools**.



Menu	Description
<b>Quick Setup Wizard</b> ( <i>Chapter 2</i> )	Select your Internet connection type and then input the configurations needed to connect to your Internet Service Provider (ISP).
<b>General Setup</b> ( <i>Chapter 3</i> )	This section contains configurations for the XRT-D's advance functions such as: Port Forwarding, Virtual Server, Access Control, DoS, DMZ, Special Applications and other functions to meet your LAN requirements.
<b>Status Information</b> ( <i>Chapter 4</i> )	In this section you can see XRT-D's system information, Internet Connection, Device Status, Security Log and DHCP client Log information.
<b>Tools</b> ( <i>Chapter 5</i> )	This section contain XRT-D's Tools - Tools include Configuration tools, Firmware upgrade and Reset. Configuration tools allow you to Backup (save), Restore, or Restore to Factory Default configuration for your Broadband router. The Firmware upgrade tool allows you to upgrade your Broadband router's firmware. The RESET tool allows you to reset your Broadband router.

- 7) Click on **Quick Setup Wizard** (see chapter 2) to start configuring settings required so that you can start accessing the Internet. The other sections (General Setup, Status Information and Tools) do not need to be configured unless you wish to implement/monitor more advance features/information.

Select the section (Quick Setup Wizard, General Setup, Status Information and Tools) you wish to configure and proceed to the corresponding chapter. Use the selections on the web management's top right hand page to navigate around the web-based management User Interface.

# Chapter 2 Quick Setup

The Quick Setup section is designed to get you using XRT-D as quickly as possible. In the Quick Setup you are required to fill in only the information necessary to access the Internet. Once you click on the **Quick Setup Wizard** in the HOME page, you should see the screen below.

## Step 1) Time Zone

The Time Zone allows your router to base its time on the settings configured here, this will affect functions such as Log entries and Firewall settings.

HOME | General Setup | Status | Tool

**PLANET**  
Networking & Communication

**Internet Broadband Router**

1. Time Zone  
2. Broadband Type  
3. IP Address Info

**1. Time Zone**

Set the time zone of the Broadband router. This information is used for log entries and firewall settings.

Set Time Zone :  
(GMT+08:00)Taipei

Time Server Address 192.43.244.18

Enable Daylight Savings

Start Daylight Savings Time January 1

End Daylight Savings Time January 1

Next

Parameter	Description
<b>Set Time Zone</b>	Select the time zone of the country you are currently in. The router will set its time based on your selection.
<b>Time Server Address</b>	You can manually assign time server address if the default time server is not workable.
<b>Enable Daylight Savings</b>	The router can also take Daylight savings into account. If you wish to use this function, you must check/tick the enable box to enable your daylight saving configuration (below).
<b>Start Daylight Savings Time</b>	Select the period in which you wish to start daylight Savings Time.
<b>End Daylight Savings Time</b>	Select the period in which you wish to end daylight Savings Time.

Click on **NEXT** to proceed to the next page (step 2) Broadband Type.

## Step 2) Broadband Type



In this section you have to select one of many types of connections that you used to connect your broadband router to your ISP (see screen below).



**Note:** Different ISP's require different methods of connecting, please check with your ISP for the types required..

The screenshot shows the configuration interface for a Planet Internet Broadband Router. The page title is 'Internet Broadband Router'. On the left, there is a navigation menu with three items: '1. Time Zone', '2. Broadband Type' (which is highlighted), and '3. IP Address Info'. The main content area is titled '2. Broadband Type' and contains the following text: 'Specify the WAN connection type required by your Internet Service Provider. Specify a Cable modem, Fixed-IP xDSL, PPPoE xDSL or PPTP xDSL connection.' Below this text are two buttons labeled 'WAN1' and 'WAN2'. There are six radio button options listed: 'Cable Modem', 'Fixed-IP xDSL', 'PPPoE xDSL', 'PPTP xDSL', 'L2TP xDSL', and 'Telstra Big Pond1'. Each option has a short description of the connection type. At the bottom right of the main content area, there is a 'Back' button.

Menu	Description
<b>2.1 Cable Modem</b>	Your ISP will automatically give you an IP address.
<b>2.2 Fixed-IP xDSL</b>	Your ISP has given you an IP address already.
<b>2.3 PPPoE</b>	Your ISP requires you to use a Point-to-Point Protocol over Ethernet (PPPoE) connection.
<b>2.4 PPTP</b>	Your ISP requires you to use a Point-to-Point Tunneling Protocol (PPTP) connection.
<b>2.5 L2TP</b>	Layer 2 Tunneling Protocol is a common connection method used in xDSL connections.
<b>2.6 Telstra Big Pond</b>	Telstra Big Pond is an Internet service is provided in Australia.

Click on one of the WAN type and then proceed to the manual's relevant sub-section (**2.1, 2.2, 2.3, 2.4, 2.5 or 2.6**). Click on **Back** to return to the previous screen.

## 2.1 Cable Modem

Choose Cable Modem if your ISP will automatically give you an IP address. Some ISP may also require you to fill in additional information such as Host Name and MAC address (see screen below).



**Note:**

The Host Name and MAC address section is *optional* and you can skip it if your ISP does not require these settings for you to connect to the Internet.

The screenshot shows the configuration interface for a Planet Internet Broadband Router. The page title is "Internet Broadband Router". In the top right corner, there are navigation links: "HOME | General Setup | Status | Tool". On the left side, there is a blue sidebar with a list of configuration steps: "1. Time Zone", "2. Broadband Type", and "3. IP Address Info", with "3. IP Address Info" being the active step. The main content area is titled "3.IP Address Info" and "WAN 1 Cable Modem". It contains two input fields: "Host Name :" and "MAC Address :". The MAC Address field is pre-filled with "000000000000". Below the MAC Address field is a button labeled "Clone Mac Address". At the bottom right of the form area, there are two buttons: "Back" and "OK".

Parameters	Description
Host Name	If your ISP requires a Host Name, type in the host name provided by your ISP, otherwise leave it blank.
MAC Address	Your ISP may require a particular MAC address in order for you to connect to the Internet. This MAC address is the PC's MAC address that your ISP had originally connected your Internet connection to. Type in this MAC address in this section or use the " <b>Clone MAC Address</b> " button to replace the WAN MAC address with the MAC address of that PC (you have to be using that PC for the Clone MAC Address button to work). To find out the PC's MAC address see Appendix A. (see Glossary for an explanation on MAC address)

Click **<OK>** when you have finished the configuration above. **Congratulations!** You have completed the configuration for the Cable Modem connection. You can start using the router now, if you wish to use some of the advance features supported by this router see chapter 3, 4, 5.

## 2.2 Fixed-IP xDSL

Select Static IP Address if your ISP has given you a specific IP address for you to use. Your ISP should provide all the information required in this section.

PLANET Networking & Communication

HOME | General Setup | Status | Tool

Internet Broadband Router

1. Time Zone  
2. Broadband Type  
3. IP Address Info

### 3. IP Address Info

**WAN 1 Fixed-IP xDSL**  
Enter the IP Address, Subnet Mask, Gateway IP Address and DNS IP Address provided to you by your ISP in the appropriate fields.

IP address assigned by your Service Provider :	<input type="text" value="172.1.1.1"/>
Subnet Mask :	<input type="text" value="255.255.0.0"/>
Service Provider Gateway Address :	<input type="text" value="168.95.192.1"/>
DNS Address :	<input type="text" value="172.1.1.254"/>

Back OK

Parameters	Description
IP	The IP address that your ISP has given you.
Subnet Mask	Enter the Subnet Mask provided by your ISP. (e.g. 255.255.255.0)
Gateway IP	The gateway provided by your ISP.
DNS	The DNS server IP address that your ISP provides to you.

Click **<OK>** when you have finished the configuration above. **Congratulations!** You have completed the configuration for the Fixed-IP xDSL connection. You can start using the router now, if you wish to use some of the advance features supported by this router see chapter 3, 4, 5.

## 2.3 PPPoE

Select PPPoE if your ISP requires the PPPoE protocol to connect you to the Internet. Your ISP should provide all the information required in this section.

Parameter	Description
User Name	The User Name provided by your ISP for PPPoE connection.
Password	The Password provided by your ISP for PPPoE connection.
Service Name	[Optional] The Service name should your ISP requires it, otherwise leave it blank.
MTU	This is optional. You can specify the maximum size of your transmission packet to the Internet. Leave it as it is if you do not wish to set a maximum packet size.
Connection Type	<p>If you select “<b>Continuous</b>”, the router will always connect to the ISP. If the WAN line breaks down and links again, the router will auto-reconnect to the ISP.</p> <p>If you select “<b>Connect On Demand</b>”, the router will auto-connect to the ISP when someone want to use the Internet and keep connected until the WAN idle timeout. The router will close the WAN connection if the time period that no one is using the Internet exceeds the “Idle Time”.</p> <p>If you select “<b>Manual</b>”, the router will connect to ISP only when you click “Connect” manually from the Web user interface. The WAN connection will not be disconnected due to the idle timeout. If the WAN line breaks down and latter links again, the router will not auto-connect to the ISP.</p>
Idle Time	You can specify an idle time threshold (minutes) for the WAN port. This means if no packets have been sent (no one using the

Internet) during this specified period, the router will automatically disconnect the connection with your ISP.

---

Click **<OK>** when you have finished the configuration above. **Congratulations!** You have completed the configuration for the PPPoE connection. You can start using the router now, if you wish to use some of the advance features supported by this router see chapter 3, 4, 5.



---

The WAN “idle timeout” auto-disconnect function may not work due to abnormal activities of some network application software; computer virus or hacker attacks from the Internet. For example, some software sends network packets to the Internet in the background, even when you are not using the Internet. So please turn off your computer when you are not using it. This function also may not work with some ISP. So please make sure this function can work properly when you use this function in the first time, especially when your ISP charge you by time used.

---

## 2.4 PPTP

Select PPTP if your ISP requires the PPTP protocol to connect you to the Internet. Your ISP should provide all the information required in this section.

The screenshot shows the configuration interface for a Planet Internet Broadband Router. The page title is "Internet Broadband Router" and the current section is "3. IP Address Info". Under "WAN 1 PPTP", there are two main sections: "WAN Interface Settings" and "PPTP Settings".

**WAN Interface Settings:**

- Obtain an IP address automatically :
- Use the following IP address :

Below these options are three input fields:

- IP Address : 0.0.0.0
- Subnet Mask : 0.0.0.0
- Default Gateway : 0.0.0.0

**PPTP Settings:**

- User ID : [input field]
- Password : [input field]
- PPTP Gateway : 0.0.0.0
- Connection ID : [input field] (Optional)
- MTU : 0 (512<=MTU Value<=1492)
- BEZEQ-ISRAEL :  Enable (for BEZEQ network in ISRAEL use only)
- Connection Type : Continuous (dropdown menu) [Connect] [Disconnect]
- Idle Time Out : 0 (1-1000 minutes)

At the bottom right, there are "Back" and "OK" buttons.

Parameter	Description
Obtain an IP address automatically	The ISP requires you to obtain an IP address by DHCP before connecting to the PPTP server.
Use the following IP address	The ISP gives you a static IP to be used to connect to the PPTP server.
IP Address	This is the IP address that your ISP has given you to establish a PPTP connection.
Subnet Mask	Enter the Subnet Mask provided by your ISP. (e.g. 255.255.255.0)
Gateway	Enter the IP address of the ISP Gateway.
User ID	Enter the User Name provided by your ISP for the PPTP connection. Sometimes called a Connection ID.
Password	Enter the Password provided by your ISP for the PPTP connection.

