DSL-2790U

VERSION 1.00

Table of Contents

Package Contents

- DSL-2790U Wireless ADSL Router
- Power Adapter
- CD-ROM with User Manual
- One Micro Splitter
- One twisted-pair telephone cable used for ADSL connection
- One straight-through Ethernet cable
- One Quick Installation Guide

Note: Using a power supply with a different voltage rating than the one included with the DSL-2790U will cause damage and void the warranty for this product.

System Requirements

- ADSL Internet service
- Computer with:
  - 200MHz Processor
  - 64MB Memory
  - CD-ROM Drive
  - Ethernet Adapter with TCP/IP Protocol Installed
  - Internet Explorer v6 or later, FireFox v1.5
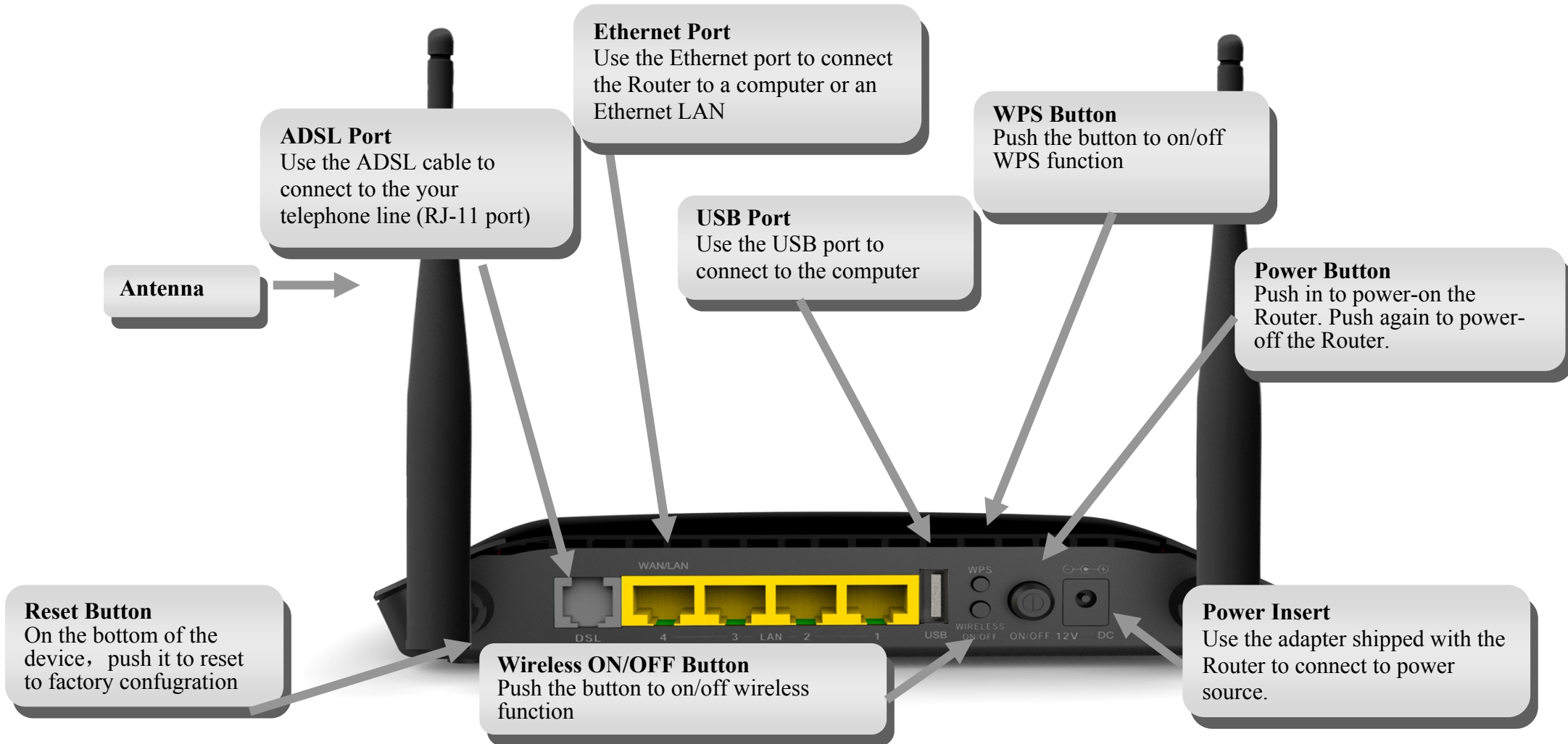 - Computer with Windows 2000, Windows XP, or Windows Vista

Features

- **PPP (Point-to-Point Protocol) Security** – The DSL-2790U ADSL Router supports PAP (Password Authentication Protocol) and CHAP (Challenge Handshake Authentication Protocol) for PPP connections. The Router also supports MSCHAP.

- **DHCP Support** – Dynamic Host Configuration Protocol automatically and dynamically assigns all LAN IP settings to each host on your network. This eliminates the need to reconfigure every host whenever changes in network topology occur.

- **Network Address Translation (NAT)** – For small office environments, the DSL-2790U allows multiple users on the LAN to access the Internet concurrently through a single Internet account. This provides Internet access to everyone in the office for the price of a single user. NAT improves network security in effect by hiding the private network behind one global and visible IP address. NAT address mapping can also be used to link two IP domains via a LAN-to-LAN connection.

- **TCP/IP (Transfer Control Protocol/Internet Protocol)** – The DSL-2790U supports TCP/IP protocol, the language used for the Internet. It is compatible with access servers manufactured by major vendors.

- **RIP-1/RIP-2** – The DSL-2790U supports both RIP-1 and RIP-2 exchanges with other routers. Using both versions lets the Router to communicate with all RIP enabled devices.

- **Static Routing** – This allows you to select a data path to a particular network destination that will remain in the routing table and never "age out". If you wish to define a specific route that will always be used for data traffic from your LAN to a specific destination within your LAN (for example to another router or a server) or outside your network (to an ISP defined default gateway for instance).

- **Default Routing** – This allows you to choose a default path for incoming data packets for which the destination address is unknown. This is particularly useful when/if the Router functions as the sole connection to the Internet.

- **ATM (Asynchronous Transfer Mode)** – The DSL-2790U supports Bridged Ethernet over ATM (RFC1483), IP over ATM (RFC1577), and PPP over ATM (RFC 2364).

- **Precise ATM Traffic Shaping** – Traffic shaping is a method of controlling the flow rate of ATM data cells. This function helps to establish the Quality of Service for ATM data transfer.

- **G.hs (Auto-handshake)** – This allows the Router to automatically choose either the G.lite or G.dmt ADSL connection standards.

- **High Performance** – Very high rates of data transfer are possible with the Router. Up to 8 Mbps downstream bit rate using the G.dmt standard.

- **Full Network Management –** The DSL-2790U incorporates SNMP (Simple Network Management Protocol) support for web-based management and text-based network management via an RS-232 or Telnet connection.

- **Telnet Connection –** The Telnet enables a network manager to access the Router's management software remotely.

- **Easy Installation –** The DSL-2790U uses a web-based graphical user interface program for convenient management access and easy set up. Any common web browser software can be used to manage the Router.

Hardware Overview
Connections

Ethernet Port
Use the Ethernet port to connect the Router to a computer or an Ethernet LAN

ADSL Port
Use the ADSL cable to connect to the your telephone line (RJ-11 port)

WPS Button
Push the button to on/off WPS function

USB Port
Use the USB port to connect to the computer

Antenna

Power Button
Push in to power-on the Router. Push again to power-off the Router.

Reset Button
On the bottom of the device，push it to reset to factory confugration

Wireless ON/OFF Button
Push the button to on/off wireless function

Power Insert
Use the adapter shipped with the Router to connect to power source.

WAN/LAN

DSL   4   3   LAN   2   1   USB   WPS   WIRELESS   ON/OFF   ON/OFF   12V   DC

Hardware Overview LEDs

USB
A steady green light indicates a valid link on startup. This light will blink when there is activity ceurrently passing through the USB port.

WLAN
A steady green light indicates a wireless connection. A blinking green light indicates activity on the WLAN interface.

WPS
A blinking green light indicates the device has connected the wireless network card, A blinking green light indicates activity on WPS.

LAN
A solid green light indicates a valid link on startup. This light will blink when there is activity currently passing through the Ethernet port.

DSL
A steady green light indicates a valid ADSL connection. This will light after the ADSL negotiation process has been settled. A blinking green light indicates that ADLS is attempting to sync.

Internet
A steady green light indicates a valid internet connection.

Power
A steady green light indicates the unit is powered on. When the device is powered off it remains dark. Lights steady green during power on self-test (POST) means the power connection works properly.

Installation

This section will walk you through the installation process. Placement of the Router is very important. Do not place the Router in an enclosed area such as a closet, cabinet, or in the attic or garage.

Before You Begin

Please read and make sure you understand all the prerequisites for proper installation of your new Router. Have all the necessary information and equipment on hand before beginning the installation.

Installation Notes

In order to establish a connection to the Internet it will be necessary to provide information to the Router that will be stored in its memory. For some users, only their account information (Username and Password) is required. For others, various parameters that control and define the Internet connection will be required. You can print out the two pages below and use the tables to list this information. This way you have a hard copy of all the information needed to setup the Router. If it is necessary to reconfigure the device, all the necessary information can be easily accessed. Be sure to keep this information safe and private.

Low Pass Filters
Since ADSL and telephone services share the same copper wiring to carry their respective signals, a filtering mechanism may be necessary to avoid mutual interference. A low pass filter device can be installed for each telephone that shares the line with the ADSL line. These filters are easy to install passive devices that connect to the ADSL device and/or telephone using standard telephone cable. Ask your service provider for more information about the use of low pass filters with your installation.

