



User's Guide

TW100-S4W1CA

FCC Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial environment.

This equipment generates, uses and radiates radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference. In this case the user will be required to correct the interference at their own expense.

CE Mark Warning

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

VCCI Warning

注意

この装置は、情報処理装置等電波障害自主規制協議会 (VCCI) の基準に基づく第一種情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。



P/N: Rev.A1-01

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ABOUT THIS GUIDE

Congratulations on your purchase of this Cable/DSL 4-port Broadband Router. This device integrates 100Mbps Fast Ethernet and 10Mbps Ethernet network capabilities. This router is a complete solution for sharing the Internet and other office resources.

Purpose

This manual discusses how to install the 4-port Broadband Router.

Overview of this User's Guide

Introduction. Describes the Broadband Router and its features.

Unpacking and Setup. Helps you get started with the basic installation of the Router.

Identifying External Components. Describes the front panel, rear panel, and LED indicators of the Router.

Connecting the Router. Explains how you connect the Router to your xDSL/Cable Modem.

Technical Specifications. Lists the technical (general, physical and environmental, performance and Routers settings) specifications of the Broadband Router.

INTRODUCTION

With the explosive growth of the Internet, accessing information and services at any time, day or night, has become standard fare for most people. The era of the standalone PC is waning. Networking technology is moving out of the exclusive domain of corporations and into homes with at least two computers.

Broadband network access is also gaining ground. Allowing more than two computers to access the Internet at the same time, however, has typically entailed significantly higher costs. Thus, there is a great demand for technology that enables users to share a single Internet connection.

Employing a router to share an Internet connection solves the problem of high network access costs. Using such a device, each networked computer is able to make full use of broadband capabilities.

This device not only comes equipped with a wide range of features but also can be installed and configured right out of the box. This device supports a simple local area network and Internet access sharing.

A local area network connects home computers and enables users to access the Internet, share resources, and play online games – the essentials of the family computing lifestyle.

Applications:

Broadband Internet access sharing:

Enable several computers to share a single high-speed broadband Internet connection (LAN and WAN-Internet).

Resource sharing:

Share printers, scanners, and other peripherals.

File sharing:

Exchange data, messages, and files -- thus making good use of hard disk space.

Online gaming:

Your local area network allows you to play online games and use e-commerce services.

Firewall:

A built-in firewall function protects against hackers.

Features:

- High speed data transfer rate, FTP up to 40Mbps
- Supports NAT (sharing one IP address with all LAN users)
- Supports PPPoE and PPTP protocol for Dial-Up ADSL
- Supports DHCP Server / Client
- Supports UPnP (Universal Plug and Play)
- Supports virtual server mapping
- Supports packet filtering
- Simple Firewall protection
- Upgradeable firmware for future functions
- Easy configuration via Web Browser.

UNPACKING AND SETUP

This chapter provides unpacking and setup information for the Broadband Router.

Unpacking

The box should contain the following items:

- ◆ One 4-port High Speed Broadband Router
- ◆ One external power adapter (5V DC, 800mA)
- ◆ One CD-ROM with User's Guide
- ◆ Quick Installation Guide

If any item is found missing or damaged, please contact your local reseller for replacement.

Setup

The setup of the Broadband Router can be performed using the following steps:

- ◆ The power outlet should be within 1.82 meters (6 feet) of the Broadband Router.
- ◆ Visually inspect the DC power jack and make sure that it is connected securely to the power adapter.
- ◆ Make sure that there is proper heat dissipation from and adequate ventilation around the Broadband Router. Do not place heavy objects on the Broadband Router.

HARDWARE INSTALLATION

Front Panel

The figure below shows the front panel of the Broadband Router.



4-Port 10/100Mbps Ethernet Broadband Router Front Panel

POWER

This indicator lights green when the hub is receiving power. Otherwise, it is off.

STATUS

This indicator blinks red when the Internet Broadband Router is successfully working. If the indicator is either always on or off, the Internet Broadband Router is not working properly.

WAN

This indicator lights green when the WAN port is connected to an xDSL/Cable modem successfully.

This indicator blinks green while the WAN port is transmitting data to or receiving data from the xDSL/Cable modem.

LAN (Link/ACT)

The port 1 - 4 indicators light green when they're connected to a 100Mbps Fast Ethernet station. If the indicator blinks green, the corresponding LAN port is transmitting or receiving data.

Rear Panel

The figure below shows the rear panel of the Broadband Router.



4 Port 10/100Mbps Ethernet Broadband Router Rear Panel

WAN

On the 4 port broadband router, there is an RJ-45 10/100Mbps Auto-MDIX WAN port. This port connects to your xDSL/Cable modem.

LAN (1-4)

Four RJ-45 10/100Mbps Auto-MDIX ports for connecting to either 10Mbps or 100Mbps Ethernet connections.

RESET

Use a pin-shaped object to reset this device to factory default settings. Resetting the device will also reset the login password to the default.