PPTP Gateway	If your LAN has a PPTP gateway, then enter that PPTP gateway IP address here. If you do not have a PPTP gateway then enter the ISP's Gateway IP address above.
Connection ID	This is the ID given by ISP. This is optional.
MTU	This is optional. You can specify the maximum size of your transmission packet to the Internet. Leave it as it is if you do not wish to set a maximum packet size.
BEZEQ-ISRAEL	Select this item if you are using the service provided by BEZEQ in Israel.
Connection Type	<p>If you select "Continuous", the router will always connect to the ISP. If the WAN line breaks down and links again, the router will auto-reconnect to the ISP.</p> <p>If you select "Connect On Demand", the router will auto-connect to the ISP when someone want to use the Internet and keep connected until the WAN idle timeout. The router will close the WAN connection if the time period that no one is using the Internet exceeds the "Idle Time Out".</p> <p>If you select "Manual", the router will connect to ISP only when you click "Connect" manually from the Web user interface. The WAN connection will not disconnect due to the idle timeout. If the WAN line breaks down and latter links again, the router will not auto-connect to the ISP.</p>
Idle Time Out	You can specify an idle time threshold (minutes) for the WAN port. This means if no packets have been sent (no one using the Internet) throughout this specified period, then the router will automatically disconnect the connection with your ISP.

---

Click <OK> when you have finished the configuration above. **Congratulations!** You have completed the configuration for the PPTP connection. You can start using the router now, if you wish to use some of the advance features supported by this router see chapter 3, 4, 5.

**? Note**

---

The WAN "idle timeout" auto-disconnect function may not work due to abnormal activities of some network application software; computer virus or hacker attacks from the Internet. For example, some software sends network packets to the Internet in the background, even when you are not using the Internet. So please turn off your computer when you are not using it. This function also may not work with some ISP. So please make sure this function can work properly when you use this function in the first time, especially when your ISP charge you by time used.

---

## 2.5 L2TP

Select L2TP if your ISP requires the L2TP protocol to connect you to the Internet. Your ISP should provide all the information required in this section.

The screenshot shows the configuration interface for the Planet Internet Broadband Router. The page title is "Internet Broadband Router" and the current section is "3. IP Address Info". Under "WAN 1 L2TP", there is a note: "Layer Two Tunneling Protocol is a common connection method used in xDSL connections." The settings are divided into two sections: "WAN Interface Settings" and "L2TP Settings".

**WAN Interface Settings:**

- Obtain an IP address automatically :
  - MAC Address : 000000000000 [Clone Mac]
- Use the following IP address :
  - IP Address : 0.0.0.0
  - Subnet Mask : 0.0.0.0
  - Default Gateway : 0.0.0.0

**L2TP Settings:**

- User ID : [ ]
- Password : [ ]
- L2TP Gateway : 0.0.0.0
- MTU : 0 (512<=MTU Value<=1492)
- Connection Type : Continuous [Connect] [Disconnect]
- Idle Time Out : 0 (1-1000 minutes)

Buttons for "Back" and "OK" are located at the bottom right of the configuration area.

Parameter	Description
Obtain an IP address automatically	The ISP requires you to obtain an IP address by DHCP before connecting to the L2TP server.
MAC Address	Your ISP may require a particular MAC address in order for you to connect to the Internet. This MAC address is the PC's MAC address that your ISP had originally connected your Internet connection to. Type in this MAC address in this section or use the "Clone MAC Address" button to replace the WAN MAC address with the MAC address of that PC (you have to be using that PC for the Clone MAC Address button to work). To find out the PC's MAC address see Appendix A. (see Glossary for an explanation on MAC address)
Use the following IP address	The ISP gives you a static IP to be used to connect to the L2TP server.
IP Address	This is the IP address that your ISP has given you to establish a L2TP connection.
Subnet Mask	Enter the Subnet Mask provided by your ISP (e.g. 255.255.255.0)



Gateway	Enter the IP address of the ISP Gateway.
User ID	Enter the User Name provided by your ISP for the L2TP connection. Sometimes named "Connection ID".
Password	Enter the Password provided by your ISP for the L2TP connection.
L2TP Gateway	If your LAN has a L2TP gateway, then enter that L2TP gateway IP address here. If you do not have a L2TP gateway then enter the ISP's Gateway IP address above.
MTU	This is optional. You can specify the maximum size of your transmission packet to the Internet. Leave it as it is if you do not wish to set a maximum packet size.
Connection Type	<p>If you select "Continuous", the router will always connect to the ISP. If the WAN line breaks down and links again, the router will auto-reconnect to the ISP.</p> <p>If you select "Connect On Demand", the router will auto-connect to the ISP when someone want to use the Internet and keep connected until the WAN idle timeout. The router will close the WAN connection if the time period that no one is using the Internet exceeds the "Idle Time".</p> <p>If you select "Manual", the router will connect to ISP only when you click "Connect" manually from the Web user interface. The WAN connection will not be disconnected due to the idle timeout. If the WAN line breaks down and latter links again, the router will not auto-connect to the ISP.</p>
Idle Time Out	You can specify an idle time threshold (minutes) for the WAN port. This means if no packets have been sent (no one using the Internet) throughout this specified period, then the router will automatically disconnect the connection with your ISP.

---

Click <OK> when you have finished the configuration above. **Congratulations!** You have completed the configuration for the L2TP connection. You can start using the router now, if you wish to use some of the advance features supported by this router see chapter 3, 4, 5.

**? Note**

---

The WAN "idle timeout" auto-disconnect function may not work due to abnormal activities of some network application software; computer virus or hacker attacks from the Internet. For example, some software sends network packets to the Internet in the background, even when you are not using the Internet. So please turn off your computer when you are not using it. This function also may not work with some ISP. So please make sure this function can work properly when you use this function in the first time, especially when your ISP charge you by time used.

---

## 2.6 Telstra Big Pond

Select Telstra Big Pond if your ISP requires the Telstra Big Pond protocol to connect you to the Internet. Your ISP should provide all the information required in this section. Telstra Big Pond protocol is used by the ISP in Australia.

The screenshot shows the configuration interface for a Planet Internet Broadband Router. The page title is "Internet Broadband Router". In the top right corner, there are links for "HOME", "General Setup", "Status", and "Tool". On the left side, there is a navigation menu with three items: "1. Time Zone", "2. Broadband Type", and "3. IP Address Info", all of which have a checkmark icon. The main content area is titled "3. IP Address Info" and contains a section for "WAN 1 Telstra Big Pond (Australia Only)". Below this title, there is a note: "If your Internet service is provided by Telstra Big Pond in Australia, you will need to enter your information below, This information is provided by Teistra BigPond." The form includes four input fields: "User Name :", "Password :", "Login Server : 0.0.0.0", and a checkbox labeled "User decide login server manually". At the bottom right of the form, there are two buttons: "Back" and "OK".

Parameter	Description
User Name	Enter the User Name provided by your ISP for the Telstra Big Pond connection.
Password	Enter the Password provided by your ISP for the Telstra Big Pond connection.
User decide login server manually	Select if you want to assign the IP of Telstra Big Pond's login server manually.
Login Server	The IP of the Login Server.

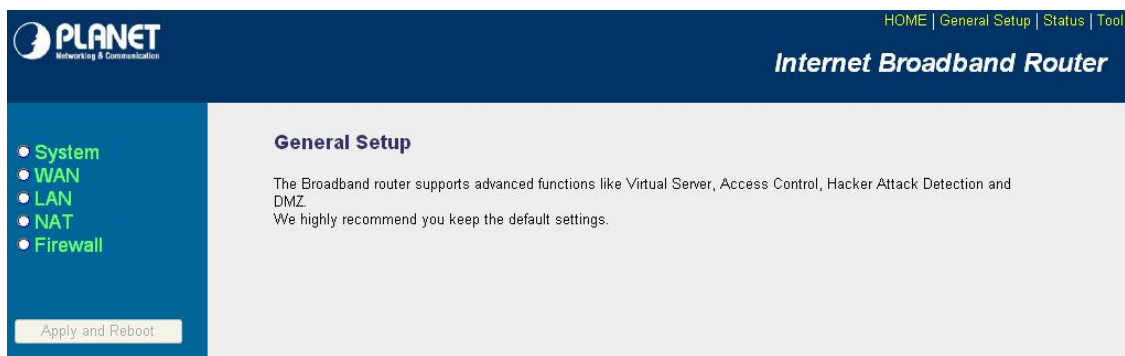
Click **<OK>** when you have finished the configuration above. **Congratulations!** You have completed the configuration for the Telstra Big Pond connection. You can start using the router now, if you wish to use some of the advance features supported by this router see chapter 3, 4, 5.

# Chapter 3 General Settings

Once you click on the **General Setup** button at the Home Page, you should see the screen below.

If you have already configured the Quick Setup Wizard you do NOT need to configure anything thing in the General Setup screen for you to start using the Internet.

The General Setup contains advanced features that allow you to configure the router to meet your network's needs such as: Port Forwarding, Virtual Server, Access Control, DoS, Special Applications, DMZ and other functions.



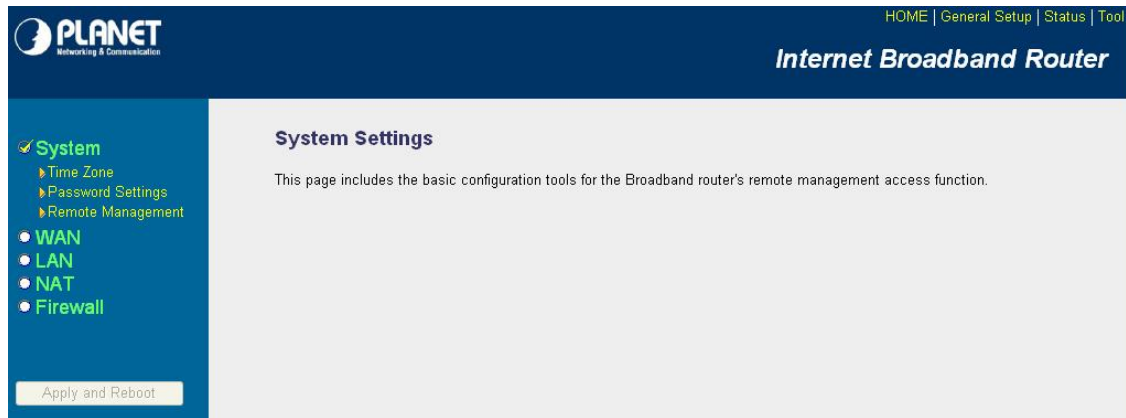
Below is a general description of what advance functions are available for this broadband router.

Menu	Description
3.1 System	This section allows you to set XRT-D's system Time Zone, Password and Remote Management Administrator.
3.2 WAN	This section allows you to select the connection method in order to establish a connection with your ISP. (same as the Quick Setup Wizard section)
3.3 LAN	You can specify the LAN segment's IP address, subnet Mask, enable/disable DHCP and select an IP range for your LAN.
3.4 NAT	You can configure the Port Forwarding, Virtual Server and Special Applications functions in this section. This allows you to specify what user/packet can pass your router's NAT.
3.5 Firewall	The Firewall section allows you to configure Access Control, DoS and DMZ.

Select one of the above five General Setup selections and proceed to the manual's relevant sub-section.

## 3.1 System

The system screen allows you to specify a time zone, to change the system password and to specify a remote management user for XRT-D.

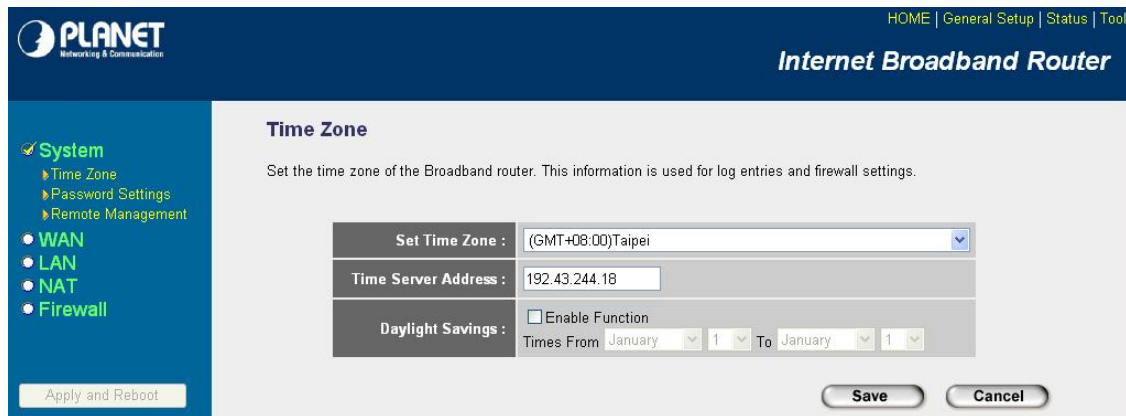


Parameters	Description
3.1.1 Time Zone	Select the time zone of the country you are currently in. The router will set its time based on your selection.
3.1.2 Password Settings	Allows you to select a password in order to access the web-based management website.
3.1.3 Remote Management	You can specify a Host IP address that can perform remote management functions.