Operating Systems
The DSL-2790U uses an HTML-based web interface for setup and management. The web configuration manager may be accessed using any operating system capable of running web browser software, including Windows 98 SE, Windows ME, Windows 2000, Windows XP, and Windows Vista.

Web Browser
Any common web browser can be used to configure the Router using the web configuration management software. The program is designed to work best with more recently released browsers such as Opera, Microsoft Internet Explorer® version 6.0, Netscape Navigator® version 6.2.3, or later versions. The web browser must have JavaScript enabled. JavaScript is enabled by default on many browsers. Make sure JavaScript has not been disabled by other software (such as virus protection or web user security packages) that may be running on your computer.

Ethernet Port (NIC Adapter)

Any computer that uses the Router must be able to connect to it through the Ethernet port on the Router. This connection is an Ethernet connection and therefore requires that your computer be equipped with an Ethernet port as well. Most notebook computers are now sold with an Ethernet port already installed. Likewise, most fully assembled desktop computers come with an Ethernet NIC adapter as standard equipment. If your computer does not have an Ethernet port, you must install an Ethernet NIC adapter before you can use the Router. If you must install an adapter, follow the installation instructions that come with the Ethernet NIC adapter.

Additional Software

It may be necessary to install software on your computer that enables the computer to access the Internet. Additional software must be installed if you are using the device a simple bridge. For a bridged connection, the information needed to make and maintain the Internet connection is stored on another computer or gateway device, not in the Router itself.

If your ADSL service is delivered through a PPPoE or PPPoA connection, the information needed to establish and maintain the Internet connection can be stored in the Router. In this case, it is not necessary to install software on your computer. It may however be necessary to change some settings in the device, including account information used to identify and verify the connection.

All connections to the Internet require a unique global IP address. For bridged connections, the global IP settings must reside in a TCP/IP enabled device on the LAN side of the bridge, such as a PC, a server, a gateway device such as a router or similar firewall hardware. The IP address can be assigned in a number of ways. Your network service provider will give you instructions about any additional connection software or NIC configuration that may be required.

Information you will need from your ADSL service provider

Username
This is the Username used to log on to your ADSL service provider's network. Your ADSL service provider uses this to identify your account.

Password
This is the Password used, in conjunction with the Username above, to log on to your ADSL service provider's network. This is used to verify the identity of your account.

WAN Setting / Connection Type
These settings describe the method your ADSL service provider uses to transport data between the Internet and your computer. Most users will use the default settings. You may need to specify one of the following WAN Setting and Connection Type configurations (Connection Type settings listed in parenthesis):
- PPPoE/PPoA (PPPoE LLC, PPPoA LLC or PPPoA VC-Mux)
- Bridge Mode (1483 Bridged IP LLC or 1483 Bridged IP VC Mux)
- IPoA/MER (Static IP Address) (Bridged IP LLC, 1483 Bridged IP VC Mux, 1483 Routed IP LLC, 1483 Routed IP VC-Mux or IPoA)
- MER (Dynamic IP Address) (1483 Bridged IP LLC or 1483 Bridged IP VC-Mux)

Modulation Type
ADSL uses various standardized modulation techniques to transmit data over the allotted signal frequencies. Some users may need to change the type of modulation used for their service. The default DSL modulation (ADSL2+ Multi-Mode) used for the Router automatically detects all types of ADSL, ADSL2, and ADSL2+ modulation.

Security Protocol
This is the method your ADSL service provider will use to verify your Username and Password when you log on to their network. Your Router supports the PAP and CHAP protocols.

VPI
Most users will not be required to change this setting. The Virtual Path Identifier (VPI) is used in conjunction with the Virtual Channel Identifier (VCI) to identify the data path between your ADSL service provider's network and your computer. If you are setting up the Router for multiple virtual connections, you will need to configure the VPI and VCI as instructed by your ADSL service provider for the additional connections. This setting can be changed in the WAN Settings window of the web management interface.
VCI

Most users will not be required to change this setting. The Virtual Channel Identifier (VCI) used in conjunction with the VPI to identify the data path between your ADSL service provider's network and your computer. If you are setting up the Router for multiple virtual connections, you will need to configure the VPI and VCI as instructed by your ADSL service provider for the additional connections. This setting can be changed in the WAN Settings window of the web management interface.

Information you will need about DSL-2790U

Username
This is the Username needed to access the Router's management interface. When you attempt to connect to the device through a web browser you will be prompted to enter this Username. The default Username for the Router is "admin." The user cannot change this.

Password
This is the Password you will be prompted to enter when you access the Router's management interface. The default Password is "admin." The user may change this.

LAN IP addresses for the DSL-2790U
This is the IP address you will enter into the Address field of your web browser to access the Router's configuration graphical user interface (GUI) using a web browser. The default IP address is 192.168.1.1. This may be changed to suit any IP address scheme the user desires. This address will be the base IP address used for DHCP service on the LAN when DHCP is enabled.

LAN Subnet Mask for the DSL-2790U
This is the subnet mask used by the DSL-2790U, and will be used throughout your LAN. The default subnet mask is 255.255.255.0. This can be changed later.

Information you will need about your LAN or computer:

Ethernet NIC

If your computer has an Ethernet NIC, you can connect the DSL-2790U to this Ethernet port using an Ethernet cable. You can also use the Ethernet ports on the DSL-2790U to connect to other computer or Ethernet devices.

DHCP Client status

Your DSL-2790U ADSL Router is configured, by default, to be a DHCP server. This means that it can assign an IP address, subnet mask, and a default gateway address to computers on your LAN. The default range of IP addresses the DSL-2790U will assign are from 192.168.1.2 to 192.168.1.254. Your computer (or computers) needs to be configured to obtain an IP address automatically (that is, they need to be configured as DHCP clients.)

It is recommended that your collect and record this information here, or in some other secure place, in case you have to re-configure your ADSL connection in the future.

Once you have the above information, you are ready to setup and configure your DSL-2790U ADSL Router.

Device Installation

The DSL-2790U connects two separate physical interfaces, an ADSL (WAN) and an Ethernet (LAN) interface. Place the Router in a location where it can be connected to the various devices as well as to a power source. The Router should not be located where it will be exposed to moisture or excessive heat. Make sure the cables and power cord are placed safely out of the way so they do not create a tripping hazard. As with any electrical appliance, observe common sense safety procedures.

The Router can be placed on a shelf or desktop, ideally you should be able to see the LED indicators on the front if you need to view them for troubleshooting.

Power on Router

The Router must be used with the power adapter included with the device.

1. Insert the DC Power Adapter cord into the power receptacle located on the rear panel of the Router and plug the adapter into a suitable nearby power source.

2. Depress the Power button into the on position. You should see the Power LED indicator light up and remain lit. The Status LED should light solid green and begin to blink after a few seconds.

3. If the Ethernet port is connected to a working device, check the LAN LED indicators to make sure the connection is valid. The Router will attempt to establish the ADSL connection, if the ADSL line is connected and the Router is properly configured this should light up after several seconds. If this is the first time installing the device, some settings may need to be changed before the Router can establish a connection.

Factory Reset Button

The Router may be reset to the original factory default settings by using a ballpoint or paperclip to gently push down the reset button in the following sequence:

1. Press and hold the reset button while the device is powered off.
2. Turn on the power.
3. Wait for 5 seconds and then release the reset button.

Remember that this will wipe out any settings stored in flash memory including user account information and LAN IP settings. The device settings will be restored to the factory default IP address **192.168.1.1** and the subnet mask is **255.255.255.0**, the default management Username is "admin" and the default Password is "admin."

Network Connections

Connect ADSL Line

Use the ADSL cable included with the Router to connect it to a telephone wall socket or receptacle. Plug one end of the cable into the ADSL port (RJ-11 receptacle) on the rear panel of the Router and insert the other end into the RJ-11 wall socket. If you are using a low pass filter device, follow the instructions included with the device or given to you by your service provider. The ADSL connection represents the WAN interface, the connection to the Internet. It is the physical link to the service provider's network backbone and ultimately to the Internet.

Connect Router to Ethernet

The Router may be connected to a single computer or Ethernet device through the 10BASE-TX Ethernet port on the rear panel. Any connection to an Ethernet concentrating device such as a switch or hub must operate at a speed of 10/100 Mbps only. When connecting the Router to any Ethernet device that is capable of operating at speeds higher than 10Mbps, be sure that the device has auto-negotiation (NWay) enabled for the connecting port. Use standard twisted-pair cable with RJ-45 connectors. The RJ-45 port on the Router is a crossed port (MDI-X). Follow standard Ethernet guidelines when deciding what type of cable to use to make this connection. When connecting the Router directly to a PC or server use a normal straight-through cable. You should use a crossed cable when connecting the Router to a normal (MDI-X) port on a switch or hub. Use a normal straight-through cable when connecting it to an uplink (MDI-II) port on a hub or switch. The rules governing Ethernet cable lengths apply to the LAN to Router connection. Be sure that the cable connecting the LAN to the Router does not exceed 100 meters.

Hub or Switch to Router Connection

Connect the Router to an uplink port (MDI-II) on an Ethernet hub or switch with a straight-through cable. If you wish to reserve the uplink port on the switch or hub for another device, connect to any on the other MDI-X ports (1x, 2x, etc.) with a crossed cable.

Computer to Router Connection

You can connect the Router directly to a 10/100BASE-TX Ethernet adapter card (NIC) installed on a PC using the Ethernet cable provided.

Configuration

This section will show you how to configure your new D-Link Router using the web-based configuration utility.

Web-based Configuration Utility

Connect **to** **the** **Router**

The default IP address for ADSL MODEM is: 192.168.1.1; The Subnet Mask is：255.255.255.0. Users can configure ADSL MODEM through an Internet browser. ADSL MODEM can be used as gateway and DNS server; users need to set the computer's TCP/IP protocol as follow:

1. Set the computer IP address at same segment of ADSL MODEM, such as set the IP address of the network card to one of the "192.168.1.2"～ "192.168.1.254".
2. Set the computer's gateway the same IP address as the ADSL Modem's.
3. Set computer's DNS server the same as ADSL Modem's IP address or that of an effective DNS server.