4-Port Cable/DSL Broadband Router
(TW100-S4W1CA)



Connect the Internet Broadband Router

1. Connect one end of the network cable to the WAN port of the 4-port Internet Broadband Router.
2. Connect the other end of the network cable to the Ethernet port of the xDSL or Cable modem.
3. Connect one end of another network cable to the computer's Ethernet card and the other end of the cable to one of the Router's LAN ports. Since the Internet Broadband Router has four ports, you can connect up to four computers directly to the unit. You do not have to buy a switch to connect these computers since the Internet Broadband Router functions as both an Internet connection-sharing unit and as a switch.

Check the installation

The LEDs of the Internet Broadband Router are clearly visible and the status of the network link can be seen immediately:

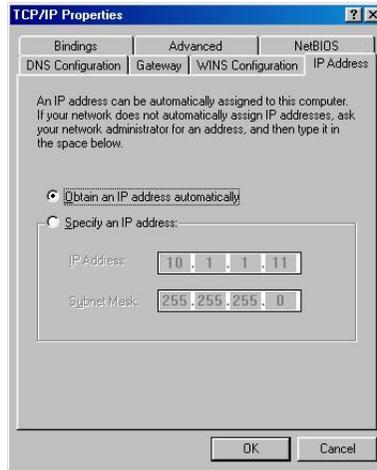
1. Once the device is connected to the broadband modem and the Power is connected, the Power, System, LAN and WAN port link LEDs of the Internet Broadband Router will light up.
2. If the WAN port is linked to the ADSL/Cable modem, the WAN port's Link/ACT LED will light up.
3. If the LAN port is linked to the computer system, the LAN port's Link/ACT LED will light up.

PC NETWORK TCP/IP SETTING

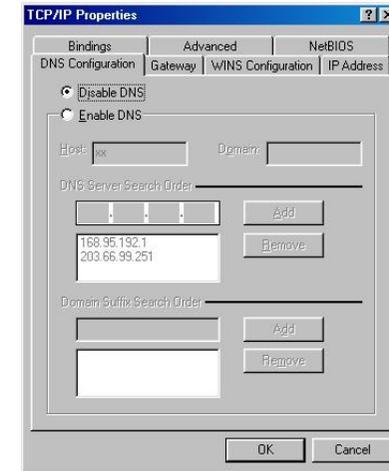
The network TCP/IP settings differ based on the computer's operating system (Win95/98/ME/NT/2000/XP) and are as follows.

Windows 95/98/ME

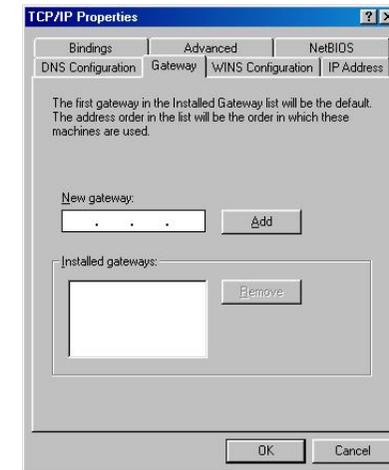
1. Right click on the “**Network neighborhood**” icon and select properties.
2. Select the TCP/IP for your Ethernet adapter and then click properties.
3. Select “**Obtain an IP address automatically**” in the “**IP Address**” tab.



4. Click on the **DNS configuration** tab and select “**Disable DNS**”.



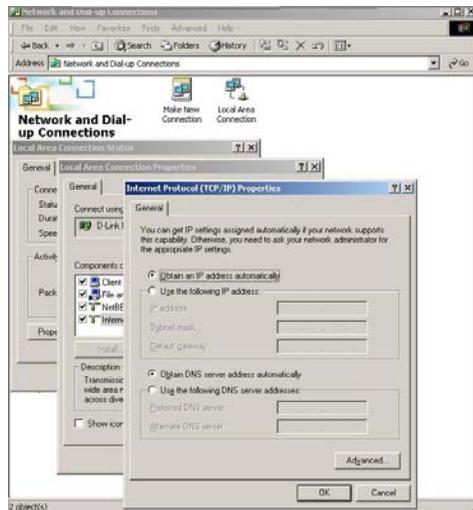
5. Click on the **Gateway** tab. If there are any **Installed gateways**, select the gateway and click **Remove**.



6. Click **OK**.

Windows XP/2000

1. Right click **My Network Places** and select **Properties**
2. Double-click on the **Local Area Connection** icon and click **Properties**.
3. Click on **Internet Protocol (TCP/IP)** and select **Properties**.
4. Select **Obtain an IP Address Automatically**.
5. Select **Obtain DNS Server Address Automatically**.
6. Click **OK**.