Select one of the above three system settings selections and proceed to the manual's relevant sub-section.

### 3.1.1 Time Zone

The Time Zone allows your router to reference or base its time on the settings configured here, which will affect functions such as Log entries and Firewall settings.



Parameter	Description
<b>Set Time Zone</b>	Select the time zone of the country you are currently in. The router will set its time based on your selection.
<b>Time Server Address</b>	You can manually assign time server address if the default time server does not work.
<b>Enable Daylight Savings</b>	The router can also take Daylight savings into account. If you wish to use this function, you must check/tick the enable box to enable your daylight saving configuration (below).
<b>Start Daylight Savings Time</b>	Select the period in which you wish to start daylight Savings Time.
<b>End Daylight Savings Time</b>	Select the period in which you wish to end daylight Savings Time.

Click **<Save>** at the bottom of the screen to save the above configurations and press **“Apply and Reboot”** to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.1.2 Password Settings

You can change the password required to log into XRT-D's system web-based management. By default, the password is “1234”. So please assign a password to the Administrator as soon as possible, and store it in a safe place. Passwords can contain 0 to 30 alphanumeric characters, and are case sensitive.

Parameters	Description
Current Password	Enter your current password for the remote management administrator to login to your Broadband router. Note: By default the password is “1234”.
New Password	Enter your new password

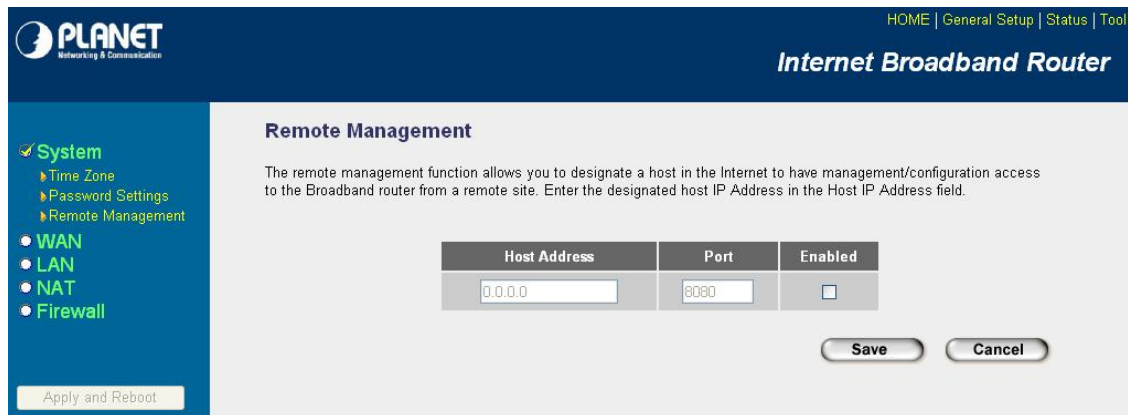
Confirmed Password

Enter your new password again for verification purposes.  
**Note:** If you forget your password, you'll have to reset the router to the factory default (password is "1234") with the reset button (see router's back panel)

Click **<Save>** at the bottom of the screen to save the above configurations and press **"Apply and Reboot"** to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.1.3 Remote Management

The remote management function allows you to designate a host in the Internet the ability to configure XRT-D from a remote site. Enter the designated host IP Address in the Host IP Address field.



Parameters	Description
Host Address	This is the IP address of the host in the Internet that will have management/configuration access to XRT-D from a remote site. This means if you are at home and your home IP address has been designated the Remote Management host IP address for this router (located in your company office), then you are able to configure this router from your home. If the Host Address is left <b>0.0.0.0</b> this means anyone can access the router's web-based configuration from a remote location, providing they know the password.  Click the <b>Enabled</b> box to enable the Remote Management function.  <b>Note:</b> When you want to access the web-based management from a remote site, you must enter the router's WAN IP address (e.g. 10.0.0.1) into your web-browser followed by port number 8080, e.g. <a href="http://10.0.0.1:8080">http://10.0.0.1:8080</a> (see below). You'll also need to know the password set in the Password Setting screen in order to access the router's web-based management.
Port	The port number of remote management web interface.

Enabled

Select "Enabled" to enable the remote management function.

Click <Save> at the bottom of the screen to save the above configurations and press "Apply and Reboot" to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

## 3.2 WAN

Use the WAN Settings screen if you have already configured the Quick Setup Wizard section and you would like to change your Internet connection type. The WAN Settings screen allows you to specify the type of WAN port connect you want to establish with your ISP. In the XRT-D's WAN, the WAN settings offer the following selections for the router's WAN port, **Dynamic IP**, **Static IP**, **PPPoE**, **PPTP**, **L2TP**, **Telstra Big Pond**, **Policy**, **QoS**, **DNS** and **DDNS**. You have to select one of the two/four WAN ports first and configure one WAN port at a time.

PLANET Networking & Communication

HOME | General Setup | Status | Tool

Internet Broadband Router

System

WAN

Port Type

Policy

QoS

DNS

DDNS

LAN

NAT

Firewall

Apply and Reboot

### WAN Settings

The Broadband router can be connected to your Service Provider through the following methods:

WAN1 WAN2

- Dynamic IP** Obtains an IP Address automatically from your Service Provider.
- Static IP Address** Uses a Static IP Address. Your Service Provider gives a Static IP Address to access Internet services.
- PPPoE** PPP over Ethernet is a common connection method used in xDSL connections.
- PPTP** Point-to-Point Tunneling Protocol is a common connection method used in xDSL connections.
- L2TP** Layer Two Tunneling Protocol is a common connection method used in xDSL connections.
- Telstra Big Pond** Telstra Big Pond is a Internet service is provided in Australia.

More Configuration

Parameters	Description
<b>3.2.1 Dynamic IP</b>	Your ISP will automatically give you an IP address
<b>3.2.2 Static IP address</b>	Your ISP has given you an IP address already
<b>3.2.3 PPPoE</b>	Your ISP requires PPPoE connection.
<b>3.2.4 PPTP</b>	Your ISP requires you to use a Point-to-Point Tunneling Protocol (PPTP) connection.
<b>3.2.5 L2TP</b>	Your ISP requires L2TP connection.
<b>3.2.6 Telstra Big Pond</b>	Your ISP requires Telstra Big Pond connection.
<b>3.2.7 Policy</b>	You can configure WAN policy.

<b>3.2.8 QoS</b>	You can specify rules for bandwidth control.
<b>3.2.9 DNS</b>	You can specify a DNS server that you wish to use
<b>3.2.10 DDNS</b>	You can specify a DDNS server that you wish to use and configure the user name and password provided by you DDNS service provider.

---

Once you have made a selection, click **<More Configuration>** at the bottom of the screen and proceed to the manual's relevant sub-section.

### **3.2.1 Dynamic IP**

Choose the Dynamic IP selection if your ISP will automatically give you an IP address. Some ISP's may also require that you fill in additional information such as Host Name, Domain Name and MAC address. (see chapter 2 "Cable Modem" for more detail)

### **3.2.2 Static IP Address**

Select Static IP address if your ISP has given you a specific IP address for you to use. Your ISP should provide all the information required in this section. (See chapter 2 "Fixed IP" for more detail)

### **3.2.3 PPPoE (PPP over Ethernet)**

Select PPPoE if your ISP requires the PPPoE protocol to connect you to the Internet. Your ISP should provide all the information required in this section. (See chapter 2 "PPPoE" for more detail)

### **3.2.4 PPTP**

Select PPTP if your ISP requires the PPTP protocol to connect you to the Internet. Your ISP should provide all the information required in this section. (See chapter 2 "PPTP" for more detail)

### **3.2.5 L2TP**

Select L2TP if your ISP requires the L2TP protocol to connect you to the Internet. Your ISP should provide all the information required in this section. (See chapter 2 "L2TP" for more detail)

### **3.2.6 Telstra Big Pond**

Select Telstra Big Pond if your ISP requires the Telstra Big Pond protocol to connect you to the Internet. Your ISP should provide all the information required in this section. Telstra Big Pond protocol is used by the ISP in Australia. (See chapter 2 "Telstra Big Pond" for more detail)

---



### 3.2.7 WAN Policy

The WAN policy for multi-homing can be setup here. You can setup policy for each WAN separately. The router will balance the loading between all active WAN ports according to the Send/Receive rate of the WAN ports. You can setup an IP for the router to detect if the WAN line is connected. If the router fails to ping the IP, it would recognize the WAN line as not connected, and will stop directing the Internet traffic to this WAN port. The traffic will be redirected to the other active WAN port. The Intranet users will not become aware of this change and keep surfing the Internet smoothly. You also can setup a WAN port as a backup WAN port. Backup WAN port would not be activated when the router start up. When the other active WAN port fails to connect to the Internet, the backup WAN port will be activated and take over all the traffic.

The screenshot shows the WAN Policy configuration interface for a Planet Internet Broadband Router. The page is titled 'WAN Policy' and includes a navigation menu on the left with options like System, WAN, LAN, NAT, and Firewall. The main content area is divided into sections for WAN1 and WAN2. Each section has three main categories: Speed, Connectivity check, and Operation. The Speed section shows a 'load balance ratio' of 50%. The Connectivity check section offers three options: 'Ping Default Gateway', 'Ping the IP' (with a text input field), and 'Make TCP Connection' (with two text input fields). The Operation section offers three options: 'Enable (Activated on start)', 'Backup (Activated only when all other ports fail)', and 'Disable'. At the bottom of the page, there are 'Save' and 'Cancel' buttons.

Parameter	Description
Speed	The send/upstream and receive/downstream speed of the WAN line the WAN port is connected to.
Connectivity check	You can key in an IP. The router will ping that IP to verify if the WAN line can access the Internet. You also can select “Ping Default Gateway”, and the router will check if the WAN line is ok by ping the default gateway of the WAN port.
Operation	If you select “Enable”, the WAN port will be activated when the system boot up. If you select “Backup”, the WAN port is disabled

on start up. But when other enabled WAN ports fail, the backup WAN port will be activated and take over all the traffic.

### 3.2.8 QoS

The QoS can let you classify Internet application traffic by source/destination IP, MAC address and port number. You can assign priority for each type of application and reserve bandwidth for it. The packets of applications with higher priority will always go first. Lower priority applications will get bandwidth after higher priority applications get enough bandwidth. This can let you have a better experience in using critical real time services like Internet phone, video conference ...etc. All the applications not specified by you are classified as rule name "Others". The rule with smaller priority number has higher priority; the rule with larger priority number has lower priority. You can adjust the priority of the rules by moving them up or down.



**Note:**

If the total assigned bandwidth of higher priority applications is larger than the maximum bandwidth provided by the WAN port, the other applications will not get any bandwidth.



Parameter	Description
Enable/Disable QoS	You can check "Enable QoS" to enable QoS function for the WAN port. You also can uncheck "Enable QoS" to disable QoS function for the WAN port.
Add a QoS rule into the table	Click "Add" then you will enter a form of the QoS rule. Click "Save" after filling out the form and the rule will be added into the table.
Remove QoS rules from the table	If you want to remove some QoS rules from the table, select the QoS rules you want to remove in the table and then click "Delete Selected". If you want remove all QoS rules from the table, just click "Delete All" button. Click "Reset" will clear your current selections.

Edit a QoS rule

Select the rule you want to edit and click “Edit”, then you will enter the detail form of the QoS rule. Click “Save” after editing the form and the rule will be saved.

Adjust QoS rule priority

You can select the rule and click “Move Up” to make its priority higher. You also can select the rule and click “Move Down” to make its priority lower.

---

### QoS Rule:

You can assign packet classification criteria by its source IP range, source MAC address, destination IP range, traffic type, protocol, source port range and destination port range parameters. The parameters that you leave as blank will be ignored. The priority of this rule will be applied to packets that match classification criteria of this rule. You can limit bandwidth consumed by packets that match this rule or guarantee bandwidth required by packets that match this rule. You also can assign which WAN port that the packets matching this rule can go through.