To access the configuration utility, open a web-browser such as Internet Explorer
and enter the IP address of the router (**192.168.1.1**).

Type **"admin"** for the User Name and "" in the Password field. If you get a **Page Cannot be Displayed** error, please refer to the **Troubleshooting** section for assistance.

Device Info

To access the **Device Info** window, click either the **Device Info** or **Summary** button in the **Device Info** directory. The following page opens:

D-Link

Device Info
Advanced Setup
Wireless
Diagnostics
Management

Device Info

Board ID:	DSL-2790U
Build Timestamp:	141023_1754
Software Version:	ME_1.00
Bootloader (CFE) Version:	1.0.38-114.-86
DSL PHY and Driver Version:	A2pG038i.d24f
Wireless Driver Version:	6.30.102.7.cpe4.12L07.0
Uptime:	0D 0H 2M 5S

This information reflects the current status of your WAN connection.

Line Rate - Upstream (Kbps):	1348
Line Rate - Downstream (Kbps):	29221
LAN IPv4 Address:	192.168.1.1
Default Gateway:	ppp0.1
Primary DNS Server:	202.96.209.5
Secondary DNS Server:	116.228.111.118
LAN IPv6 ULA Address:	
Default IPv6 Gateway:	

Summary

To access the Router's first **Summary** window, click the **Summary** button in the **Device Info** directory.

This window displays the current status of your DSL connection, including the software version, LAN IP address, and DNS server address.

Device Info

Board ID:	DSL-2790U
Build Timestamp:	141023_1754
Software Version:	ME_1.00
Bootloader (CFE) Version:	1.0.38-114.-86
DSL PHY and Driver Version:	A2pG038i.d24f
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Default Gateway:	ppp0.1
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Secondary DNS Server:	116.228.111.118
LAN IPv6 ULA Address:	
Default IPv6 Gateway:	

WAN

To access the **WAN Info** window, click the **WAN** button in the **Device Info** directory.

This window displays the current status of your WAN connection.

WAN Info

Interface	Description	Type	VlanMuxId	IPv6	Igmp	MLD	NAT	Firewall	Status	IPv4 Address	IPv6 Address
eth4	3G dongle	IPoE	Disabled	Disabled	Disabled	Disabled	Enabled	Disabled	Unconfigured		
ppp7	3G dongle	PPP	Disabled	Disabled	Disabled	Disabled	Enabled	Disabled	Unconfigured		

Statistics

To access the Router's first **Statistics** window, click the **Statistics** button in the **Device Info** directory.

This window displays the Router's LAN statistics. Click the **Reset Statistics** button to refresh these statistics.

Statistics -- LAN

Interface	Received				Transmitted			
	Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
LAN4	0	0	0	0	0	0	0	0
LAN3	353120	3300	0	0	589960	1184	0	0
LAN2	0	0	0	0	0	0	0	0
LAN1	0	0	0	0	0	0	0	0
wlan0	0	0	0	0	70793	574	0	0

Reset Statistics

This window displays the Router's WAN statistics. Click the **Reset Statistics** button to refresh these statistics.

Statistics -- WAN

Interface	Description	Received				Transmitted			
		Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
eth4	3G dongle	0	0	0	0	0	0	0	0
ppp7	3G dongle	0	0	0	0	0	0	0	0

Reset Statistics

This window displays the Router's XTM statistics. Click the **Reset** button to refresh these statistics.

Interface Statistics

Port Number	In Octets	Out Octets	In Packets	Out Packets	In OAM Cells	Out OAM Cells	In ASM Cells	Out ASM Cells	In Packet Errors	In Cell Errors

Reset

This window displays the Router's xDSL statistics. Click the **Reset Statistics** button to refresh these statistics.

Click the **xDSL BER Test** button to access the ADSL Bit Error Rate Test window displayed below:

Statistics -- xDSL

Mode:	
Traffic Type:	
Status:	Disabled
Link Power State:	

	Downstream	Upstream
Line Coding(Trellis):		
SNR Margin (0.1 dB):		
Attenuation (0.1 dB):		
Output Power (0.1 dBm):		
Attainable Rate (Kbps):		
Rate (Kbps):		
Super Frames:		
Super Frame Errors:		
RS Words:		
RS Correctable Errors:		
RS Uncorrectable Errors:		
HEC Errors:		
OCD Errors:		
LCD Errors:		
Total Cells:		
Data Cells:		
Bit Errors:		
Total ES:		
Total SES:		
Total UAS:		

ADSL BER Test - Start

The ADSL Bit Error Rate (BER) test determines the quality of the ADSL connection. The test is done by transferring idle cells containing a known pattern and comparing the received data with this known pattern to check for any errors.

Select the test duration below and click "Start".

Tested Time (sec): 20

Start Close

xDSL BER Test   Reset Statistics

Route

To access the **Device Info – Route** window, click the **Route** button in the **Device Info** directory.

This read-only window displays routing info.

Device Info -- Route

Flags: U - up, ! - reject, G - gateway, H - host, R - reinstate
D - dynamic (redirect), M - modified (redirect).

Destination	Gateway	Subnet Mask	Flag	Metric	Service	Interface
192.168.1.0	0.0.0.0	255.255.255.0	U	0		br0

ARP

To access the **Device Info – ARP** window, click the **ARP** button in the **Device Info** directory.

This read-only window displays Address Resolution Protocol info.

Device Info -- ARP

IP address	Flags	HW Address	Device
192.168.1.2	Complete	b8:ac:6f:3a:a6:c7	br0
192.168.1.58	Complete	b8:ac:6f:3a:a6:c7	br0

DHCP

To access the **Device Info – DHCP Leases** window, click the **DHCP** button in the **Device Info** directory.
This read-only window displays DHCP lease info.

Device Info -- DHCP Leases

Hostname	MAC Address	IP Address	Expires In
test-59c23541e0	b8:ac:6f:3a:a6:c7	192.168.1.2	23 hours, 42 minutes, 56 seconds

Advanced Setup

This chapter include the more advanced features used for network management and security as well as administrative tools to manage the Router, view status and other information used to examine performance and for troubleshooting.

Layer2 Interface

To access the **DSL ATM Interface Configuration** window, click the **ATM Interface** button in the **Layer2 Interface** directory.

This window is used to configure the ATM interface. You can add and delete ATM interface on this window.

If you are setting up the ATM interface for the first time, click the **Add** button.

DSL ATM Interface Configuration

Choose Add, or Remove to configure DSL ATM interfaces.

Interface	Vpi	Vci	DSL Latency	Category	Peak Cell Rate (cells/s)	Sustainable Cell Rate(cells/s)	Max Burst Size (bytes)	Link Type	Conn Mode	IP QoS	MPAAL Prec/Alg/Wght	Remove

Add Remove

ATM Interface

The **ATM PVC** Configuration window allows you to set up ATM PVC configuration. Enter Virtual Path Identifier,and Virtual Channel Identifier. The VPI and VCI values should be provided by your ISP. This window also allows you to select DSL Link Type, PPPoA、IpoA and EoA (EoA is for PPPoE, IPoE, and Bridge)

Use the drop-down menu to select the desired Encapsulation Mode..

Click the **Apply / Save** button to Save.

ATM PVC Configuration

This screen allows you to configure a ATM PVC.

VPI: 0 [0-255]

VCI: 35 [32-65535]

Select DSL Latency

☑ Path0 (Fast)
☐ Path1 (Interleaved)

Select DSL Link Type (EoA is for PPPoE, IPoE, and Bridge.)
◉ EoA
○ PPPoA
○ IPoA

Encapsulation Mode: LLC/SNAP-BRIDGING ▼

Service Category: UBR Without PCR ▼

Select Scheduler for Queues of Equal Precedence as the Default Queue
◉ Weighted Round Robin
○ Weighted Fair Queuing

Default Queue Weight: 1 [1-63]

Default Queue Precedence: 8 [1-8] (lower value, higher priority)

VC WRR Weight: 1 [1-63]

VC Precedence: 8 [1-8] (lower value, higher priority)

Note: VC scheduling will be SP among unequal precedence VC's and WRR among equal precedence VC's.
For single queue VC, the default queue precedence and weight will be used for arbitration.
For multi-queue VC, its VC precedence and weight will be used for arbitration.

[Back] [Apply/Save]

To access the **ETH WAN Interface Configuration** window, click the **ETH Interface** button in the **Layer2 Interface** directory.

This window is used to configure the ETH interface. You can add and delete ETH interface on this window.

If you are setting up theETH interface for the first time, click the **Add** button.

ETH WAN Interface Configuration

Choose Add, or Remove to configure ETH WAN interfaces.
Allow one ETH as layer 2 wan interface.

Interface/(Name)	Connection Mode	Remove

Add   Remove

ETH Interface

The **ETH PVC** Configuration window allows you to set up ETH WAN configuration. This screen allows you to configure a ETH port.Select a ETH port.Select Connection Mode.

Click the **Apply / Save** button to Save.

ETH WAN Configuration
This screen allows you to configure a ETH port .

Select a ETH port:

LAN4

Back   Apply/Save

WAN Service

To access the **Wide Area Network (WAN) Service Setup** window, click the **WAN Service** button in the **Advanced Setup** directory.

This window is used to configure the WAN interface. You can add and delete WAN interface on this window.

If you are setting up the WAN interface for the first time, click the **Add** button.

Wide Area Network (WAN) Service Setup

Choose Add, Remove or Edit to configure a WAN service over a selected interface.

Interface	Description	Type	Vlan8021p	VlanMuxId	Igmp	NAT	Firewall	IPv6	Mld	Remove	Edit

Add   Remove

The **WAN Service Interface Configuration** Configuration window allows select a layer 2 interface for this service. Click the **Next** button to continue.