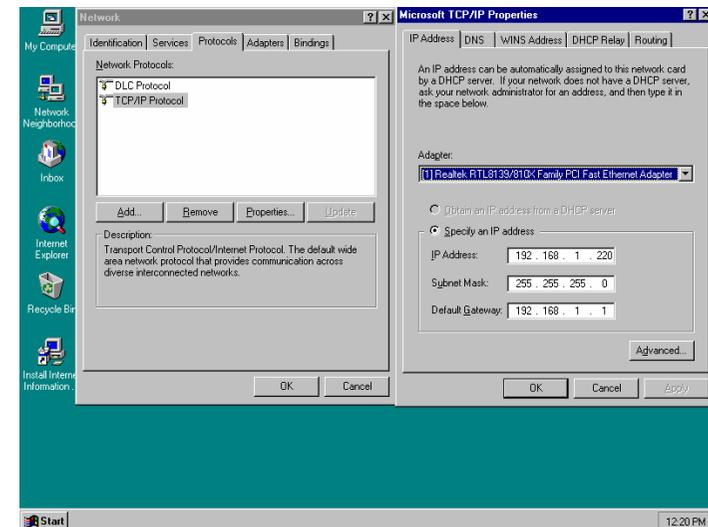
Windows NT4.0

Click on the “**Start**” button located on the lower left corner of the menu bar.

Select “**Settings**” and then “**Control panel.**”

In the “**Control panel**” window, select “**Network**” to enter the TCP/IP settings window.

1. Set “**IP address**” to “**Obtain an IP address automatically.**”
2. Set “**DNS**” to “**Disable DNS.**”

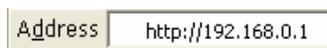


INTERNET BROADBAND ROUTER CONFIGURATION

First, make sure that the network connections are functioning normally. This Internet Broadband Router can be configured using Internet Explorer 5.0 or later.

Login to the Internet Broadband Router

1. Open Internet Explorer 5.0 or higher.
2. Enter <http://192.168.0.1> (the factory-default IP address setting) in the address bar.

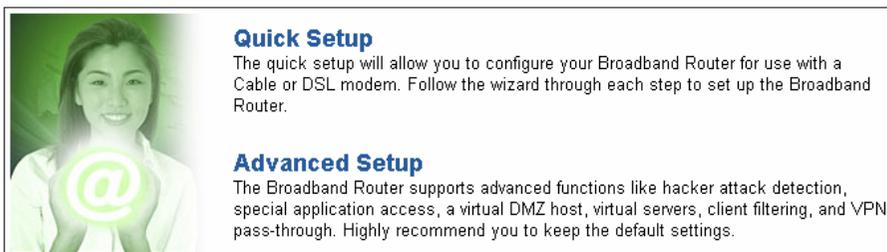


3. When the following dialog box appears, type in **admin** for the user name. Leave the password field blank, (by default, there is no password) and click **LOGIN**.



Note: If you need to set a password, refer to the **Administrator Settings** in **Advanced Setup**.

4. Two setup options appear: Quick Setup or Advanced Setup. It is recommended that you use Quick Setup if you are a beginner. It will lead you through the configuration step-by-step.



Quick Setup
The quick setup will allow you to configure your Broadband Router for use with a Cable or DSL modem. Follow the wizard through each step to set up the Broadband Router.

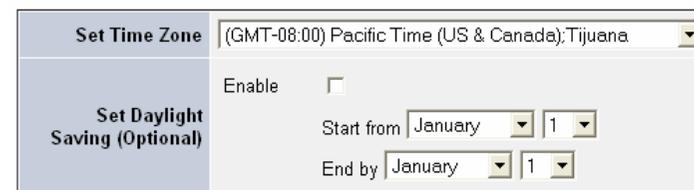
Advanced Setup
The Broadband Router supports advanced functions like hacker attack detection, special application access, a virtual DMZ host, virtual servers, client filtering, and VPN pass-through. Highly recommend you to keep the default settings.

Quick Setup

On the main webpage, select “Quick Setup” to specify the Time Zone and the WAN connection type.

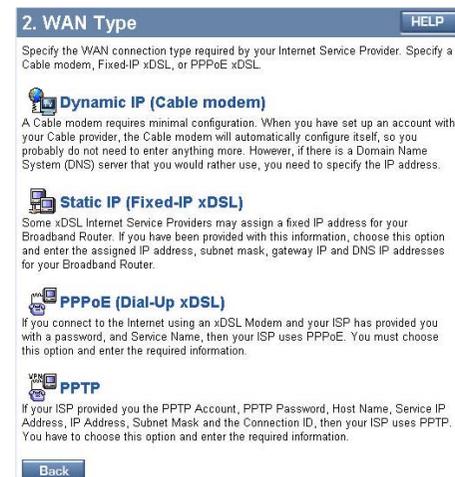
1-1 Time Zone

Select the appropriate time zone so your system clock can synchronize itself through the SNTP Server.



1-2 WAN Connection Type

To select the WAN connection-type, click Dynamic IP (Cable Modem), Static IP (Fixed-IP), PPPoE (Dial-up xDSL) or PPTP



2. WAN Type HELP

Specify the WAN connection type required by your Internet Service Provider. Specify a Cable modem, Fixed-IP xDSL, or PPPoE xDSL.

Dynamic IP (Cable modem)
A Cable modem requires minimal configuration. When you have set up an account with your Cable provider, the Cable modem will automatically configure itself, so you probably do not need to enter anything more. However, if there is a Domain Name System (DNS) server that you would rather use, you need to specify the IP address.