---

Parameter	Description
Rule Name	The name of this rule.
WAN Port	Select the WAN ports that the packets matching this rule can go through.
Bandwidth	You can assign the bandwidth by the unit of Kbps (1024 bit per second). You can limit the maximum bandwidth consumed by this rule by selecting “Maximum”. You also can reserve enough bandwidth for this rule by selecting “Guarantee”.
Source Address	You can select IP or MAC address as the source address criteria.
Source MAC Address	Enter the MAC address of the packet that this rule will apply to.

---

Source IP Address	Enter the source IP address range of the packets that this rule will apply to. If you assign 192.168.0.3 – 192.168.0.5, it means 3 IP addresses: 192.168.0.3, 192.168.0.4 and 192.168.0.5.
Destination IP Address	Enter the source IP address range of the packets that this rule will apply to. If you assign 192.168.0.3 – 192.168.0.5, it means 3 IP addresses: 192.168.0.3, 192.168.0.4 and 192.168.0.5.
Traffic Type	Select the traffic type of the packets that this rule will apply to. We list some popular applications here to ease the configuration. You also can get the same result by using other parameters, for example source or destination port number, if you are familiar with the application protocol.
Protocol	Select the protocol type of the packets that this rule will apply to.
Source Port Range	Enter the source port range of the packets that this rule will apply to. You can assign a single port number here or assign a range of port numbers by assigning the first port number and the last port number of the range. The two numbers are separated by a dash “-”, for example “101-150” means from port number 100 to port number 150 – the range of 50 port numbers.
Destination Port Range	Enter the destination port range of the packets that this rule will apply to. You can assign a single port number here or assign a range of port numbers by assigning the first port number and the last port number of the range. The two numbers are separated by a dash “-”, for example “101-150” means from port number 100 to port number 150 – the range of 50 port numbers.
Save	Apply and exit the form.
Reset	Clear the content of this form.

---

Click <**Save**> at the bottom of the screen to save the above configurations and press “**Apply and Reboot**” to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.2.9 DNS

A Domain Name System (DNS) server is like an index of IP addresses and Web addresses. If you type a Web address into your browser, such as [www.router.com](http://www.router.com), a DNS server will find that name in its index and the matching IP address. Most ISPs provide a DNS server for speed and convenience. If your Service Provider connects you to the Internet with dynamic IP settings, it is likely that the DNS server IP address is provided automatically. However, if there is a DNS server that you would rather use, you need to specify the IP address of that DNS server here.

PLANET Networking & Communication

HOME | General Setup | Status | Tool

**Internet Broadband Router**

- System
- ✓ WAN
  - Port Type
  - Policy
  - QoS
  - DNS
  - DDNS
- LAN
- NAT
- Firewall

Apply and Reboot

### DNS

A Domain Name System (DNS) server is like an index of IP Addresses and Web Addresses. If you type a Web address into your browser, such as www.broadbandrouter.com, a DNS server will find that name in its index and find the matching IP address. Most ISPs provide a DNS server for speed and convenience. Since your Service Provider may connect you to the Internet through dynamic IP settings, it is likely that the DNS server IP Address is also provided dynamically. However, if there is a DNS server that you would rather use, you need to specify the IP Address of that DNS server. The primary DNS will be used for domain name access first, in case the primary DNS access failures, the secondary DNS will be used. Has your Internet service provider given you a DNS address?

Domain Name Server (DNS) Address :

Secondary DNS Address (optional) :

Save Cancel

Parameters	Description
Domain Name Server (DNS) Server	This is the ISP's DNS server IP address that they gave you; or you can specify your own preferred DNS server IP address.
Secondary DNS Address (optional)	This is optional. You can enter another DNS server's IP address as a backup. The secondary DNS will be used should the above DNS fail.

Click <Save> at the bottom of the screen to save the above configurations and press “**Apply and Reboot**” to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.2.8 DDNS

DDNS allows you to map the static domain name to a dynamic IP address. You must get an account, password and your static domain name from the DDNS service providers. For XRT-D, you can assign a DDNS server for each WAN port. This router supports some DDNS service providers, for example DynDNS and TZO.

PLANET Networking & Communication

HOME | General Setup | Status | Tool

**Internet Broadband Router**

**WAN 1 DDNS**

DDNS allows users to map the static domain name to a dynamic IP address. You must get a account, password and your static domain name from the DDNS service providers. Our products have DDNS support for www.dyndns.org and www.tzo.com now.

WAN Port : WAN1

Dynamic DNS :  Enable  Disable

Provider : DynDNS

Domain Name :

Account / E-Mail :

Password / Key :

Save Cancel

Apply and Reboot

Parameters	Default	Description
WAN Port		Select the WAN port that you want to configure the DDNS for.
Enable/Disable	disable	Enable/Disable the DDNS function of this router.
Provider	DynDNS	Select a DDNS service provider
Domain name		Your static domain name that use DDNS
Account/E-mail		The account that your DDNS service provider assigned to you.
Password/Key		The password you set for the DDNS service account above.

Click <Save> at the bottom of the screen to save the above configurations and press “**Apply and Reboot**” to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.3 LAN

The LAN Port screen below allows you to specify a private IP address for your router’s LAN ports as well as a subnet mask for your LAN segment.

PLANET Networking & Communication

HOME | General Setup | Status | Tool

## Internet Broadband Router

- System
- WAN
- LAN
- NAT
- Firewall

Apply and Reboot

### LAN Settings

You can enable the Broadband router's DHCP server to dynamically allocate IP Addresses to your LAN client PCs. The broadband router must have an IP Address for the Local Area Network.

#### LAN IP

IP Address :	192.168.0.1
IP Subnet Mask :	255.255.255.0
802.1d Spanning Tree :	Disabled
DHCP Server :	Enabled
Lease Time :	Forever

#### IP Address Pool

Start IP :	192.168.0.100
End IP :	192.168.0.200
Domain Name :	

Save Cancel

Parameters	Default	Description
<b>LAN IP</b>		
IP address	192.168.0.1	This is the router's LAN port IP address. (Your LAN clients default gateway IP address)
IP Subnet Mask	255.255.255.0	Specify a Subnet Mask for your LAN segment.
802.1d Spanning Tree	Disabled	If 802.1d Spanning Tree function is enabled, this router will use the spanning tree protocol to prevent from network loop happened in the LAN ports.
DHCP Server	Enabled	You can enable or disable the DHCP server. By enabling the DHCP server the router will automatically give your LAN clients an IP address. If the DHCP is not enabled then you'll have to manually set your LAN client's IP addresses; make sure the LAN Client is in the same subnet as this broadband router if you want the router to be your LAN client's default gateway.
Lease Time		The DHCP when enabled will temporarily give your LAN clients an IP address. In the Lease Time setting you can specify the time period that the DHCP lends an IP address to your LAN clients. The DHCP will change your LAN client's IP address when this time threshold period is reached.

IP Address Pool

You can select a particular IP address range for your DHCP server to issue IP addresses to your LAN Clients.

**Note:** By default the IP range is from: Start IP **192.168.0.100** to End IP **192.168.0.200**. If you want your PC to have a static/fixed IP address then you'll have to choose an IP address outside this IP address Pool.

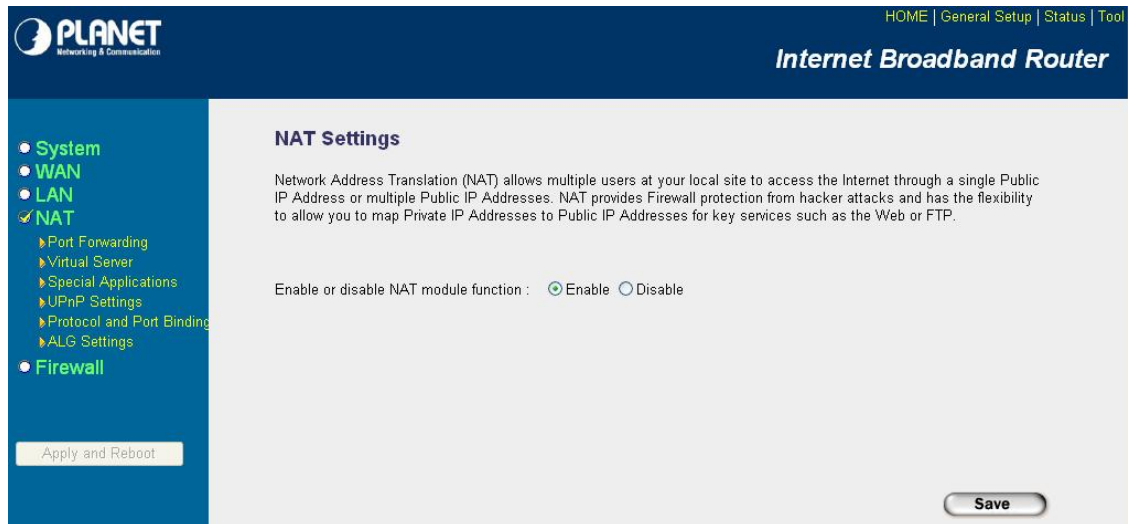
Domain Name

You can specify a Domain Name for your LAN.

Click **<Save>** at the bottom of the screen to save the above configurations and press **“Apply and Reboot”** to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.4 NAT

Network Address Translation (NAT) allows multiple users at your local site to access the Internet through a single Public IP Address or multiple Public IP Addresses. NAT provides Firewall protection from hacker attacks and has the flexibility to allow you to map Private IP Addresses to Public IP Addresses for key services such as Websites and FTP. To meet various field applications, XRT-D NAT function can be disabled to as a regular router. If NAT is disabled, all LAN side workstations must have valid IP addresses for Internet access. If the router is used for routing application, not for Internet access, then the NAT function can be disabled.



Parameter	Description
3.4.1 Port Forwarding	You can have different services (e.g. email, FTP, Web etc.) going to different service servers/clients in your LAN. The Port Forwarding allows you to re-direct a particular range of service port numbers (from the Internet/WAN Ports) to a particular LAN IP address.



### 3.4.2 Virtual Server

You can have different services (e.g. email, FTP, Web etc.) going to different service servers/clients in your LAN. The Virtual Server allows you to re-direct a particular service port number (from the Internet/WAN Port) to a particular LAN IP address and its service port number.

### 3.4.3 Special Applications

Some applications require multiple connections, such as Internet games, video conferencing, Internet telephony and others. In this section you can configure the router to support these types of applications.

### 3.4.4 UPnP

With UPnP, all PCs in your Intranet will discover this router automatically. So you do not have to do any configuration for your PC and can access the Internet through this router easily.

### 3.4.5 Protocol and Port Binding

Protocol and Port Binding let you manually bind an application to a WAN port. Only packets that match all the entered criteria will be bound to the assigned WAN port. You can have to fill all the items. The items that you leave blank will be ignored.

### 3.4.6 ALG Setting

You can select special applications that need "Application Layer Gateway" to support here.

---

Click on one of the three NAT selections and proceed to the manual's relevant sub-section.

## 3.4.1 Port Forwarding

The Port Forwarding allows you to re-direct a particular range of service port numbers (from the Internet/WAN Ports) to a particular LAN IP address. It helps you to host some servers behind the router NAT firewall.