WAN Service Interface Configuration

Select a layer 2 interface for this service

Note: For ATM interface, the descriptor string is (portId_vpi_vci)
For PTM interface, the descriptor string is (portId_high_low)
Where portId=0 --> DSL Latency PATH0
portId=1 --> DSL Latency PATH1
portId=4 --> DSL Latency PATH0&1
low =0 --> Low PTM Priority not set
low =1 --> Low PTM Priority set
high =0 --> High PTM Priority not set
high =1 --> High PTM Priority set

atm0/(0_0_35)

Back   Next

This window allows you to select the appropriate connection type. The choices include PPP over ATM (PPPoA), PPP over Ethernet (PPPoE), IP over Ethernet (IpoE), IP over ATM (IPoA), and Bridging.

WAN Service Configuration – PPPoE

Click the PPP over Ethernet (PPPoE) radio button on this window. This window also allows you to use the drop-down menu to enable IPv6 service. Click the **Next** button to continue.

WAN Service Configuration

Select WAN service type:
- ⦿ PPP over Ethernet (PPPoE)
- ○ IP over Ethernet
- ○ Bridging

Enter Service Description: pppoe_0_0_35

For tagged service, enter valid 802.1P Priority and 802.1Q VLAN ID.
For untagged service, set -1 to both 802.1P Priority and 802.1Q VLAN ID.

Enter 802.1P Priority [0-7]: -1

Enter 802.1Q VLAN ID [0-4094]: -1

Network Protocol Selection:
IPV4 Only

Back Next

WAN Service Configuration – PPPoE

This window allows you to set the username and the password for your PPP connection. This information is obtained from your ISP. Additional settings on this window will also depend on your ISP. And You can input 2nd ip on this page. Click the **Next** button to continue.

PPP Username and Password

PPP usually requires that you have a user name and password to establish your connection. In the boxes below, enter the user name and password that your ISP has provid to you.

PPP Username:
PPP Password:
PPPoE Service Name:
Authentication Method: AUTO

☐ Enable Firewall
☐ Enable Fullcone NAT

☐ Dial on demand (with idle timeout timer)

☐ PPP IP extension
☐ Use Static IPv4 Address

WAN Service Configuration – PPPoE

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again. Click the **Next** button to continue.

Routing -- Default Gateway

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Selected Default Gateway Interfaces		Available Routed WAN Interfaces
ppp0.1	-> <-	eth4 ppp7

Back Next

WAN Service Configuration – PPPoE

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again. Click the **Next** button to continue

DNS Server Configuration

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPo protocol is configured, Static DNS server IP addresses must be entered.
DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the higest an the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

◉ **Select DNS Server Interface from available WAN interfaces:**

Selected DNS Server Interfaces		Available WAN Interfaces
ppp0.1	-> <-	eth4 ppp7

○ **Use the following Static DNS IP address:**

Primary DNS server: [   ]

Secondary DNS server: [   ]

WAN Service Configuration – PPPoE

This summary window allows you to confirm the settings you have just made.
Click the **Apply / Save** button to save your new PPP over Ethernet settings and restart the Router.

WAN Setup - Summary

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	PPPoE
NAT:	Enabled
Full Cone NAT:	Disabled
Firewall:	Disabled
IGMP Multicast:	Disabled
Quality Of Service:	Enabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

[Back] [Apply/Save]

WAN Service Configuration – IPoE
Click the IP over Ethernet radio button on this window. Click the **Next** button to continue.

WAN Service Configuration

Select WAN service type:
○ PPP over Ethernet (PPPoE)
◉ IP over Ethernet
○ Bridging

Enter Service Description: ipoe_0_0_35

For tagged service, enter valid 802.1P Priority and 802.1Q VLAN ID.
For untagged service, set -1 to both 802.1P Priority and 802.1Q VLAN ID.

Enter 802.1P Priority [0-7]:   -1

Enter 802.1Q VLAN ID [0-4094]:   -1

Network Protocal Selection:
IPV4 Only

Back Next

WAN Service Configuration – IPoE
This window allows you to configure the WAN IP settings. This information is obtained from your ISP. Click the **Next** button to continue.

WAN IP Settings

Enter information provided to you by your ISP to configure the WAN IP settings.
Notice: If "Obtain an IP address automatically" is chosen, DHCP will be enabled for PVC in IPoE mode.
If "Use the following Static IP address" is chosen, enter the WAN IP address, subnet mask and interface gateway.

◉ Obtain an IP address automatically

Option 60 Vendor ID:		
Option 61 IAID:		(8 hexadecimal digits)
Option 61 DUID:		(hexadecimal digit)
Option 125:	◉ Disable	○ Enable

○ Use the following Static IP address:

WAN IP Address:

WAN Subnet Mask:

WAN gateway IP Address:

[Back] [Next]

WAN Service Configuration – IPoE

This window allows you to enable or disable Network Address Translation and a firewall for your Router. In addition, you can enable or disable IGMP multicasting. And You can input 2nd ip on this page. Click the **Next** button to continue.

Network Address Translation Settings

Network Address Translation (NAT) allows you to share one Wide Area Network (WAN) IP address for multiple computers on your Local Area Network (LAN).

☐ Enable NAT

☐ Enable Firewall

IGMP Multicast

☐ Enable IGMP Multicast

☐ No Multicast VLAN Filter

[Back] [Next]

WAN Service Configuration – IPoE

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again. Click the **Next** button to continue

Routing -- Default Gateway

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Selected Default Gateway Interfaces

atm0.1

Available Routed WAN Interfaces

eth4
ppp7

[->]
[<-]

[Back] [Next]

WAN Service Configuration – IPoE

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Click the **Next** button to continue

DNS Server Configuration

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

⊙ **Select DNS Server Interface from available WAN interfaces:**

Selected DNS Server Interfaces   Available WAN Interfaces

atm0. 1   eth4
                 ppp7

[->]
[<-]

○ **Use the following Static DNS IP address:**
Primary DNS server: [   ]
Secondary DNS server: [   ]

WAN Service Configuration – IPoE

This summary window allows you to confirm the settings you have just made. Click the **Apply / Save** button to save your new IP over Ethernet settings and restart the Router.

WAN Setup - Summary

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	IPoE
NAT:	Disabled
Full Cone NAT:	Disabled
Firewall:	Disabled
IGMP Multicast:	Disabled
Quality Of Service:	Enabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

[Back] [Apply/Save]

WAN Service Configuration – BRIDGING
Click the Bridge radio button on this window. Click the **Next** button to continue.

WAN Service Configuration

Select WAN service type:
- ○ PPP over Ethernet (PPPoE)
- ○ IP over Ethernet
- ◉ Bridging

Enter Service Description: br_0_0_35

For tagged service, enter valid 802.1P Priority and 802.1Q VLAN ID.
For untagged service, set -1 to both 802.1P Priority and 802.1Q VLAN ID.

Enter 802.1P Priority [0-7]: -1
Enter 802.1Q VLAN ID [0-4094]: -1

Back Next

WAN Service Configuration – BRIDGING

This summary window allows you to confirm the bridging settings you have just made. Click the **Apply /Save** button to save your new bridging settings and restart the Router.

WAN Setup - Summary

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	Bridge
NAT:	Disabled
Full Cone NAT:	Disabled
Firewall:	Disabled
IGMP Multicast:	Not Applicable
Quality Of Service:	Enabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

Back   Apply/Save

To access the **Wide Area Network (WAN) Service Setup** window, click the **WAN Service** button in the **Advanced Setup** directory.

This window is used to configure the WAN interface. You can add and delete WAN interface on this window.

If you are setting up the WAN interface for the first time, click the **Add** button.

Wide Area Network (WAN) Service Setup

Choose Add, Remove or Edit to configure a WAN service over a selected interface.

Interface	Description	Type	Vlan8021p	VlanMuxId	Igmp	NAT	Firewall	IPv6	Mld	Remove	Edit

Add   Remove

The **WAN Service Interface Configuration** Configuration window allows select a layer 2 interface for this service. Click the **Next** button to continue.

WAN Service Interface Configuration

Select a layer 2 interface for this service

Note: For ATM interface, the descriptor string is (portId_vpi_vci)
For PTM interface, the descriptor string is (portId_high_low)
Where portId=0 --> DSL Latency PATH0
portId=1 --> DSL Latency PATH1
portId=4 --> DSL Latency PATH0&1
low =0 --> Low PTM Priority not set
low =1 --> Low PTM Priority set
high =0 --> High PTM Priority not set
high =1 --> High PTM Priority set

eth0/LAN4

Back   Next

This window allows you to select the appropriate connection type.
WAN Service Configuration – PPPoE
Click the PPP over Ethernet (PPPoE) radio button on this window. This window also allows you to use the drop-down menu to enable IPv6 service. Click the **Next** button to continue.

WAN Service Configuration

Select WAN service type:
- ⦿ PPP over Ethernet (PPPoE)
- ○ IP over Ethernet
- ○ Bridging

Enter Service Description: pppoe_eth0

For tagged service, enter valid 802.1P Priority and 802.1Q VLAN ID.
For untagged service, set -1 to both 802.1P Priority and 802.1Q VLAN ID.

Enter 802.1P Priority [0-7]: -1

Enter 802.1Q VLAN ID [0-4094]: -1

Network Protocal Selection:
IPV4 Only

Back Next

WAN Service Configuration – PPPoE

This window allows you to set the username and the password for your PPP connection. This information is obtained from your ISP. Additional settings on this window will also depend on your ISP. And You can input 2nd ip on this page. Click the **Next** button to continue.

PPP Username and Password

PPP usually requires that you have a user name and password to establish your connection. In the boxes below, enter the user name and password that your ISP has provided to you.