Static IP (Fixed-IP xDSL)
Some xDSL Internet Service Providers may assign a fixed IP address for your Broadband Router. If you have been provided with this information, choose this option and enter the assigned IP address, subnet mask, gateway IP and DNS IP addresses for your Broadband Router.

PPPoE (Dial-Up xDSL)
If you connect to the Internet using an xDSL Modem and your ISP has provided you with a password, and Service Name, then your ISP uses PPPoE. You must choose this option and enter the required information.

PPTP
If your ISP provided you the PPTP Account, PPTP Password, Host Name, Service IP Address, IP Address, Subnet Mask and the Connection ID, then your ISP uses PPTP. You have to choose this option and enter the required information.

Back

1-2-1 Dynamic IP (Cable Modem)

To connect to a Dynamic IP (Cable Modem) Internet connection with the Broadband Router, check the cable modem with the related user's guide. The Cable modem will automatically configure itself, and the Broadband Router is configured to automatically assign addresses to each PC.

If required by your ISP, input a host name and MAC address.

Dynamic IP (Cable modem)

Host Name

MAC Address

1-2-2 Static IP

If your Internet Service Provider (ISP) has assigned you a fixed IP address, select this option. Enter the assigned IP address, subnet mask, and gateway IP for your Broadband Router.

Static IP (Fixed-IP xDSL)

IP address assigned by your ISP

Subnet Mask

ISP Gateway Address

1-2-3 PPPoE (Dial-up xDSL)

If your DSL Internet connection is PPPoE (Dial-up xDSL), your ISP will provide a Password and Username. Select this option, and enter the required information. If your ISP provides a Service Name, enter it in the Service Name field. Otherwise, leave it blank.

The Service Name, IP Address, and DNS Address fields must be completed if your ISP provided you with this information. If your ISP Provider provides a Dynamic IP Address, you should skip these fields.

The MTU feature specifies the largest packet size permitted for network transmission. Enter the value desired; for most DSL users, 1492 is recommended. By default, MTU is set at 1492.

The Maximum Idle Time feature can control the connection time if you want to reduce connection fees charged by your ISP (default time=0, always connect). Check the Connect-on-demand box to enable your router to connect your ISP whenever an Internet connection is required.

1-2-4 PPTP

If connecting to the Internet using a PPTP xDSL Modem, enter the PPTP Account Name, PPTP Password, Host Name, Service IP Address, your IP Address, and your Subnet Mask as provided by your ISP in the appropriate fields. If your ISP has provided you with a Connection ID, enter it in the Connection ID field. Otherwise, leave it blank.

The MTU feature specifies the largest packet size permitted for network transmission. Enter the value desired; for most DSL users, 1492 is recommended. By default, MTU is set at 1492.

The Maximum Idle Time feature can

User Name

Password

Please retype your password

Service Name (optional)

IP Address (optional)

MTU (40-1492)

Maximum Idle Time (minutes)

Connect mode select Always-on Manual Connect-on-demand

PPTP Account

PPTP Password

Please retype your password

Host Name

Service IP Address

My IP Address

My Subnet Mask

Connection ID (Optional)

MTU (1400-1460)

Maximum Idle Time minutes

Connect mode select Always-on Manual Connect-on-demand

control the connection time (default time=0, always connect). Check the Connect-on-demand box to enable your router to connect your ISP whenever an Internet connection is required.

1-3 DNS

The Domain Name System (DNS) is the way that Internet domain names are translated into Internet Protocol (IP) addresses.

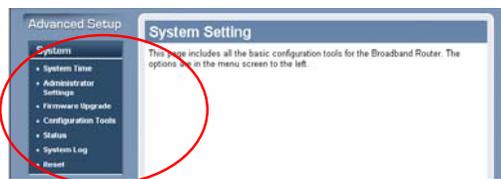
If your ISP provided at least one DNS Server IP Address, type that **IP Address** in the Primary DNS address fields. You may also enter another DNS Server IP Address; the Router will utilize these simultaneously for quicker access to functioning DNS Servers.

Advanced Setup

The Broadband Router supports advanced functions like System settings, WAN settings, LAN settings, NAT Settings, and Firewall settings.

2-1 System

This page includes all of the basic configuration tools for the Broadband Router. Choose from the selections on the left side of the menu screen.



2-1-1 System Time

Connecting to a Simple Network Time Protocol (SNTP) server allows the Broadband Router to synchronize the system clock to the global Internet time through the SNTP Server. The synchronized clock in the Broadband Router is used to record the system log and control client filtering.

2-1-2 Administrator Settings

- Password Settings

Set a password if you wish to restrict management access to the Broadband Router.

- Remote Management via the Internet

To manage the Broadband Router from a remote location (outside of the local network), you

must specify the IP address of the remote PC. Leave the IP address as 0.0.0.0, to allow open access to the router.

2-1-3 Firmware Upgrade

Upgrading firmware for this Broadband Router improves functionality and performance. Enter the path and name of the upgrade file then click the APPLY button below. You will be prompted to confirm the upgrade.