The screenshot shows the PLANET Internet Broadband Router web interface. The top navigation bar includes 'HOME | General Setup | Status | Tool' and the title 'Internet Broadband Router'. The left sidebar menu is expanded to 'NAT', with sub-items: 'Port Forwarding', 'Virtual Server', 'Special Applications', 'UPnP Settings', 'Protocol and Port Binding', and 'ALG Settings'. The main content area is titled 'Port Forwarding' and contains the following elements:

- Text: "Entries in this table allow you to automatically redirect common network services to a specific machine behind the NAT firewall. These settings are only necessary if you wish to host some sort of server like a web server or mail server on the private local network behind your Gateway's NAT firewall."
- Checkbox:  Enable Port Forwarding
- Form table for adding entries:

Private IP	Type	Port Range	WAN Port	Comment
<input type="text"/>	Both	<input type="text"/> - <input type="text"/>	WAN1	<input type="text"/>

Buttons: Add, Reset

Current Port Forwarding Table:

Private IP	Type	Port Range	WAN Port	Comment	Select
------------	------	------------	----------	---------	--------

Buttons: Delete Selected, Delete All, Reset

Save button

Parameter	Description
Enable Port Forwarding	Enable Port Forwarding
Private IP	This is the private IP of the server behind the NAT firewall. <b>Note:</b> You need to give your LAN PC clients a fixed/static IP address for Port Forwarding to work properly.
Type	This is the protocol type to be forwarded. You can choose to forward "TCP" or "UDP" packets only or select "both" to forward both "TCP" and "UDP" packets.
Port Range	The range of ports to be forward to the private IP.
WAN Port	Assign the WAN port that requires port forwarding. All the packets sending from this WAN port with the assigned port range will be directed to the assign private IP.
Comment	The description of this setting.
Add Port Forwarding into the table	Fill in the "Private IP", "Type", "Port Range" and "Comment" of the setting to be added and then click "Add". Then this Port Forwarding setting will be added into the "Current Port Forwarding Table" below. If you find any typo before adding it and want to retype again, just click "Reset" and the fields will be cleared.
Remove Port Forwarding into the table	If you want to remove some Port Forwarding settings from the "Current Port Forwarding Table", select the Port Forwarding settings you want to remove in the table and then click "Delete Selected". If you want remove all Port Forwarding settings from the table, just click "Delete All" button. Click "Reset" will clear your current selections.

Click <**Save**> at the bottom of the screen to save the above configurations and press "**Apply and Reboot**" to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.4.2 Virtual Server

Use the Virtual Server function when you want different servers/clients in your LAN to handle different service/Internet application type (e.g. Email, FTP, Web server etc.) from the Internet. Computers use numbers called port numbers to recognize a particular service/Internet application type. The Virtual Server allows you to re-direct a particular service port number (from the

Internet/WAN Port) to a particular LAN private IP address and its service port number. (See Glossary for an explanation on Port number)

Parameters	Description
Enable Virtual Server	Enable Virtual Server.
Private IP	This is the LAN client/host IP address that the Public Port number packet will be sent to. <b>Note:</b> You need to give your LAN PC clients a fixed/static IP address for Virtual Server to work properly.
Private Port	This is the port number (of the above Private IP host) that the below Public Port number will be changed to when the packet enters your LAN. (to the LAN Server/Client IP)
Type	Select the port number protocol type (TCP, UDP or both). If you are unsure, then leave it to the default both protocols.
Public Port	Enter the service (service/Internet application) port number from the Internet that will be re-directed to the above Private IP address host in your LAN. <b>Note:</b> Virtual Server function will have priority over the DMZ function if there is a conflict between the Virtual Server and the DMZ settings.
WAN Port	Assign the WAN port that you want to bind to the virtual server. All the packets sending from this WAN port with the assigned public port will be directed to the assign private IP and private port.
Comment	The description of this setting.
Add Virtual Server	Fill in the "Private IP", "Private Port", "Type", "Public Port" and "Comment" of the setting to be added and then click "Add". Then

this Virtual Server setting will be added into the "Current Virtual Server Table" below. If you find any typo before adding it and want to retype again, just click "Reset" and the fields will be cleared.

#### Remove Virtual Server

If you want to remove some Virtual Server settings from the "Current Virtual Server Table", select the Virtual Server settings you want to remove in the table and then click "Delete Selected". If you want remove all Virtual Server settings from the table, just click "Delete All" button. Click "Reset" will clear your current selections.

Click **<Save>** at the bottom of the screen to save the above configurations and press **"Apply and Reboot"** to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.4.3 Special Applications

Some applications require multiple connections, such as Internet games, video conferencing, Internet telephony and others. In this section you can configure the router to support multiple connections for these types of applications.

Parameters	Description
Enable Trigger Port	Enable the Special Application function.
Trigger Port	This is the out going (Outbound) range of port numbers for this particular application.

Trigger Type	Select whether the outbound port protocol is “TCP”, “UDP” or both.
Public Port	Enter the In-coming (Inbound) port or port range for this type of application (e.g. 2300-2400, 47624)  <b>Note:</b> Individual port numbers are separated by a comma. (e.g. 47624, 5775, 6541 etc.) To input a port range use a “dash” to separate the two port number range. (e.g. 2300-2400)
Public Type	Select the Inbound port protocol type: “TCP”, “UDP” or both.
Comment	The description of this setting.
Popular applications	This section lists the more popular applications that require multiple connections. Select an application from the Popular Applications selection. Once you have selected an application, click the <b>Add</b> button. This will automatically copy the Port Trigger information required for this popular application into the input fields.
Add Special Application	Fill in the "Trigger Port", "Trigger Type", "Public Port", "Public Type", "Public Port" and "Comment" of the setting to be added and then click "Add". Then this Special Application setting will be added into the "Current Trigger-Port Table" below. If you find any typo before adding it and want to retype again, just click "Reset" and the fields will be cleared. If you want to add a popular application, select one “Popular Application” and then click “Add”.
Remove Special Application	If you want to remove some Special Application settings from the "Current Trigger-Port Table", select the Special Application settings you want to remove in the table and then click "Delete Selected". If you want to remove all Special Application settings from the table, just click "Delete All" button. Click "Reset" will clear your current selections.

---

Click <**Save**> at the bottom of the screen to save the above configurations and press “**Apply and Reboot**” to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### Example: Special Applications

If you need to run applications that require multiple connections, then specify the port (outbound) normally associated with that application in the "Trigger Port" field. Then select the protocol type (TCP or UDP) and enter the public ports associated with the trigger port to open them up for inbound traffic.

#### Example:

ID	Trigger Port	Trigger Type	Public Port	Public Type	Comment
----	--------------	--------------	-------------	-------------	---------

1	28800	UDP	2300-2400, 47624	TCP	MSN Game Zone
2	6112	UDP	6112	UDP	Battle.net

In the example above, when a user trigger's port 28800 (outbound) for MSN Game Zone then the router will allow incoming packets for ports 2300-2400 and 47624 to be directed to that user.  
**Note:** Only one LAN client can use a particular special application at a time.

### 3.4.4 UPnP

With UPnP, all PCs in you Intranet will discover this router automatically. So you do not have to do any configuration for your PC and can access the Internet through this router easily.



Parameters	Default	Description
UPnP Feature	Disable	You can select "Enable" or "Disable" UPnP feature here. After you enable the UPnP feature, all client systems that support UPnP, like Windows XP, can discover this router automatically and access the Internet through this router without any configuration. The NAT Traversal function provided by UPnP can let applications that support UPnP smoothly connect to Internet sites without any incompatibility problem due to the NAT port translation.

Click **<Save>** at the bottom of the screen to save the above configurations and press **“Apply and Reboot”** to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.4.5 Protocol and Port Binding

Protocol and Port Binding let you manually bind an application to a WAN port. Only packets that match all the entered criteria will be bound to the assigned WAN port. You can have to fill all the items. The items that you leave blank will be ignored.

Parameters	Description
Enable Protocol & Port Binding	The “Protocol and Port Binding” function is disabled by default. You can select to enable the “Protocol and Port Binding” function.
Source IP Range	Only packets with this assigned source IP range will statically bind to the assigned WAN port. If you assign 192.168.0.3 – 192.168.0.5, it means 3 IP addresses: 192.168.0.3, 192.168.0.4 and 192.168.0.5.
Destination IP Range	Only packets with this assigned destination IP range will statically bind to the assigned WAN port. If you assign 192.168.0.3 – 192.168.0.5, it means 3 IP addresses: 192.168.0.3, 192.168.0.4 and 192.168.0.5.
Source Port Range	Only packets with this assigned destination IP range will statically bind to the assigned WAN port.

Destination Port Range	Only packets with this assigned destination port range will statically bind to the assigned WAN port.
Protocol	Only packets with this assigned protocol will statically bind to the assigned WAN port.
WAN Port	The WAN port that the packets matching this rule are statically bound to.
Add a Rule	Fill in the "Source IP Range", "Destination IP Range", "Source Port Range", "Destination Port Range", "Protocol" or "WAN Port" of the setting to be added and then click "Add". Then this rule of Protocol and Port Binding will be added into the "Protocol and Port Binding Table" below. If you find any typo before adding it and want to retype again, just click "Reset" and the fields will be cleared.
Remove a Rule	If you want to remove some rule of Protocol and Port Binding from the "Protocol and Port Binding Table", select the rules you want to remove in the table and then click "Delete Selected". If you want remove all rules from the table, just click "Delete All" button. Click "Reset" will clear your current selections.

Click **<Save>** at the bottom of the screen to save the above configurations and press **“Apply and Reboot”** to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.4.6 ALG Settings

You can select applications that need “Application Layer Gateway” to support.

HOME | General Setup | Status | Tool

**Planet** Networking & Communication

**Internet Broadband Router**

**Application Layer Gateway**

Below are applications that need router's special support to make them work under the NAT. You can select applications that you are using.

Enable	Name	Comment
<input checked="" type="checkbox"/>	Amanda	Support for Amanda backup tool protocol.
<input checked="" type="checkbox"/>	Egg	Support for eggdrop bot networks.
<input checked="" type="checkbox"/>	FTP	Support for FTP.
<input checked="" type="checkbox"/>	H323	Support for H323/netmeeting.
<input checked="" type="checkbox"/>	IRC	Allows DCC to work though NAT and connection tracking.
<input checked="" type="checkbox"/>	MMS	Support for Microsoft Streaming Media Services protocol.
<input checked="" type="checkbox"/>	Quake3	Support for Quake III Arena connection tracking and nat.
<input checked="" type="checkbox"/>	Talk	Allows netfilter to track talk connections.
<input checked="" type="checkbox"/>	TFTP	Support for TFTP.
<input checked="" type="checkbox"/>	Starcraft	Support for Starcraft/Battle.net game protocol.
<input checked="" type="checkbox"/>	MSN	Support for MSN file tranfer.
<input checked="" type="checkbox"/>	PPTP Pass Through	Support for PPTP Pass Through.

Apply and Reboot

Save Cancel



Parameters	Default	Description
Enable		You can select to enable “Application Layer Gateway” of an application and then the router will let that application correctly pass though the NAT gateway.

Click <**Save**> at the bottom of the screen to save the above configurations and press “**Apply and Reboot**” to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

## 3.5 Firewall

XRT-D provides extensive firewall protection by restricting connection parameters, thus limiting the risk of hacker attack, and defending against a wide array of common Internet attacks. However, for applications that require unrestricted access to the Internet, you can configure a specific client/server as a Demilitarized Zone (DMZ).

**Note:** To enable the Firewall settings select **Enable** and click **Apply**

The screenshot shows the Planet Internet Broadband Router's configuration interface. The top navigation bar includes 'HOME | General Setup | Status | Tool'. The main title is 'Internet Broadband Router'. The left sidebar menu has 'System', 'WAN', 'LAN', 'NAT', and 'Firewall' (selected). Under 'Firewall', there are sub-items: 'Access Control', 'URL Blocking', 'DoS', and 'DMZ'. The main content area is titled 'Security Settings (Firewall)'. It contains a paragraph explaining the firewall's purpose and a radio button option: 'Enable or disable Firewall module function :  Enable  Disable'. At the bottom, there are 'Apply and Reboot' and 'Save' buttons.

Parameters	Description
3.5.1 Access Control	Access Control allows you to specify which hosts users can or cannot have access to certain Internet applications.
3.5.2 URL Blocking	URL Blocking allows you to specify which URLs can not be accessed by users.
3.5.3 DoS	XRT-D's firewall can block common hacker attacks and can log the attack activities.
3.5.4 DMZ	The DMZ function allows you to re-direct all packets going to our WAN port IP address to a particular IP address in your LAN.

Click on one of the firewall selections and proceed to the manual's relevant sub-section

### 3.5.1 Access Control

If you want to restrict users from accessing certain Internet applications/services (e.g. Internet websites, email, FTP etc.), then this is the place to set that configuration. Access Control allows users to define the traffic type permitted in your LAN. You can control which PC client can have access to these services.