PPP Username:
PPP Password:
PPPoE Service Name:
Authentication Method: AUTO

☐ Enable Firewall

☐ Enable Fullcone NAT

☐ Dial on demand (with idle timeout timer)

☐ PPP IP extension

☐ Use Static IPv4 Address

☐ Enable PPP Debug Mode

☐ Bridge PPPoE Frames Between WAN and Local Ports

WAN Service Configuration – PPPoE

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again. Click the **Next** button to continue.

Routing -- Default Gateway

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the W interface is connected. Priority order can be changed by removing all and adding them back in again.

Selected Default Gateway Interfaces

ppp0.1

Available Routed WAN Interfaces

eth4
ppp7

-»
«-

Back   Next

WAN Service Configuration – PPPoE

Select DNS Server Interface from available WAN interfaces OR enter static
DNS server IP addresses for the system. In ATM mode, if only a single PVC
with IPoA or static IPoE protocol is configured, Static DNS server IP addresses
must be entered.
DNS Server Interfaces can have multiple WAN interfaces served as system dns
servers but only one will be used according to the priority with the first being the
higest and the last one the lowest priority if the WAN interface is connected.
Priority order can be changed by removing all and adding them back in again.
Click the **Next** button to continue

WAN Service Configuration – PPPoE

This summary window allows you to confirm the settings you have just made.
Click the **Apply / Save** button to save your new PPP over Ethernet settings and
restart the Router.

WAN Service Configuration – IPoE
Click the IP over Ethernet radio button on this window. Click the **Next** button to continue.

WAN Service Configuration

Select WAN service type:
- ○ PPP over Ethernet (PPPoE)
- ◉ IP over Ethernet
- ○ Bridging

Enter Service Description: ipoe_eth0

For tagged service, enter valid 802.1P Priority and 802.1Q VLAN ID.
For untagged service, set -1 to both 802.1P Priority and 802.1Q VLAN ID.

Enter 802.1P Priority [0-7]: -1
Enter 802.1Q VLAN ID [0-4094]: -1

Network Protocol Selection:
IPV4 Only

[Back] [Next]

WAN Service Configuration – IPoE
This window allows you to configure the WAN IP settings. This information is obtained from your ISP. Click the **Next** button to continue.

WAN IP Settings

Enter information provided to you by your ISP to configure the WAN IP settings.
Notice: If "Obtain an IP address automatically" is chosen, DHCP will be enabled for PVC in IPoE mode.
If "Use the following Static IP address" is chosen, enter the WAN IP address, subnet mask and interface gateway.

◉ Obtain an IP address automatically
Option 60 Vendor ID:
Option 61 IAID: (8 hexadecimal digits)
Option 61 DUID: (hexadecimal digit)
Option 125:   ◉ Disable   ○ Enable
○ Use the following Static IP address:
WAN IP Address:
WAN Subnet Mask:
WAN gateway IP Address:

[Back] [Next]

WAN Service Configuration – IPoE

This window allows you to enable or disable Network Address Translation and a firewall for your Router. In addition, you can enable or disable IGMP multicasting. And You can input 2nd ip on this page. Click the **Next** button to continue.

Network Address Translation Settings

Network Address Translation (NAT) allows you to share one Wide Area Network (WAN) IP address for multiple computers on your Local Area Network (LAN).

☐ Enable NAT

☐ Enable Firewall

IGMP Multicast

☐ Enable IGMP Multicast

☐ No Multicast VLAN Filter

[Back] [Next]

WAN Service Configuration – IPoE

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again. Click the **Next** button to continue

Routing -- Default Gateway

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Selected Default Gateway Interfaces

eth0.1

Available Routed WAN Interfaces

eth4
ppp7

[->]
[<-]

[Back] [Next]

WAN Service Configuration – IPoE

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Click the **Next** button to continue

WAN Service Configuration – IPoE

This summary window allows you to confirm the settings you have just made. Click the **Apply / Save** button to save your new IP over Ethernet settings and restart the Router.

WAN Service Configuration – PPPoA

This window allows you to enter service description. Click the **Next** button to continue.

WAN Service Configuration – PPPoA

This window allows you to set the username and the password for your PPP connection. This information is obtained from your ISP. Additional settings on this window will also depend on your ISP. And You can input 2nd ip on this page. Click the **Next** button to continue.

PPP Username and Password

PPP usually requires that you have a user name and password to establish your connection. In the boxes below, enter the user name and password that your ISP has provided to you.

PPP Username:

PPP Password:

Authentication Method: AUTO

☐ Enable Firewall

☐ Enable Fullcone NAT

☐ Dial on demand (with idle timeout timer)

☐ Use Static IPv4 Address

☐ Enable PPP Debug Mode

WAN Service Configuration –PPPoA

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again. Click the **Next** button to continue.

Routing -- Default Gateway

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the W interface is connected. Priority order can be changed by removing all and adding them back in again.

Selected Default Gateway Interfaces

pppoa0

Available Routed WAN Interfaces

eth4
ppp7

->

<-

Back Next

WAN Service Configuration – PPPoA

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Click the **Next** button to continue

WAN Service Configuration – PPPoA

This summary window allows you to confirm the settings you have just made. Click the **Apply / Save** button to save your new PPP over ATM settings and restart the Router.

WAN Service Configuration – IPoA

This window allows you to enter service description. Click the **Next** button to continue.

WAN Service Configuration – IPoA

This window allows you to configure the WAN IP settings. This information is obtained from your ISP. Click the **Next** button to continue.

WAN IP Settings

Enter information provided to you by your ISP to configure the WAN IP settings.

WAN IP Address: 0.0.0.0
WAN Subnet Mask: 0.0.0.0

Back   Next

WAN Service Configuration – IPoA

This window allows you to enable or disable Network Address Translation and a firewall for your Router. In addition, you can enable or disable IGMP multicasting. Click the **Next** button to continue.

Network Address Translation Settings

Network Address Translation (NAT) allows you to share one Wide Area Network (WAN) IP address for multiple computers on your Local Area Network (LAN).

☐ Enable NAT

☐ Enable Firewall

IGMP Multicast

☐ Enable IGMP Multicast

☐ No Multicast VLAN Filter

Back   Next

WAN Service Configuration – IPoA

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again. Click the **Next** button to continue.

Routing -- Default Gateway

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the W interface is connected. Priority order can be changed by removing all and adding them back in again.

Selected Default Gateway Interfaces

ipoa0

Available Routed WAN Interfaces

eth4
ppp7

->
<-

Back   Next

WAN Service Configuration – IPoA

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Click the **Next** button to continue

DNS Server Configuration

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP ad must be entered.

DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interf connected. Priority order can be changed by removing all and adding them back in again.

◯ **Select DNS Server Interface from available WAN interfaces:**

Selected DNS Server Interfaces   Available WAN Interfaces

| eth4 | | ppp7 |

->

<-

⊙ **Use the following Static DNS IP address:**

Primary DNS server:

Secondary DNS server:

WAN Service Configuration – IPoA

This summary window allows you to confirm the settings you have just made. Click the **Save/Reboot** button to save your new IP over ATM settings and restart the Router.

WAN Setup - Summary

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	IPoA
NAT:	Disabled
Full Cone NAT:	Disabled
Firewall:	Disabled
IGMP Multicast:	Disabled
Quality Of Service:	Enabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

Back   Apply/Save

LAN

You can configure the LAN IP address to suit your preference. Many users will find it convenient to use the default settings together with DHCP service to manage the IP settings for their private network. The IP address of the Router is the base address used for DHCP. In order to use the Router for DHCP on your LAN, the IP address pool used for DHCP must be compatible with the IP address of the Router. The IP addresses available in the DHCP IP address pool will change automatically if you change the IP address of the Router.

To access the **Local Area Network (LAN) Setup** window, click the **LAN** button in the **Advanced Setup** directory.

This window allows you to set up a LAN interface. When you are finished, click the **Apply / Save** button.

Local Area Network (LAN) Setup

Configure the Broadband Router IP Address and Subnet Mask for LAN interface. GroupName `Default`

IP Address: `192.168.1.1`
Subnet Mask: `255.255.255.0`

☑ Enable IGMP Snooping

○ Standard Mode
◉ Blocking Mode

☐ Enable LAN side firewall

○ Disable DHCP Server
◉ Enable DHCP Server
  Start IP Address: `192.168.1.2`
  End IP Address: `192.168.1.254`
  Leased Time (hour): `24`
  Static IP Lease List: (A maximum 32 entries can be configured)

MAC Address	IP Address	Remove

[Add Entries]   [Remove Entries]

☐ Configure the second IP Address and Subnet Mask for LAN interface

☐ Configure the DHCP options for LAN interface
  Option 6 DNS Server:
  Option 42 NTP Server:
  Option 43 Vendor Specific:

To access the **IPv6 LAN Auto Configuration** window, click the **IPv6 AutoConfig** button in the **LAN** directory.

This window allows you to set up IPv6 LAN Auto Configuration. When you are finished, click the **Apply / Save** button.

IPv6 LAN Auto Configuration
Note: Stateful DHCPv6 is supported based on the assumption of prefix length less than 64. Interface ID does NOT support ZERO COMPRESSION "::". Please enter the complete information. For exampe: Please enter "0:0:0" instead of "::2".

Static LAN IPv6 Address Configuration
Interface Address (prefix length is required):

IPv6 LAN Applications
☑ Enable DHCPv6 Server

◉ Stateless
○ Stateful
  Start interface ID: `0:0:0:2`
  End interface ID: `0:0:0:254`
  Leased Time (hour):

☑ Enable RADVD

  ☐ Enable ULA Prefix Advertisement
○ Randomly Generate
○ Statically Configure
Prefix:
Preferred Life Time (hour): `-1`
Valid Life Time (hour): `-1`

☑ Enable MLD Snooping

○ Standard Mode
◉ Blocking Mode

[Save/Apply]

NAT

To access the **Network Address Translation (NAT) Setup** window, click the **NAT** button in the **Advanced Setup** directory. The **NAT** button appears when configuring WAN interface in PPPoA, PPPoE, IPoE or IPoA.