Current Firmware Version:	v1.00
Firmware Date:	Wed Oct 11 11:55:42 2006
Upgrade Firmware:	<input type="text"/> <input type="button" value="Browse..."/>

While updating the firmware, please wait after pressing the APPLY button, and follow the instructions on the screen; the System Light on the front panel will start blinking when the firmware has been upgraded successfully.



2-1-4 Configuration Tools

Use the "Backup Settings" tool to save the Broadband Router's current configuration to a file named "config.bin" on your PC. You can then use the "Restore Settings" tool to restore the saved configuration of the Broadband Router that was set previously. Select "Restore to Factory Defaults" tool to force the Broadband Router to reset and restore the original factory settings.

Restore to Factory Default To restore the factory default settings of the Broadband Router, click on the "Restore" button. You will be asked to confirm your decision. <input type="button" value="Restore"/>
Backup Settings Please press the "Backup Settings" button to save the configuration data to your PC. <input type="button" value="Backup Settings"/>
Restore Settings Enter the path and name of the backup file then press the "Restore Settings" button below. You will be prompted to confirm the backup restoration. <input type="text"/> <input type="button" value="Browse"/> <input type="button" value="Restore Settings"/>

- Restore Factory Default

To restore the factory default settings of the Broadband Router, select the "Restore Factory Default Configuration" option.

- Backup Settings
Select the "Backup Settings" option to save the current settings in a file called "config.bin," or save to a filename of your choosing.
- Restore Settings
To restore the backup file to the Broadband Router, enter the path and filename of the backup file (i.e. config.bin).

2-1-5 Status

The status screen will display the Broadband Routers' WAN/LAN interfaces, firmware and hardware version numbers, and the number of connected clients to the network.

WAN	
Connection Type:	Dynamic IP
WAN IP:	192.168.1.21
Subnet Mask:	255.255.255.0
Gateway:	192.168.1.254
DNS:	192.168.1.245
Secondary DNS:	0.0.0.0
Cable/DSL:	Connected
<input type="button" value="Release"/> <input type="button" value="Renew"/>	
LAN	
IP Address:	192.168.0.1
Subnet Mask:	255.255.255.0
DHCP Server:	Enabled
INFORMATION	
System Time:	10/11/2006 10:44:3
System Boot Up Time:	00:13:42
Connected Clients:	0
Runtime Code Version:	V25.1.2.100
Boot Code Version:	V255.255.255.255
LAN MAC Address:	00:11:95:96:08:00
WAN MAC Address:	00:11:95:96:03:01

2-1-6 System Log

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

Log File
<input type="button" value="Download"/> <input type="button" value="Clear"/> <input type="button" value="Refresh"/>

2-1-7 Reset

In the event that the Broadband Router stops responding correctly or in some way stops functioning, you can perform a reset. Your settings will not be changed. To perform the reset, click on the "Reset" button below. You will be asked to confirm your decision. The reset will be complete when the system light starts blinking.

2-2 WAN

The Broadband Router supports the following types of Internet connections: Dynamic IP Address, Static IP Address, PPPoE, and PPTP.

<input checked="" type="radio"/> Dynamic IP (Cable modem)	Obtain an IP address automatically from your service provider.
<input type="radio"/> Static IP (Fixed-IP xDSL)	Uses a static IP address. Your service provider gives a static IP address to access Internet services.
<input type="radio"/> PPPoE (Dial-Up xDSL)	PPP over Ethernet is a common connection method used for xDSL.
<input type="radio"/> PPTP	PPTP is a popular connection method used for xDSL in Europe.

2-2-1 Dynamic IP

The Host Name is optional, but may be required by some Service Providers. The default MAC address is set to the WAN's physical interface on the Broadband Router. If the Service Provider requires the MAC address, type it in. Click the "Clone MAC Address" button to copy the MAC address of the Network Interface Card installed in the PC. The WAN MAC address will be replaced by this MAC address.

If your ISP is BigPond (Australia), check the **Enable** box.

Host Name	<input type="text" value="TW100-S4W1CA"/>
MAC Address	<input type="text"/> - <input type="text"/> <input type="button" value="Clone MAC Address"/>
BigPond	<input type="checkbox"/> Enable

2-2-2 Static IP

If the Service Provider has assigned a fixed IP address, enter the assigned IP address subnet mask and gateway address provided. Click "yes" if are using two or more IP addresses.

IP address assigned by your ISP	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Subnet Mask	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
ISP Gateway Address	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Does ISP provide more IP addresses	<input type="checkbox"/> Yes
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

2-2-3 PPPoE (Dial-up xDSL)

If you're connecting to the Internet using a PPPoE (Dial-up xDSL) Modem and your ISP has provided you with a Password and Username, then your ISP uses PPPoE. Select this option, and enter the required information. If the ISP provided a Service Name, enter it in the Service Name field. Otherwise, leave it blank.