Parameters	Description
Filter client PCs by IP	Fill "IP Filtering Table" to filter PC clients by IP.
Add PC	You can click Add PC to add an access control rule for users by IP addresses.
Remove PC	If you want to remove some PC from the "IP Filtering Table", select the PC you want to remove in the table and then click "Delete Selected". If you want remove all PCs from the table, just click "Delete All" button.
Filter client PC by MAC address	Check "Enable MAC Filtering" to enable MAC Filtering.
Add PC	Fill in "Client PC MAC Address" and "Comment" of the PC that is allowed to access the Internet, and then click "Add". If you find any typo before adding it and want to retype again, just click "Reset" and the fields will be cleared.
Remove PC	If you want to remove some PC from the "MAC Filtering Table", select the PC you want to remove in the table

and then click "Delete Selected". If you want remove all PCs from the table, just click "Delete All" button. If you want to clear the selection and re-select again, just click "Reset".

After press "**Apply and Reboot**" to apply the configuration and reboot the XRT-D router, you can now configure other advance sections or start using the router (with the advance settings in place).

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HOME | General Setup | Status | Tool

**Internet Broadband Router**

**Access Control Add PC**

This page allows users to define service limitation of client PC, including IP address and service type.

Client PC Description :

Client PC IP Address :

Client PC Service :

Service Name	Detail Description	Blocking
WWW	HTTP, TCP Port 80, 3128, 8000, 8080, 8081	<input type="checkbox"/>
E-mail Sending	SMTP, TCP Port 25	<input type="checkbox"/>
News Forums	NNTP, TCP Port 119	<input type="checkbox"/>
E-mail Receiving	POP3, TCP Port 110	<input type="checkbox"/>
Secure HTTP	HTTPS, TCP Port 443	<input type="checkbox"/>
File Transfer	FTP, TCP Port 21	<input type="checkbox"/>
MSN Messenger	TCP Port 1863 and IP 207.46.104.20	<input type="checkbox"/>
Telnet Service	TCP Port 23	<input type="checkbox"/>
AIM	AOL Instant Messenger, TCP Port 5190	<input type="checkbox"/>
NetMeeting	H.323, TCP Port 389,522,1503,1720,1731	<input type="checkbox"/>
DNS	UDP Port 53	<input type="checkbox"/>
SNMP	UDP Port 161, 162	<input type="checkbox"/>
VPN-PPTP	TCP Port 1723	<input type="checkbox"/>
VPN-L2TP	UDP Port 1701	<input type="checkbox"/>
TCP	All TCP Port	<input type="checkbox"/>
UDP	All UDP Por	<input type="checkbox"/>

User Define Service

Protocol :

Port Range :

Apply and Reboot

## Add PC

Parameters	Description
Client PC Description	The description for this client PC rule.
Client PC IP Addresses	Enter the IP address range that you wish to apply this Access Control rule. This is the user's IP address(es) that you wish to setup an Access Control rule. You can select a range of users simply by inputting the starting users' IP address and the last user's IP address in the appropriate boxes. If you want to select only one user then input the user's IP address in both boxes.

**Note:** You need to give your LAN PC clients a fixed/static IP address for the Access Control rule to work properly.

Client PC Service	You can block the clients from accessing some Internet services by checking the services you want to block.
Protocol	This allows you to select UDP, TCP or both protocol types you want to block.
Port Range	You can assign up to five port ranges. The router will block clients from accessing Internet services that use these ports.
Apply Changes	Click “Apply Changes” to save the setting.
Reset	Click “Reset” to clear all fields.

Click **<Save>** at the bottom of the screen to save the above configurations and press **“Apply and Reboot”** to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.5.2 URL Blocking

You can block access to some Web sites from particular PCs by entering a full URL address or just keyword of the Web site.



Parameters	Description
Enable URL Blocking	Enable/disable URL Blocking.
Add URL / Keyword	Fill in “URL/Keyword” and then click “Add”. You can enter the full URL address or the keyword of the web site you want to block. If you find any typo before adding it

and want to retype again, just click "Reset" and the field will be cleared.

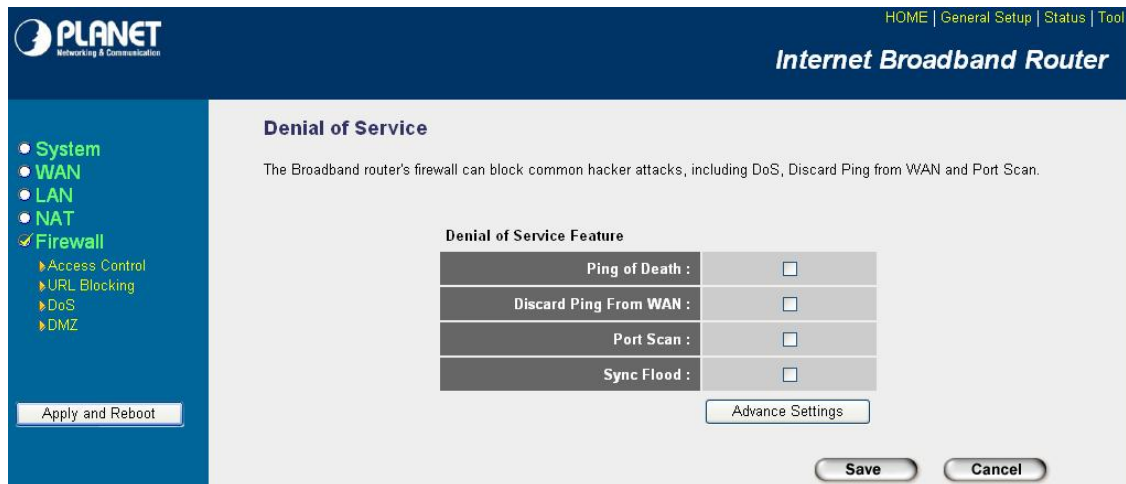
Remove URL / Keyword

If you want to remove some URL keyword from the "Current URL Blocking Table", select the URL keyword you want to remove in the table and then click "Delete Selected". If you want remove all URL keyword from the table, just click "Delete All" button. If you want to clear the selection and re-select again, just click "Reset".

After press "**Apply and Reboot**" to apply the configuration and reboot the XRT-D router, you can now configure other advance sections or start using the router (with the advance settings in place).

### 3.5.3 Denial of Service (DoS)

XRT-D's firewall can block common hacker attacks, including Denial of Service, Ping of Death, Port Scan and Sync Flood. If Internet attacks occur the router can log the events.



Parameters	Description
<b>Intrusion Detection Feature</b>	
Ping of Death	Protections from Ping of Death attack. If you go to the advanced setting page, you can configure the threshold of the frequency of packets occurred.
Discard Ping From WAN	The router's WAN port will not respond to any Ping requests.
Port Scan	Protection the router from Port Scan. If you go to the advanced setting page, you can configure the pattern of Port Scan you want to prevent.

Sync Flood

Protection the router from Sync Flood attack. If you go to the advanced setting page, you can configure the threshold of the frequency of packets occurred.

Click <**Save**> at the bottom of the screen to save the above configurations and press “**Apply and Reboot**” to apply the configuration and reboot the XRT-D router. You can now configure other advance sections or start using the router (with the advance settings in place).

### 3.5.4 DMZ

If you have a local client PC that cannot run an Internet application (e.g. Games) properly from behind the NAT firewall, then you can open the client up to unrestricted two-way Internet access by defining a DMZ Host. The DMZ function allows you to re-direct all packets going to your WAN port IP address to a particular IP address in your LAN. The difference between the virtual server and the DMZ function is that the virtual server re-directs a particular service/Internet application (e.g. FTP, websites) to a particular LAN client/server, whereas DMZ re-directs all packets (regardless of services) going to your WAN IP address to a particular LAN client/server.



**Note:**

DMZ function works only when the NAT function is enabled.

Parameters	Description
Enable DMZ	Enable/disable DMZ  <b>Note:</b> If there is a conflict between the Virtual Server and the DMZ setting, then Virtual Server function will have priority over the DMZ function.
WAN Port	The WAN port that the local client PC IP will bind to.

Public IP Address	The IP address of the WAN port or any other Public IP addresses given to you by your ISP. The WAN port may use dynamic IP or static IP given by your ISP. If your ISP gives you more than one dynamic IP addresses, you have to assign the session number that you want to apply.
Client PC IP Address	Input the IP address of a particular host in your LAN that will receive all the packets originally going to the WAN port/Public IP address above.  <b>Note:</b> You need to give your LAN PC clients a fixed/static IP address for DMZ to work properly.
Add DMZ	Fill in the "WAN Port", "Public IP Address" and "Client IP Address" of the DMZ to be added and then click "Add". Then this DMZ entry will be added into the "DMZ Table" below. If you find any typo before adding it and want to retype again, just click "Reset" and the fields will be cleared.
Remove DMZ	If you want to remove some DMZ from the "DMZ Table", select the DMZ entries you want to remove in the table and then click "Delete Selected". If you want remove all DMZ entries from the table, just click "Delete All" button. Click "Reset" will clear your current selections.

---

After press "**Apply and Reboot**" to apply the configuration and reboot the XRT-D router, you can now configure other advance sections or start using the router (with the advance settings in place).

# Chapter 4 Status

The Status section allows you to monitor the current status of your router. You can use the Status page to monitor: the connection status of XRT-D's WAN/LAN interfaces, the current firmware and hardware version numbers, any illegal attempts to access your network, and information on all DHCP client PCs currently connected to your network.

Parameters	Description
4.1 Status and Information	Shows the router's system information.
4.2 Internet Connection	View XRT-D's current Internet connection status and other related information.
4.3 Device Status	View XRT-D's current setting status.
4.4 System Log	View the Broadband router's system log.
4.5 Security Log	View any attempts that have been made to illegally gain access to your network.
4.6 Active DHCP Client	View your LAN client's information that is currently linked to XRT-D's DHCP server.
4.7 Statistics	Display the network packet statistics.

Select one of the above six Status selections and proceed to the manual's relevant sub-section.

## 4.1 Status and Information

The Status and Information section allows you to view the router's system information.

The screenshot shows the PLANET Internet Broadband Router web interface. The top navigation bar includes 'HOME | General Setup | Status | Tool'. The left sidebar shows a 'Status' menu with options: Internet Connection, Device Status, System Log, Security Log, Active DHCP Client, and Statistics. The main content area is titled 'Status and Information' and contains the following text: 'You can use the Status page to monitor the connection status for the Broadband router's; WAN/LAN interfaces, firmware and hardware version numbers, any illegal attempts to access your network, and information on all DHCP client PCs currently connected to your network.' Below this is a 'System' section with the following details:

Model	Broadband Router
Uptime	0day:4h:31m:15s
Hardware Version	Rev. A
Boot Code Version	1.0
Runtime Code Version	1.36

At the bottom left of the sidebar, the 'Current Time' is displayed as 1/27/2005 20:53:0.



Parameters	Description
Information	You can see the router's system information such as the router's Hardware version, Serial Number, Boot code Version, Runtime code Version.

## 4.2 Internet Connection

View XRT-D's current Internet connection status and other related information.

The screenshot shows the Planet Internet Broadband Router status page. The left sidebar contains a 'Status' menu with options: Internet Connection (selected), Device Status, System Log, Security Log, Active DHCP Client, and Statistics. Below the menu is the 'Current Time' 1/27/2005 20:57:20. The main content area is titled 'Internet Connection' and includes a sub-header 'Internet Connection' and a description: 'View the current internet connection status and related information.' Below this is a table with columns for WAN1 and WAN2, and rows for various connection parameters.

	WAN1	WAN2
Attain IP Protocol :	Fixed IP connected	Fixed IP disconnected
IP Address :	192.168.99.102	
Subnet Mask :	255.255.255.0	
Default Gateway :	192.168.99.253	
MAC Address :	00:30:4F:37:E1:1F	00:30:4F:37:E1:20
Primary DNS :	168.95.1.1	168.95.1.1
Secondary DNS :		

Parameters	Description
Internet Connection	This page displays whether the WAN port is connected to a <b>Cable/DSL</b> connection. It also displays the router's WAN port: <b>WAN IP</b> address, <b>Subnet Mask</b> , and ISP <b>Gateway</b> as well as the <b>Primary DNS</b> and <b>Secondary DNS</b> being used.