Virtual Servers

This window is used to configure virtual server. You can add, delete, and modify virtual server on this window.

If you are setting up the virtual server, click the **Add** button.

You can configure the service settings on this window by clicking the **Select a Service** radio button and then using the drop-down list to choose an existing service, or by clicking the **Custom Server** radio button and entering your own Application Rule in the field provided.

Click **Apply / Save** when you are finished with the virtual server configuration.

Port Triggering

Some applications such as games, video conferencing, remote access applications and others require that specific ports in the Router's firewall be opened for access by the applications. You can configure the port settings from this screen by selecting an existing application or creating your own (Custom application).

Click the **Add** button to configure port triggering.

You can configure the port settings on this window by clicking the **Select an application** radio button and then using the drop-down list to choose an existing application, or by clicking the **Custom application** radio button and entering your own Application Rule in the field provided.

Click **Save/Apply** when you are finished with the port setting configuration. The new Application Rule will appear in the Port Triggering table.

DMZ Host

Since some applications are not compatible with NAT, the Router supports use of a DMZ IP address for a single host on the LAN. This IP address is not protected by NAT and will therefore be visible to agents on the Internet with the right type of software. Keep in mind that any client PC in the DMZ will be exposed to various types of security risks. If you use the DMZ, take measures (such as client-based virus protection) to protect the remaining client PCs on your LAN from possible contamination through the DMZ.

To designate a DMZ IP address, type in the IP Address of the server or device on your LAN, and click the **Save/Apply** button.

NAT -- DMZ Host

The Broadband Router will forward IP packets from the WAN that do not belong to any of the applications configured in the Virtual Servers table to the DMZ host computer.

Enter the computer's IP address and click 'Apply' to activate the DMZ host.

Clear the IP address field and click 'Apply' to deactivate the DMZ host.

DMZ Host IP Address: [   ]

[Save/Apply]

IP Address Map

This window is used to configure virtual server. You can add, delete IP Address Map on this window.

If you are setting up the IP Address Map, click the **Add** button.

You can configure the service settings on this window by clicking the **Select a Service** radio button and then using the drop-down list to choose an existing service, Input Local Start IP、Local End IP、Public Start IP、Public End IP

Click **Apply / Save** when you are finished with the virtual server configuration.

NAT -- IP Address Mapping

Rule Type	Public IP Start	Public IP End	Local IP Start	Local IP End	Bind Wan Interface	Delete

[Add]

NAT --IP Address Mapping Setup

Server Name:
Select a Service: [Select One ▾]

Local Start IP	Local End IP	Public Start IP	Public End IP

[Save/Apply]

ALG

click the **ALG** button in the **Advanced Setup** directory.

This window allows you to set up ALG on the Router. When you are finished, click on the **Save/Apply** button.

ALG

Select the ALG below.

☐ SIP ALG Enabled

☐ FTP ALG Enabled

☐ H323 ALG Enabled

☐ PPTP ALG Enabled

☐ RTSP ALG Enabled

☐ TFTP ALG Enabled

[Save/Apply]

Security

To access the **Security** window, click the **Security** button in the **Advanced Setup** directory. The **Security** button appears after configuring WAN interface in PPPoA, PPPoE, IPoE or IPoA.

IP Filtering

The **IP Filtering** button appears when configuring WAN interface in PPPoA, PPPoE, IPoE or IPoA.

IP Filtering - Outgoing

This window allows you to create a filter rule of **Outgoing**.

Now default policy is BLOCK, it means all outgoing IP traffic from LAN is allowed, but some IP traffic can be Blocked by setting up filters.

If you are setting up the outgoing IP filtering, click the Add button.

Outgoing IP Filtering Setup

By default, all outgoing IP traffic from LAN is allowed, but some IP traffic can be **BLOCKED** by setting up filters.

Choose Add or Remove to configure outgoing IP filters.

Filter Name	IP Version	Protocol	SrcIP/ PrefixLength	SrcPort	DstIP/ PrefixLength	DstPort	Remove

Add   Remove

Enter the information in the section. Explanations of parameters are described below. Click the Apply / Save button to add the entry in the Active Outbound IP Filtering table

Add IP Filter -- Outgoing

The screen allows you to create a filter rule to identify outgoing IP traffic by specifying a new filter name and at least one condition below. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. Click 'Apply/Save' to save and activate the filter.

Filter Name:

IP Version: IPv4
Protocol:
Source IP address[/prefix length]:
Source Port (port or port:port):
Destination IP address[/prefix length]:
Destination Port (port or port:port):

Apply/Save

Filters Parameter	Description
Filter Name	Enter a name for the new filter.
IP Version	Ipv4/Ipv6
Protocol	Select the transport protocol (Any, TCP/UDP, TCP, UDP or ICMP) that will be used for the filter rule.
Source IP address[/prefix length]	Enter the start IP address which you are creating the filter rule.
Source Port (port or port:port)	The Source Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.
Destination IP address[/prefix length]	Enter the end IP address which you are creating the filter rule.
Destination Port (port or port:port)	The Destination Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.

IP Filtering – Incoming

This window allows you to create a filter rule of **Incoming**.

Now default policy is **ACCEPT**, it means all incoming IP traffic from WAN is blocked, but some IP traffic can be accepted by setting up filters.

If you are setting up the incoming IP filtering, click the **Add** button.

Enter the information in the section. Explanations of parameters are described below. Click the **Apply / Save** button to add the entry in the Active Inbound IP Filtering table.

.

Incoming IP Filtering Setup

When the firewall is enabled on a WAN or LAN interface, all incoming IP traffic is BLOCKED. However, some IP traffic can be **ACCEPTED** by setting up filters.

Choose Add or Remove to configure incoming IP filters.

Filter Name	Interfaces	IP Version	Protocol	SrcIP/ PrefixLength	SrcPort	DstIP/ PrefixLength	DstPort	Remove

Add   Remove

Add IP Filter -- Incoming

The screen allows you to create a filter rule to identify incoming IP traffic by specifying a new filter name and at least one condition below. All of the specified conditions in this filter rule must be satisfied for the rule to take e
Click 'Apply/Save' to save and activate the filter.

Filter Name:

IP Version: IPv4
Protocol:
Source IP address[/prefix length]:
Source Port (port or port:port):
Destination IP address[/prefix length]:
Destination Port (port or port:port):

WAN Interfaces (Configured in Routing mode and with firewall enabled) and LAN Interfaces
Select one or more WAN/LAN interfaces displayed below to apply this rule.

☑ Select All ☑ br0/br0

Apply/Save

Filters Parameter	Description
Filter Name	Enter a name for the new filter.
IP Version	Ipv4/Ipv6
Protocol	Select the transport protocol (Any, TCP/UDP, TCP, UDP or ICMP) that will be used for the filter rule.
Source IP address[/prefix length]	Enter the start IP address which you are creating the filter rule.
Source Port (port or port:port)	The Source Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.
Destination IP address[/prefix length]	Enter the end IP address which you are creating the filter rule.

Destination Port (port or port:port)	The Destination Port is the TCP/UDP port on either the LAN or WAN depending on if you are configuring an Outbound or Inbound Filter rule.

MAC Filtering

This window allows you to create a filter rule of **MAC Filtering**.

Click **change default policy** to change the mode of policy.

Now default policy is FORWARD, it means all MAC from LAN is forward, but some MAC traffic can be blocked by setting up filters.

MAC Filtering Setup

MAC Filtering is only effective on ATM PVCs configured in Bridge mode. **FORWARDED** means that all MAC layer frames will be **FORWARDED** except those matching with any of the specified rules in the following table. **BLOCKED** means that all MAC layer frames will be **BLOCKED** except those matching with any of the specified rules in the following table.

MAC Filtering Policy For Each Interface:
WARNING: Changing from one policy to another of an interface will cause all defined rules for that interface to be REMOVED AUTOMATICALLY! You will need to create new rules for the new policy.

Interface	Policy	Change
atm0.1	FORWARD	☐

Change Policy

Choose Add or Remove to configure MAC filtering rules.

Interface	Protocol	Destination MAC	Source MAC	Frame Direction	Remove

Add   Remove

If you are setting up the MAC filtering, click the Add button.

Add MAC Filter

Create a filter to identify the MAC layer frames by specifying at least one condition below. If multiple conditions are specified, all of them take effect. Click "Apply" to save and activate the filter.

Protocol Type: [   ]

Destination MAC Address: [   ]

Source MAC Address: [   ]

Frame Direction: [LAN<=>WAN ▾]

WAN Interfaces (Configured in Bridge mode only)

[br_0_0_35/atm0.1 ▾]

Save/Apply

Enter the information in the section. Click the **Apply / Save** button to add the entry in the Active Outbound MAC Filtering table.

Dos

You can configure the DoS settings on this window. you can enable or disable select the DoS below.

Click **Save/Apply** when you are finished with the DoS setting configuration.

DoS

Select the DoS below.

☐ TCP SYNcookies
☐ SYN   Flood
☐ Ping Of Death/Ping Flood
☐ Port   Scanning

Save/Apply

Parental Control

Use this window to deny access to specified MAC address.

If you are setting up the MAC address blocking, click the **Add** button.

Access Time Restriction -- A maximum 16 entries can be configured.

Username	MAC	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Start	Stop	Remove

Add   Remove

MAC address is a specially formatted text string (xx:xx:xx:xx:xx:xx) that uniquely identification of a device. This section will allow users to block devices with certain MAC addresses on the LAN.

To configure for MAC address blocking, enter the username into the **Username** field, click **Browser's MAC Address** to have MAC address of the LAN device, or click **Other MAC Address** and enter a MAC address manually. Tick the checkboxes for the desired individual days of the week and enter desired **Start Blocking Time** and **End Blocking Time**.