User Name	<input type="text"/>
Password	<input type="password" value="*****"/>
Please retype your password	<input type="password" value="*****"/>
Service Name	<input type="text"/> (optional)
IP Address	<input type="text"/> (optional)
Primary DNS Address	<input type="text"/> (optional)
Secondary DNS Address	<input type="text"/> (optional)
MTU (40-1492)	<input type="text" value="1492"/>
Maximum Idle Time	<input type="text" value="5"/> (1-60 minutes)
Connect mode select	<input checked="" type="radio"/> Always-on <input type="radio"/> Manual <input type="radio"/> Connect-on-demand

The Service Name, IP Address, and DNS Address fields must be completed if your ISP provides you with this information. If your ISP provides a Dynamic IP Address, skip these fields.

The MTU feature specifies the largest packet size permitted for network transmission. Enter the value desired; for most DSL users, 1492 is recommended. By default, MTU is set at 1492.

The Maximum Idle Time feature can control the connection time (default time=0, always connect). Check the Connect-on-demand box to enable your router to connect your ISP whenever an Internet connection is required.

2-2-4 PPTP

If connecting to the Internet using a PPTP Modem, enter the PPTP Account Name, PPTP Password, Host Name, Service IP Address, your IP Address, and your Subnet Mask as provided by your ISP in the appropriate fields. If your ISP has provided you with a Connection ID, enter it in the Connection ID field. Otherwise, leave it blank.

The MTU feature specifies the largest packet size permitted for network transmission. Enter the value desired; for most DSL users, 1492 is recommended. By default, MTU is set at 1492.

The Maximum Idle Time feature can control the connection time (default time=0, always connect). Check the Connect-on-demand box to enable your router to connect your ISP whenever an Internet connection is required.



A screenshot of a PPTP configuration form. The fields are: PPTP Account (pplp_user), PPTP Password (masked with dots), Please retype your password (masked with dots), Host Name (TW100-S4W1CA), Service IP Address (0.0.0.0), My IP Address (0.0.0.0), My Subnet Mask (255.255.255.0), Connection ID (5) (Optional), MTU (1400-1460) (1460), Maximum Idle Time (5) (1-60 minutes), and Connect mode select (radio buttons for Always-on, Manual, and Connect-on-demand).

2-2-5 DNS

The Domain Name System (DNS) is the way that Internet domain names are translated into Internet Protocol (IP) addresses.

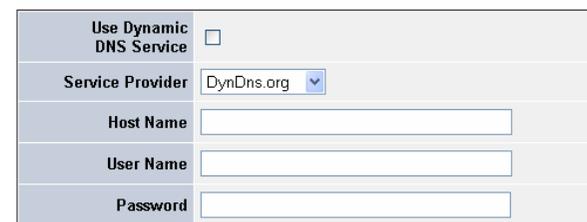


A screenshot of a DNS configuration form. The fields are: Domain Name Server (DNS) Address (four input boxes) and Secondary DNS Address (optional) (four input boxes).

If your ISP provided at least one DNS Server IP Address, type that **IP Address** in the Primary DNS address fields. You may also enter another DNS Server IP Address; the Router will utilize these simultaneously for quicker access to functioning DNS Servers.

2-2-6 Dynamic DNS

The Dynamic DNS feature allows you to host a server (Web, FTP, Game Server, etc.) using a host name with your dynamically assigned IP address. Most broadband Internet Service Providers assign dynamic IP addresses. When you use a Dynamic DNS service provider, your friends can enter your host name to connect to your server, no matter what your IP address is.



A screenshot of a Dynamic DNS configuration form. The fields are: Use Dynamic DNS Service (checkbox), Service Provider (dropdown menu with DynDns.org selected), Host Name (input field), User Name (input field), and Password (input field).

- Use Dynamic DNS
Check this option to enable Dynamic DNS.
- Service Provider
Select a Dynamic DNS service provider from the dropdown list.
- Host Name
Enter the host name your Dynamic DNS service provider has assigned to you; for example: myhost.mydomain.net.
- User Name

Enter the username provided by your Dynamic DNS service provider.

- Password

Enter the password provided by your Dynamic DNS service provider.

2-3 LAN

To set the LAN's IP Address.

2-3-1 LAN Settings

The default value is 192.168.0.1 for the IP address and 255.255.255.0 for the Subnet Mask. You may change the value according to your needs.

To enable the DHCP server to allocate dynamic IP addresses to the clients PCs, click "Enable". The client can get an IP Address that is between the IP Pool Starting Address and the IP Pool Ending Address. You may also change the IP Pool range value.

IP Address	192	168	0	1
Subnet Mask	255	255	255	0
The Gateway acts as DHCP Server	<input checked="" type="checkbox"/> Enable			
IP Pool Starting Address	192.168.0.100			
IP Pool Ending Address	192.168.0.199			
Lease Time	One week			
Local Domain Name	<input type="text"/> (optional)			

The Lease Time is the amount of time a network user will be allowed to connect to the Router with his/her current dynamic IP address. Enter the amount of time, in hours, days or weeks, which the user will be "leased" this dynamic IP address.