## 4.3 Device Status

View XRT-D's current configuration settings. The Device Status displays the configuration settings you've configured in the **Quick Setup Wizard/General Setup** section.

PLANET Networking & Communication

HOME | General Setup | Status | Tool

## Internet Broadband Router

**Status**

- Internet Connection
- Device Status
- System Log
- Security Log
- Active DHCP Client
- Statistics

Current Time  
1/27/2005 20:58:0

### Device Status

View the current setting status of this device.

LAN Configuration	
IP Address	192.168.0.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled
MAC Address	00:30:4f:37:e1:21

Parameters	Description
Device Status	This page shows XRT-D's current device settings. This page displays XRT-D LAN port's current LAN <b>IP Address</b> , <b>MAC Address</b> and <b>Subnet Mask</b> . It also shows whether the <b>DHCP Server</b> function is enabled or disabled.

## 4.4 System Log

View the operation log of the system.

PLANET Networking & Communication

HOME | General Setup | Status | Tool

## Internet Broadband Router

**Status**

- Internet Connection
- Device Status
- System Log
- Security Log
- Active DHCP Client
- Statistics

Current Time  
1/27/2005 20:58:57

### System Log

View the system operation information. You can see the system start up time, connection process...etc. here.

```

Jan 1 00:00:20 syslogd started: BusyBox v1.00-pre2 (2004.05.03-07:54+0000)
Jan 1 00:00:25 udhcpd: udhcp server (v0.9.9-pre) started
Jan 1 00:00:31 udhcpd: sending OFFER of 192.168.0.100
Jan 1 00:00:31 udhcpd: sending ACK to 192.168.0.100

```

Save Clear Refresh

Parameters	Description
System Log	This page shows the current system log of the XRT-D. It displays any event occurred after system start up. At the bottom of the page, the system log can be saved <b>&lt;Save&gt;</b> to a local file for further processing or the system log can be cleared <b>&lt;Clear&gt;</b> or it can be refreshed <b>&lt;Refresh&gt;</b> to get the most updated situation. When the system is powered down, the system log will disappear if not saved to a local file.

## 4.5 Security Log

View any attempts that have been made to illegally gain access to your network.

The screenshot shows the 'Security Log' page of a Planet Internet Broadband Router. The page has a dark blue header with the Planet logo and navigation links: HOME | General Setup | Status | Tool. The main title is 'Internet Broadband Router'. On the left, there is a sidebar with a 'Status' menu containing: Internet Connection, Device Status, System Log, Security Log (selected), Active DHCP Client, and Statistics. Below the menu, it shows 'Current Time 1/27/2005 21:0:4'. The main content area is titled 'Security Log' and contains the text: 'View any attempts that have been made to illegally gain access to your network.' Below this is a scrollable text box with the following log entries:

```
[1970-01-01 00:00:36]: [WAN1]: start Static IP
[1970-01-01 00:00:43]: [SNTP]: connect to TimeServer 192.43.244.18 ...
[2005-01-27 20:56:54]: [SNTP]: connect success!
[2005-01-27 20:56:54]: [SNTP]: set time to 2005-01-27 20:56:54
[2005-01-27 20:56:57]: [FIREWALL]: WAN1 IP is 192.168.99.102 setting firewall...
[2005-01-27 20:56:57]: [FIREWALL]: WAN2 is disconnect...
```

At the bottom of the log box are three buttons: 'Save', 'Clear', and 'Refresh'.

Parameters	Description
Security Log	This page shows the current security log of XRT-D. It displays any illegal attempts to access your network. At the bottom of the page, the security log can be saved <Save> to a local file for further processing or the security log can be cleared <Clear> or it can be refreshed <Refresh> to get the most updated situation. When the system is powered down, the security log will disappear if not saved to a local file.

## 4.6 Active DHCP Client

View your LAN client's information that is currently linked to XRT-D's DHCP server

The screenshot shows the 'Active DHCP Client' page of a Planet Internet Broadband Router. The page has a dark blue header with the Planet logo and navigation links: HOME | General Setup | Status | Tool. The main title is 'Internet Broadband Router'. On the left, there is a sidebar with a 'Status' menu containing: Internet Connection, Device Status, System Log, Security Log, Active DHCP Client (selected), and Statistics. Below the menu, it shows 'Current Time 1/27/2005 21:1:9'. The main content area is titled 'Active DHCP Client' and contains the text: 'This table shows the assigned IP address, MAC address and time expired for each DHCP leased client.' Below this is a table with the following data:

IP Address	MAC Address	Time Expired(s)
192.168.0.100	00:0e:a6:0f:8b:92	forever

Below the table is a 'Refresh' button.

Parameters	Description
DHCP Client Log	This page shows all DHCP clients (LAN PCs) currently connected to your network. The "Active DHCP Client" displays the <b>IP</b> address and the <b>MAC</b> address and Time Expired of each LAN Client. Use the <b>Refresh</b> button to get the most updated situation.

## 4.7 Statistics

View the statistics of packets sent and received on each WAN and LAN interface.

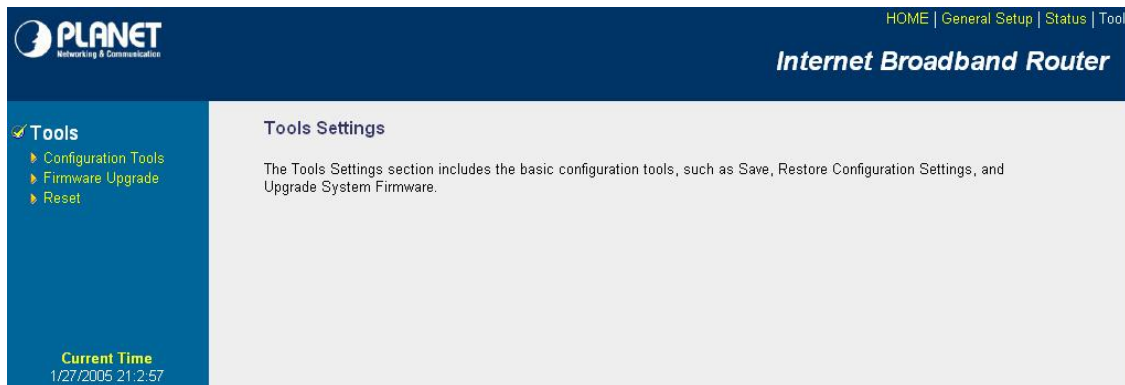
The screenshot shows the PLANET web interface for an Internet Broadband Router. The top navigation bar includes links for HOME, General Setup, Status, and Tools. The main content area is titled 'Statistics' and contains a table of network statistics. A 'Refresh' button is located at the bottom of the statistics section.

Interface	Sent Packets	Received Packets
Ethernet LAN	157	215
Ethernet WAN1	93	587
Ethernet WAN2	0	0

Parameters	Description
Statistics	Shows the counters of packets sent and received on WAN and LAN.

# Chapter 5 Tools

This page includes the basic configuration tools, such as Configuration Tools (save or restore configuration settings), Firmware Upgrade (upgrade system firmware) and Reset.



Parameters	Description
5.1 Configuration Tools	You can save the router's current configuration, restore the router's saved configuration files and restore the router's factory default settings.
5.2 Firmware Upgrade	This page allows you to upgrade the router's firmware.
5.3 Reset	You can reset the router's system should any problem exist.

Select one of the above three **Tools Settings** selection and proceed to the manual's relevant sub-section

## 5.1 Configuration Tools

The Configuration Tools screen allows you to save (**Backup**) the router's current configuration setting. Saving the configuration settings provides an added protection and convenience should problems occur with the router and you have to reset to factory default. When you save the configuration setting (Backup) you can re-load the saved configuration into the router through the **Restore** selection. If extreme problems occur you can use the **Restore to Factory Defaults** selection, this will set all configurations to its original default settings (e.g. when you first purchased the router).

PLANET Networking & Communication

HOME | General Setup | Status | Tool

## Internet Broadband Router

**Tools**

- Configuration Tools
- Firmware Upgrade
- Reset

**Configuration Tools**

Use the "Backup" tool to save the Broadband router's current configurations to a file named "config.bin". You can then use the "Restore" tool to restore the saved configuration to the Broadband router. Alternatively, you can use the "Restore to Factory Default" tool to force the Broadband router to perform System Reset and restore the original factory settings.

Backup Settings :

Restore Settings :

Restore to Factory Default :

**Current Time**  
1/27/2005 21:4:17

Parameters	Description
Configuration Tools	Use the <b>"Backup"</b> tool to save XRT-D current configuration to a file named "config.bin" on your PC. You can then use the <b>"Restore"</b> tool to restore the saved configuration to XRT-D. Alternatively, you can use the <b>"Restore to Factory Defaults"</b> tool to force XRT-D to perform a power reset and restore the original factory settings.

## 5.2 Firmware Upgrade

This page allows you to upgrade the router's firmware

PLANET Networking & Communication

HOME | General Setup | Status | Tool

## Internet Broadband Router

**Tools**

- Configuration Tools
- Firmware Upgrade
- Reset

**Firmware Upgrade**

This tool allows you to upgrade the Broadband router's system firmware. Enter the path and name of the upgrade file and then click the APPLY button below. You will be prompted to confirm the upgrade.

Upgrade Method

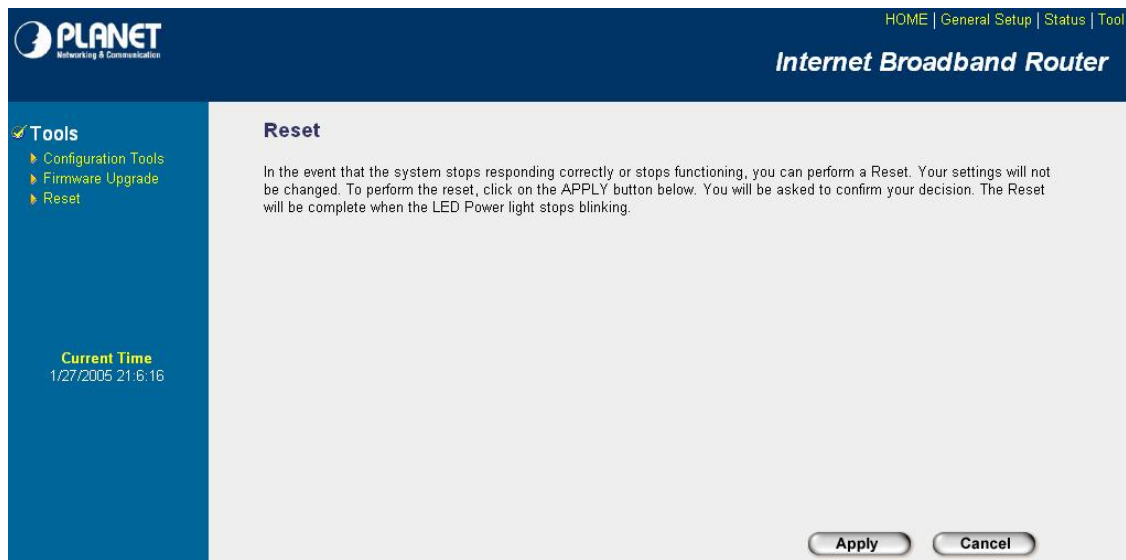
**Current Time**  
1/27/2005 21:5:17

Parameters	Description
Firmware Upgrade	This tool allows you to upgrade XRT-D's system firmware. To upgrade the firmware of your Broadband router, you need to download the firmware file to your local hard disk, and enter that file name and path in the appropriate field on this page. You can also use the Browse button to find the firmware file on your PC.

Once you've selected the new firmware file, click **<Apply>** at the bottom of the screen to start the upgrade process. (You may have to wait a few minutes for the upgrade to complete). Once the upgrade is complete you can start using the router.