Click the **Save/Apply** button to save the configuration

Access Time Restriction

This page adds time of day restriction to a special LAN device connected to the Router. The 'Browser's MAC Address' automatically displays the MAC address of the LAN device where the browser is running. To restrict other LAN device, click the "Other MAC Address" button and enter the MAC address of the other LAN device. To find out the MAC address of a Windows based PC, go to command window and type "ipconfig /all".

User Name   [   ]

◉ Browser's MAC Address [   ]
○ Other MAC Address   [   ]
(xx:xx:xx:xx:xx:xx)

Days of the week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Click to select	☐	☐	☐	☐	☐	☐	☐

Start Blocking Time (hh:mm) [   ]
End Blocking Time (hh:mm)   [   ]

Apply/Save

URL Filter

This window allows you to set up **URL Filter** on the Router.

Choose URL List Type **Exclude** or **Include** first and click **Add** button.

URL Filter -- Please select the list type first then configure the list entries. Maximum 100 entries can be configured.

Exclude -- Deny computers to access the following web sites in the list.
Include -- Allow computers to access only the following sites in the list.

URL List Type: ○ Exclude ○ Include

Address	Port	Remove

[Add] [Remove]

Enter the URL address and port number then click **Apply / Save** to add the entry to the URL filter.

Parental Control -- URL Filter Add

Enter the URL address and port number then click "Apply/Save" to add the entry to the URL filter.

URL Address: [   ]
Port Number: [   ] (Default 80 will be applied if leave blank.)

[Apply/Save]

3G

click the **3G** button in the **Advanced Setup** directory.

This window allows you to set up 3G on the Router. When you are finished, click on the **Save/Apply** button.

3G Setting

Connection Status:	Disconnected Refresh
Enable	☑
Username:	CARD
Password:	••••
APN code:	3gnet
Pin code:	
Dialup Number:	
Baud Rate:	230400
MTU:	1600
MRU:	1600
LCPEchoIntervarl:	30
LCPEchoFailure:	10
Network Preference:	
⦿	Automatic (3G preferred)
◯	3G Only
◯	2G Only

Save/Apply   driver add

3G Failover

click the **3G Failover** button in the **Advanced Setup** directory.

This window allows you to set up 3G Failover on the Router. When you are finished, click on the **Save/Apply** button.

Primary Uplink

Primary Uplink: ADSL

Backup Uplink: 3G Dongle

Backup Mechanism

☐ Enable Fallback

Apply/Save

Quality of Service

QoS or Quality of Service allows your Router to help prioritize the data packet flow in your Router and network. This is very important for time sensitive applications such as VoIP where it may help prevent dropped calls. Large amounts of non-critical data can be scaled so as not to affect these prioritized sensitive real-time programs.

To access the **QoS – Queue Management Configuration** window, click the **Quality of Service** button in the **Advanced Setup** directory.

This window allows you to set up QoS on the Router.
When you are finished, click on the **Save/Apply** button.

QoS -- Queue Management Configuration

If Enable QoS checkbox is selected, choose a default DSCP mark to automatically mark incoming traffic without reference to a particular classifier. Click 'Apply/Save' button to save it.

Note: If Enable Qos checkbox is not selected, all QoS will be disabled for all interfaces.

Note: The default DSCP mark is used to mark all egress packets that do not match any classification rules.

☑ Enable QoS

Select Default DSCP Mark   No Change(-1)

Apply/Save

Queue Config

Click the **Add** button to add a QoS Queue Configuration table entry.

QoS Queue Setup

In ATM mode, maximum 8 queues can be configured.
In PTM mode, maximum 8 queues can be configured.
For each Ethernet interface, maximum 4 queues can be configured.
For each Ethernet WAN interface, maximum 4 queues can be configured.
To add a queue, click the **Add** button.
To remove queues, check their remove-checkboxes, then click the **Remove** button.
The **Enable** button will scan through every queues in the table. Queues with enable-checkbox checked will be enabled. Queues with enable-checkbox un-checked will be disabled.
The enable-checkbox also shows status of the queue after page reload.
Note that if WMM function is disabled in Wireless Page, queues related to wireless will not take effects.

The QoS function has been disabled. Queues would not take effects.

Name	Key	Interface	Qid	Prec/Alg/Wght	DSL Latency	PTM Priority	Shaping Rate(bps)	Burst Size(bytes)	Enable	Remove
WMM Voice Priority	1	wlan0	8	1/SP					Enabled	
WMM Voice Priority	2	wlan0	7	2/SP					Enabled	
WMM Video Priority	3	wlan0	6	3/SP					Enabled	
WMM Video Priority	4	wlan0	5	4/SP					Enabled	
WMM Best Effort	5	wlan0	4	5/SP					Enabled	
WMM Background	6	wlan0	3	6/SP					Enabled	
WMM Background	7	wlan0	2	7/SP					Enabled	
WMM Best Effort	8	wlan0	1	8/SP					Enabled	
Default Queue	35	atm0	1	8/WRR/1	Path0				☐	

[Add] [Enable] [Remove]

This window allows you to configure a QoS queue entry and assign it a specific network interface.

Click the **Apply / Save** button to save and activate the filter.

QoS Queue Configuration

This screen allows you to configure a QoS queue and assign it to a specific layer2 interface. The scheduler algorithm is defined by the layer2 interface.
Note: For SP scheduling, queues assigned to the same layer2 interface shall have unique precedence. Lower precedence value implies higher priority for this queue
Click 'Apply/Save' to save and activate the queue.

Name:

Enable: Disable ▾

Interface: ▾

[Apply/Save]

QoS Classification

Choose **Add** or **Remove** to configure network traffic classes.

Use this window to create a traffic class rule to classify the upstream traffic, assign a queue that defines the precedence and the interface, and optionally overwrite the IP header DSCP byte. A rule consists of a class name and at least one condition. Please remember that all of the specified conditions on this window must be met for the rule to take effect.

Click the **Apply / Save** button to save and activate this rule.

QoS Classification Setup -- A maximum 32 entries can be configured.

Choose Add or Remove to configure network traffic classes.

				CLASSIFICATION CRITERIA									CLASSIFICATION RESULTS						
Class Name	Order	Class Intf	Ether Type	SrcMAC/ Mask	DstMAC/ Mask	SrcIP/ PrefixLength	DstIP/ PrefixLength	Proto	SrcPort	DstPort	DSCP Check	802.1P Check	Queue Key	DSCP Mark	802.1P Mark	VlanID Tag	Rate Control (kbps)	Enable	Remove

Add   Enable   Remove

Add Network Traffic Class Rule

The screen creates a traffic class rule to classify the upstream traffic, assign queue which defines the precedence and the interface and optionally overwrite the IP header DSCP byte. A rule consists of a class name and at least one condition below. All of the specified conditions in this classification rule must be satisfied for the rule to take effect. Click 'Apply/Save' to save and activate the rule.

Traffic Class Name:
Rule Order: Last
Rule Status: Disable

Specify Classification Criteria
A blank criterion indicates it is not used for classification.

Class Interface: LAN
Ether Type:
Source MAC Address:
Source MAC Mask:
Destination MAC Address:
Destination MAC Mask:

Specify Classification Results
Must select a classification queue. A blank mark or tag value means no change.

Assign Classification Queue:
Mark Differentiated Service Code Point (DSCP):
Mark 802.1p priority:
Tag VLAN ID [0-4094]:

Apply/Save

Routing

To access the **Routing** windows, click the **Routing** button in the **Advanced Setup** directory.

Default Gateway

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again. Click the **Apply / Save** button when you are finished.

Routing -- Default Gateway

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the interface is connected. Priority order can be changed by removing all and adding them back in again.

Selected Default Gateway
Interfaces

Available Routed WAN
Interfaces

eth4
ppp7

-->

<--

TODO: IPV6 *********** Select a preferred wan interface as the system default IPv6 gateway.

Selected WAN Interface [NO CONFIGURED INTERFACE ▼]
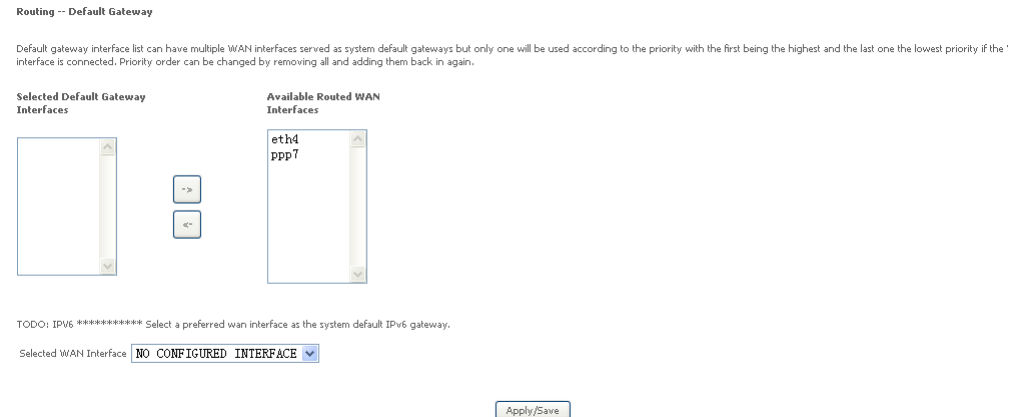
[Apply/Save]

Static Route

Click the **Add** button on the **Routing – Static Route** window to access the following window displayed on the next page.

Routing -- Static Route (A maximum 32 entries can be configured)

IP Version	DstIP/ PrefixLength	Gateway	Interface	metric	Remove

Add   Remove

Enter the static routing information for an entry to the routing table.

Click the **Apply / Save** button when you are finished.

Routing -- Static Route Add

Enter the destination network address, subnet mask, gateway AND/OR available WAN interface then click "Apply/Save" to add the entry to the routing table.