You can enter your local domain name in the Local Domain Name fields.

2-3-2 DHCP Client List

The DHCP client list allows you to see which clients are connected to the router via IP address, host name, and MAC address.

IP Address	Host Name	MAC Address
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2-4 NAT

Network Address Translation (NAT) allows multiple users at the local site to access the Internet through a single public IP address. NAT can also prevent hacker attacks by mapping local addresses to public addresses for key services such as the Web or FTP.

2-4-1 Special Application

Some applications require multiple connections, such as Internet gaming, video conferencing, and Internet telephony. These applications cannot work when Network Address Translation (NAT) is enabled. When users send this type of request to your network via the Internet, the Router will forward those requests to the appropriate PC. If you need to run applications that require multiple connections, specify the port normally associated with an application in the "Trigger Port" field, select the protocol type as TCP or UDP, then enter the public ports associated with the trigger port to open them for inbound traffic.

- **TCP** (Transmission Control Protocol) - A method (protocol) used along with the Internet Protocol (Internet Protocol) to send data in the form of message units between computers over the Internet. While IP takes care of handling the actual delivery of the data, TCP takes care of keeping track of the individual units of data (called packets) that a message is divided into for efficient routing through the Internet.
- **UDP** (User Datagram Protocol) - A communications method (protocol) that offers a limited amount of service when messages are exchanged between computers in a network that use the Internet Protocol (IP). UDP is an alternative to the TCP and, together with IP, is sometimes referred to as UDP/IP. Like the Transmission Control Protocol, UDP uses the Internet Protocol to actually get a data unit (called a datagram) from one computer to another. Unlike TCP, however, UDP does not provide the service of dividing a message into packets (datagrams) and reassembling it at the other end.

Specifically, UDP doesn't provide sequencing of the packets that the data arrives in. This means that the application program that uses UDP must be able to make sure that the entire message has arrived and is in the right order. Network applications that want to save processing time because they have very small data units to exchange (and therefore very little message reassembling to do) may prefer UDP to TCP.

Example:

ID	Trigger Port	Trigger Type	Public Port	Public Type	Comment
1	28800	UDP	2300-2400, 47624	UDP	MSN Game Zone
2	28800	UDP	2300-2400, 47624	TCP	MSN Game Zone
3	6112	UDP	6112	UDP	Battle.net

Trigger Port	Trigger Type	Public Port	Public Type	Enabled
1. 28800	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	2300-2400, 47624	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	<input checked="" type="checkbox"/>
2. 28800	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	2300-2400, 47624	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	<input checked="" type="checkbox"/>
3. 6112	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	6112	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	<input checked="" type="checkbox"/>
4.	<input type="radio"/> TCP <input type="radio"/> UDP		<input type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
5.	<input type="radio"/> TCP <input type="radio"/> UDP		<input type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
6.	<input type="radio"/> TCP <input type="radio"/> UDP		<input type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
7.	<input type="radio"/> TCP <input type="radio"/> UDP		<input type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
8.	<input type="radio"/> TCP <input type="radio"/> UDP		<input type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
9.	<input type="radio"/> TCP <input type="radio"/> UDP		<input type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
10.	<input type="radio"/> TCP <input type="radio"/> UDP		<input type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>

Apply Cancel

2-4-2 Virtual Server

The virtual server option allows you to define port number on your router for redirection to an internal LAN IP address. This feature is useful for hosting online services such as FTP or Web servers.

Example:

ID	Server IP	Mapping Port	Type	Comment
1	192.168.0.20	80	TCP	Web Server
2	192.168.0.12	20	TCP	FTP Server
3	192.168.0.12	21	TCP	FTP Server
4	192.168.0.28	23	TCP	Telnet Server

	Server IP	Mapping Ports	Type	Enabled
1.	192.168.0.20	80	<input checked="" type="radio"/> TCP <input type="radio"/> UDP	<input checked="" type="checkbox"/>
2.	192.168.0.12	20	<input checked="" type="radio"/> TCP <input type="radio"/> UDP	<input checked="" type="checkbox"/>
3.	192.168.0.12	21	<input checked="" type="radio"/> TCP <input type="radio"/> UDP	<input checked="" type="checkbox"/>
4.	192.168.0.28	23	<input checked="" type="radio"/> TCP <input type="radio"/> UDP	<input checked="" type="checkbox"/>
5.	192.168.0.		<input checked="" type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
6.	192.168.0.		<input checked="" type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
7.	192.168.0.		<input checked="" type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
8.	192.168.0.		<input checked="" type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
9.	192.168.0.		<input checked="" type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>
10.	192.168.0.		<input checked="" type="radio"/> TCP <input type="radio"/> UDP	<input type="checkbox"/>

2-5 Firewall

The Broadband Router provides extensive firewall protection by restricting connection parameters to limit the risk of hacker attacks and by defending against a wide array of common hacker attacks.

The Broadband Router provides packet filtering rules by restricting service ports, IP address or MAC address. However, for applications that require unrestricted access to the Internet, you may configure a specific client/server as a demilitarized zone (DMZ).