## 5.3 Reset

You can reset the router's system should any problem exist. The reset function essentially Re-boots your router's system



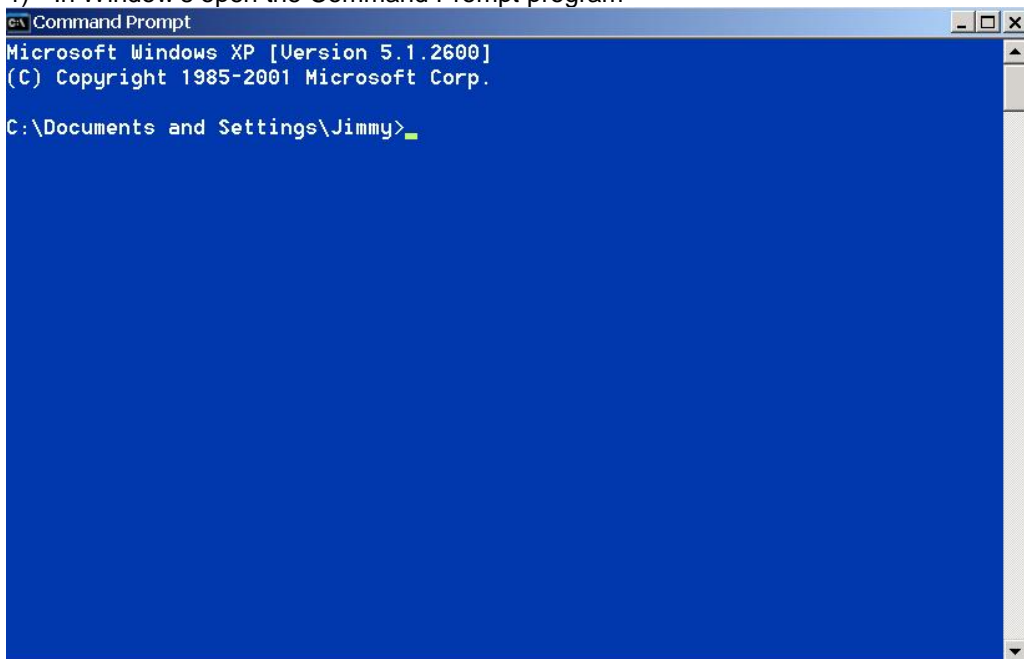
The screenshot shows the PLANET web interface for an Internet Broadband Router. The top navigation bar includes links for HOME, General Setup, Status, and Tools. The left sidebar contains a 'Tools' menu with options for Configuration Tools, Firmware Upgrade, and Reset. The main content area is titled 'Reset' and contains the following text: 'In the event that the system stops responding correctly or stops functioning, you can perform a Reset. Your settings will not be changed. To perform the reset, click on the APPLY button below. You will be asked to confirm your decision. The Reset will be complete when the LED Power light stops blinking.' At the bottom right of the main area are 'Apply' and 'Cancel' buttons. A 'Current Time' display shows '1/27/2005 21:6:16'.

Parameters	Description
Reset	In the event that the system stops responding correctly or in some way stops functioning, you can perform a reset. <b>Your settings will not be changed.</b> To perform the reset, click on the <APPLY> button. You will be asked to confirm your decision. The reset will be complete when the power light stops blinking. Once the reset process is complete you may start using the router again.

# Appendix A

## How to Manually find your PC's IP and MAC address

1) In Window's open the Command Prompt program

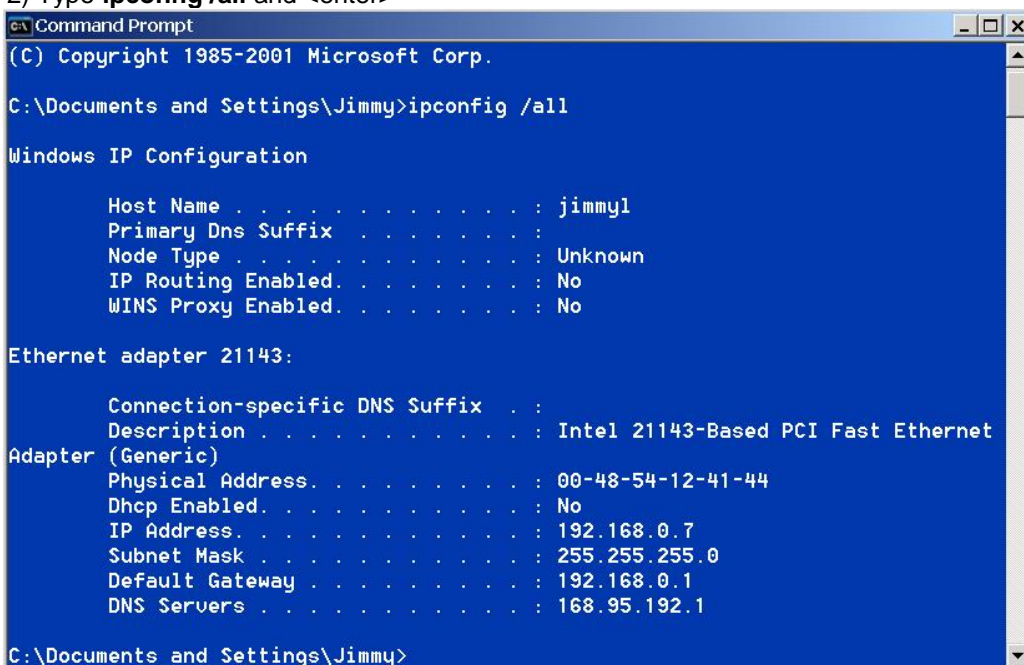


A screenshot of a Windows XP Command Prompt window. The window title is "Command Prompt". The text inside shows the Microsoft Windows XP version (5.1.2600) and copyright information (1985-2001). The current directory is "C:\Documents and Settings\Jimmy>".

```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Jimmy>
```

2) Type **ipconfig /all** and <enter>



A screenshot of a Windows XP Command Prompt window showing the output of the "ipconfig /all" command. The output displays Windows IP Configuration details, including host name, DNS suffix, node type, and routing status. It also shows details for an Ethernet adapter (Intel 21143-Based PCI Fast Ethernet), including its physical address, IP address (192.168.0.7), subnet mask (255.255.255.0), default gateway (192.168.0.1), and DNS servers (168.95.192.1).

```
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Jimmy>ipconfig /all

Windows IP Configuration

    Host Name . . . . . : jimmy1
    Primary Dns Suffix . . . . . :
    Node Type . . . . . : Unknown
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No

Ethernet adapter 21143:

    Connection-specific DNS Suffix . :
    Description . . . . . : Intel 21143-Based PCI Fast Ethernet
    Adapter (Generic)
    Physical Address. . . . . : 00-48-54-12-41-44
    Dhcp Enabled. . . . . : No
    IP Address. . . . . : 192.168.0.7
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.0.1
    DNS Servers . . . . . : 168.95.192.1

C:\Documents and Settings\Jimmy>
```



- Your PC's IP address is the one entitled **IP address** (192.168.0.7)
- The router's IP address is the one entitled **Default Gateway** (192.168.0.1)
- Your PC's MAC Address is the one entitled **Physical Address** (00-48-54-12-41-44)

# Glossary

**Default Gateway (Router):** Every non-router IP device needs to configure a default gateway's IP address. When the device sends out an IP packet, if the destination is not on the same network, the device has to send the packet to its default gateway, which will then send it out towards the destination.

**DHCP:** Dynamic Host Configuration Protocol. This protocol automatically gives every computer on your home network an IP address.

**DNS Server IP Address:** DNS stands for Domain Name System, which allows Internet servers to have a domain name (such as [www.Broadbandrouter.com](http://www.Broadbandrouter.com)) and one or more IP addresses (such as 192.34.45.8). A DNS server keeps a database of Internet servers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "[www.planet.com.tw](http://www.planet.com.tw)" into your Internet browser), the user is sent to the proper IP address. The DNS server IP address used by the computers on your home network is the location of the DNS server your ISP has assigned to you.

**DSL Modem:** DSL stands for Digital Subscriber Line. A DSL modem uses your existing phone lines to transmit data at high speeds.

**Ethernet:** A standard for computer networks. Ethernet networks are connected by special cables and hubs, and move data around at up to 10/100 million bits per second (Mbps).

**Idle Timeout:** Idle Timeout is designed so that after there is no traffic to the Internet for a pre-configured amount of time, the connection will automatically be disconnected.

**IP Address and Network (Subnet) Mask:** IP stands for Internet Protocol. An IP address consists of a series of four numbers separated by periods, which identifies a single, unique Internet computer host in an IP network. Example: 192.168.0.1. It consists of 2 portions: the IP network address, and the host identifier.

The IP address is a 32-bit binary pattern, which can be represented as four cascaded decimal numbers separated by ".": aaa.aaa.aaa.aaa, where each "aaa" can be anything from 000 to 255, or as four cascaded binary numbers separated by ".": bbbbbbbb.bbbbbbbb.bbbbbbbb.bbbbbbbb, where each "b" can either be 0 or 1.

A network mask is also a 32-bit binary pattern, and consists of consecutive leading 1's followed by consecutive trailing 0's, such as 11111111.11111111.11111111.00000000. Therefore sometimes a network mask can also be described simply as "x" number of leading 1's.

When both are represented side by side in their binary forms, all bits in the IP address that correspond to 1's in the network mask become part of the IP network address, and the remaining bits correspond to the host ID.

For example, if the IP address for a device is, in its binary form, 11011001.10110000.10010000.00000111, and if its network mask is, 11111111.11111111.11110000.00000000

It means the device's network address is 11011001.10110000.10010000.00000000, and its host ID is, 00000000.00000000.00000000.00000111. This is a convenient and efficient method for routers to route IP packets to their destination.

---

**ISP Gateway Address:** (see ISP for definition). The ISP Gateway Address is an IP address for the Internet router located at the ISP's office.

**ISP:** Internet Service Provider. An ISP is a business that provides connectivity to the Internet for individuals and other businesses or organizations.

**LAN:** Local Area Network. A LAN is a group of computers and devices connected together in a relatively small area (such as a house or an office). Your home network is considered a LAN.

**MAC Address:** MAC stands for Media Access Control. A MAC address is the hardware address of a device connected to a network. The MAC address is a unique identifier for a device with an Ethernet interface. It is comprised of two parts: 3 bytes of data that corresponds to the Manufacturer ID (unique for each manufacturer), plus 3 bytes that are often used as the product's serial number.

**NAT:** Network Address Translation. This process allows all of the computers on your home network to use one IP address. Using XRT-D's NAT capability, you can access the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

**Port:** Network Clients (LAN PC) uses port numbers to distinguish one network application/protocol over another. Below is a list of common applications and protocol/port numbers:

Application	Protocol	Port Number
Telnet	TCP	23
FTP	TCP	21
SMTP	TCP	25
POP3	TCP	110
H.323	TCP	1720
SNMP	UCP	161
SNMP Trap	UDP	162
HTTP	TCP	80
PPTP	TCP	1723
PC Anywhere	TCP	5631
PC Anywhere	UDP	5632

**PPPoE:** Point-to-Point Protocol over Ethernet. Point-to-Point Protocol is a secure data transmission method originally created for dial-up connections; PPPoE is for Ethernet connections. PPPoE relies on two widely accepted standards, Ethernet and the Point-to-Point Protocol. It is a communications protocol for transmitting information over Ethernet between different manufacturers

**Protocol:** A protocol is a set of rules for interaction agreed upon between multiple parties so that when they interface with each other based on such a protocol, the interpretation of their behavior is well defined and can be made objectively, without confusion or misunderstanding.

**Router:** A router is an intelligent network device that forwards packets between different networks based on network layer address information such as IP addresses.

**Subnet Mask:** A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers (e.g. 255.255.255.0) configured like an IP address. It is used to create IP address numbers used only within a particular network (as opposed to valid IP address numbers recognized by the Internet, which must be assigned by InterNIC).

**TCP/IP, UDP:** Transmission Control Protocol/Internet Protocol (TCP/IP) and Unreliable Datagram Protocol (UDP). TCP/IP is the standard protocol for data transmission over the Internet. Both TCP and UDP are transport layer protocol. TCP performs proper error detection and error recovery, and thus is reliable. UDP on the other hand is not reliable. They both run on top of the IP (Internet Protocol), a network layer protocol.

**WAN:** Wide Area Network. A network that connects computers located in geographically separate areas (e.g. different buildings, cities, countries). The Internet is a wide area network.

**Web-based management Graphical User Interface (GUI):** Many devices support a graphical user interface that is based on the web browser. This means the user can use the familiar Netscape or Microsoft Internet Explorer to Control/configure or monitor the device being managed.

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