2-5-1 Discard PING from WAN side

When "Discard Ping from WAN side" is checked, it causes the public WAN IP address on the Broadband Router to ignore ping commands. Pinging public WAN IP addresses is a common method used by hackers to test whether the WAN IP address is valid.

Discard PING from WAN side	<input type="checkbox"/>
----------------------------	--------------------------

2-5-2 Client Filtering

To block certain client PCs from accessing the Internet:

You can filter Internet access for local clients based on IP addresses, application types, (i.e., HTTP port), and time of day.

For example, this screen shows that clients in the address range 192.168.0.50-99 are permanently restricted from using FTP (Port 21), while clients in the address range 192.168.0.110-119 are blocked from browsing the Internet (port 80) from Monday to Friday and from 0:00AM to 11:00 PM.

Example:

	IP	Port	Type	Block Time	Day	Time	Enable
1.	192.168.0.50 ~ 99	21 ~ 21	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	<input checked="" type="radio"/> Always <input type="radio"/> Block			<input checked="" type="checkbox"/>
2.	192.168.0.110 ~ 119	80 ~ 80	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	<input type="radio"/> Always <input checked="" type="radio"/> Block	MON ~ FRI	0:00am ~ 11:00pm	<input checked="" type="checkbox"/>
3.	192.168.0. ~	~	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	<input type="radio"/> Always <input checked="" type="radio"/> Block			<input type="checkbox"/>
4.	192.168.0. ~	~	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	<input type="radio"/> Always <input checked="" type="radio"/> Block			<input type="checkbox"/>
5.	192.168.0. ~	~	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	<input type="radio"/> Always <input checked="" type="radio"/> Block			<input type="checkbox"/>
6.	192.168.0. ~	~	<input type="radio"/> TCP <input checked="" type="radio"/> UDP	<input type="radio"/> Always <input checked="" type="radio"/> Block			<input type="checkbox"/>

2-5-3 MAC Address Control

MAC Address Control allows you to block certain client PCs from accessing the Internet based on MAC addresses.

MAC Address Control	<input type="checkbox"/> Enable <input type="radio"/> Allow all to pass except the following MACs. <input checked="" type="radio"/> Deny all to pass except the following MACs.
Add MAC Address	<input type="text"/> - <input type="text"/>
DHCP Client	<input type="button" value="Clone"/>
MAC Address Control List	<input type="text" value="MAC Address"/>

2-5-4 DMZ (Demilitarized Zone)

If a local client PC cannot run an Internet application properly from behind the NAT firewall, open the client up to unrestricted two-way Internet access by defining a PC as a virtual DMZ Host.

DMZ function	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled							
DMZ table	<table border="1"><thead><tr><th>Public IP</th><th>DMZ Host</th><th>Action</th></tr></thead><tbody><tr><td>192.168.1.21</td><td>192.168.0.</td><td><< Add</td></tr></tbody></table>		Public IP	DMZ Host	Action	192.168.1.21	192.168.0.	<< Add
Public IP	DMZ Host	Action						
192.168.1.21	192.168.0.	<< Add						

2-6 Routing

2-6-1 Static Routing

Static routing determines the path that data follows over your network before and after it passes through your router. You can use static routing to allow different IP domain users to access the Internet through the device

Destination LAN IP	Subnet Mask	Gateway	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<< Add

Cancel

TECHNICAL SPECIFICATIONS

General	
Standards	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet ANSI/IEEE 802.3 Auto-negotiation
Protocol	CSMA/CD
Data Transfer Rate	Ethernet: 10Mbps (half duplex), 20Mbps (full-duplex) Fast Ethernet: 100Mbps (half duplex), 200Mbps (full- duplex)
Topology	Star
Network Cables	10BASE-T: 2-pair UTP Cat. 3,4,5 (100 m), EIA/TIA- 568 100-ohm STP (100 m) 100BASE-TX: 2-pair UTP Cat. 5 (100 m), EIA/TIA-568 100-ohm STP (100 m)
Number of Ports	LAN: 4 x 10/100Mbps Auto-MDIX Fast Ethernet port WAN: 1 x 10/100Mbps Auto-MDIX Fast Ethernet port
Physical and Environmental	
DC inputs	Switching Power 5V 800mA or Linear Power 9V 800mA
Power Consumption	3W (Max)
Temperature	Operating: 0° ~ 40° C, Storage: -10° ~ 70° C
Humidity	Operating: 10% ~ 90%, Storage: 5% ~ 90%
Dimensions	154 x 110 x 33mm (6 x 4.3 x 1.3 inches)
EMI:	FCC, CE

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TRENDnet warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

TW100-S4W1CA	Five years
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If a product does not operate as warranted above during the applicable warranty period, TRENDnet shall, at its option and expense, repair the defective product or deliver to customer an equivalent product to replace the defective item. All products that are replaced will become the property of TRENDnet. Replacement products may be new or reconditioned.

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Please take a moment to register your product online.

Go to TRENDnet's website at <http://www.trendnet.com>

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