IP Version: IPv4

Destination IP address/prefix length:

Interface:

Gateway IP Address:

(optional: metric number should be greater than or equal to zero)

Metric:

Apply/Save

Policy Routing

Click the **Add** button on the **Policy Routing Settup** window to access the following window displayed on the next page.

Policy Routing Setting -- A maximum 8 entries can be configured.

Policy Name	Source IP	LAN Port	WAN	Default GW	Remove

[Add] [Remove]

Enter the Policy Routing information.Click the **Apply / Save** button when you are finished.

Policy Routing Setup
Enter the policy name, policies, and WAN interface then click "Apply/Save" to add the entry to the policy routing table.
Note: If selected "IPoE" as WAN interface, default gateway must be configured.

Policy Name: [_____]

Physical LAN Port: [_____ ▼]

Source IP: [_____]

Use Interface [pppoe_0_1_100/ppp0 ▼]
Default Gateway: [_____]

[Apply/Save]

RIP

To activate RIP for the device, select the **Enabled** radio button for Global RIP Mode. To configure an individual interface, select the desired RIP version and operation, followed by placing a check in the 'Enabled' checkbox for the interface. Click the **Save/Apply** button to save the configuration, and to start or stop RIP based on the Global RIP mode selected.

Routing -- RIP Configuration

NOTE: RIP CANNOT BE CONFIGURED on the WAN interface which has NAT enabled (such as PPPoE).

To activate RIP for the WAN Interface, select the desired RIP version and operation and place a check in the 'Enabled' checkbox. To stop RIP on the WAN Interface, uncheck the 'Enabled' checkbox. Click the 'Apply/Save to star/stop RIP and save the configuration.

Interface	Version	Operation	Enabled
atm0.1	2	Passive	☐

Apply/Save

DNS

To access the **DNS** windows, click the **DNS** button in the **Advanced Setup** directory. The **DNS** button appears when configuring WAN interface in PPPoA, PPPoE, MER or IPoA.

DNS Server

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.
DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface is connected.
Priority order can be changed by removing all and adding them back in again.
Click the **Apply / Save** button when you are finished.

DNS Server Configuration

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP ad must be entered.
DNS Server Interfaces can have multiple WAN interfaces served as system dns servers but only one will be used according to the priority with the first being the higest and the last one the lowest priority if the WAN interface connected. Priority order can be changed by removing all and adding them back in again.

○ **Select DNS Server Interface from available WAN interfaces:**
Selected DNS Server Interfaces   Available WAN Interfaces

                                        eth4
                                        ppp7

⦿ **Use the following Static DNS IP address:**
Primary DNS server:
Secondary DNS server:

TODO: IPV6 *********** Select the configured WAN interface for IPv6 DNS server information OR enter the static IPv6 DNS server Addresses.
Note that selecting a WAN interface for IPv6 DNS server will enable DHCPv6 Client on that interface.

○ Obtain IPv6 DNS info from a WAN interface:
WAN Interface selected: NO CONFIGURED INTERFACE ⌄

⦿ Use the following Static IPv6 DNS address:
Primary IPv6 DNS server:
Secondary IPv6 DNS server:

Apply/Save

Dynamic DNS

The Router supports Dynamic DNS (Dynamic Domain Name Service). The Dynamic DNS service allows a dynamic public IP address to be associated with a static host name in any of the many domains, allowing access to a specified host from various locations on the Internet. This is enabled to allow remote access to a host by clicking a hyperlinked URL in the form **hostname.dyndns.org**, Many ISPs assign public IP addresses using DHCP, this can make it difficult to locate a specific host on the LAN using standard DNS. If

Dynamic DNS

The Dynamic DNS service allows you to alias a dynamic IP address to a static hostname in any of the many domains, allowing your Broadband Router to be more easily accessed from various locations on the Internet.

Choose Add or Remove to configure Dynamic DNS.

Hostname	Username	Service	Interface	Remove

Add   Remove

for example you are running a public web server or VPN server on your LAN, this ensures that the host can be located from the Internet if the public IP address changes. DDNS requires that an account be setup with one of the supported DDNS providers.

Click **Add** to see the Add DDNS Settings section.

Enter the required DDNS information, click the **Apply / Save** button to save the information.

Note   *DDNS requires that an account be setup with one of the supported DDNS servers prior to engaging it on the Router. This function will not work without an accepted account with a DDNS server.*

Add Dynamic DNS

This page allows you to add a Dynamic DNS address from DynDNS.org or TZO.

D-DNS provider   DynDNS.org

Hostname

Interface   3G dongle/eth4

DynDNS Settings
Username
Password

Apply/Save

DSL

To access the **DSL Settings** window, click the **DSL** button in the **Advanced Setup** directory.

This window allows you to select the desired modulation, phone line pair, and capability. Click the **Apply / Save** button when you are finished.

Click the **Advanced Settings** button to select a DSL test mode.

Note: Modulation ADSL2、ADSL2+ and AnnexL should be selected simultaneously

DSL Settings

Select the modulation below.

☑ G.Dmt Enabled

☑ G.lite Enabled

☑ T1.413 Enabled

☑ ADSL2 Enabled

☑ AnnexL Enabled

☑ ADSL2+ Enabled

☐ AnnexM Enabled

Select the phone line pair below.

◉ Inner pair

○ Outer pair

Capability

☑ Bitswap Enable

☐ SRA Enable

[Apply/Save] [Advanced Settings]

Select the desired DSL test mode and then click the **Apply** button.

Click the **Tone Selection** button to modify the upstream and downstream tones.

DSL Advanced Settings

Select the test mode below.

- ⦿ Normal
- ○ Reverb
- ○ Medley
- ○ No retrain
- ○ L3

[Apply]　[Tone Selection]

Select the appropriate upstream and downstream tones for your ADSL connection. Click the **Apply** button to let your settings take effect**.**

ADSL Tone Settings

Upstream Tones

☑0 ☑1 ☑2 ☑3 ☑4 ☑5 ☑6 ☑7 ☑8 ☑9 ☑10 ☑11 ☑12 ☑13 ☑14 ☑15
☑16 ☑17 ☑18 ☑19 ☑20 ☑21 ☑22 ☑23 ☑24 ☑25 ☑26 ☑27 ☑28 ☑29 ☑30 ☑31

Downstream Tones

☑32 ☑33 ☑34 ☑35 ☑36 ☑37 ☑38 ☑39 ☑40 ☑41 ☑42 ☑43 ☑44 ☑45 ☑46 ☑47
☑48 ☑49 ☑50 ☑51 ☑52 ☑53 ☑54 ☑55 ☑56 ☑57 ☑58 ☑59 ☑60 ☑61 ☑62 ☑63
☑64 ☑65 ☑66 ☑67 ☑68 ☑69 ☑70 ☑71 ☑72 ☑73 ☑74 ☑75 ☑76 ☑77 ☑78 ☑79
☑80 ☑81 ☑82 ☑83 ☑84 ☑85 ☑86 ☑87 ☑88 ☑89 ☑90 ☑91 ☑92 ☑93 ☑94 ☑95
☑96 ☑97 ☑98 ☑99 ☑100 ☑101 ☑102 ☑103 ☑104 ☑105 ☑106 ☑107 ☑108 ☑109 ☑110 ☑111
☑112 ☑113 ☑114 ☑115 ☑116 ☑117 ☑118 ☑119 ☑120 ☑121 ☑122 ☑123 ☑124 ☑125 ☑126 ☑127
☑128 ☑129 ☑130 ☑131 ☑132 ☑133 ☑134 ☑135 ☑136 ☑137 ☑138 ☑139 ☑140 ☑141 ☑142 ☑143
☑144 ☑145 ☑146 ☑147 ☑148 ☑149 ☑150 ☑151 ☑152 ☑153 ☑154 ☑155 ☑156 ☑157 ☑158 ☑159
☑160 ☑161 ☑162 ☑163 ☑164 ☑165 ☑166 ☑167 ☑168 ☑169 ☑170 ☑171 ☑172 ☑173 ☑174 ☑175
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☑192 ☑193 ☑194 ☑195 ☑196 ☑197 ☑198 ☑199 ☑200 ☑201 ☑202 ☑203 ☑204 ☑205 ☑206 ☑207
☑208 ☑209 ☑210 ☑211 ☑212 ☑213 ☑214 ☑215 ☑216 ☑217 ☑218 ☑219 ☑220 ☑221 ☑222 ☑223
☑224 ☑225 ☑226 ☑227 ☑228 ☑229 ☑230 ☑231 ☑232 ☑233 ☑234 ☑235 ☑236 ☑237 ☑238 ☑239
☑240 ☑241 ☑242 ☑243 ☑244 ☑245 ☑246 ☑247 ☑248 ☑249 ☑250 ☑251 ☑252 ☑253 ☑254 ☑255

[Check All]　[Clear All]　[Apply]　[Close]

UPNP

To access the **UPnP Configuration** window, click the **UPnP** button in the **Advanced Setup** directory.

This window allows you to Config UPnP Proxy. Click the **Apply / Save** button when you are finished.

UPnP Configuration

NOTE: UPnP is activated only when there is a live WAN service with NAT enabled.

☑ Enable UPnP

Apply/Save

DNS Proxy

To access the **DNS Proxy Configuration** window, click the **DNS Proxy** button in the **Advanced Setup** directory.

This window allows you to Config DNS Proxy. Click the **Apply / Save** button when you are finished.

DNS Proxy Configuration

☑ Enable DNS Proxy

Host name of the Broadband Router: Broadcom

Domain name of the LAN network: Home

Apply/Save

Print Server

To access the **Print Server settings** window, click the **Print Server** button in the **Advanced Setup** directory.

This window allows you to enable/disable printer support. Click the **Apply / Save** button when you are finished.

Print Server settings

This page allows you to enable / disable printer support.

☐ Enable on-board print server.

Apply/Save

Storage Service

To access the **Storage Service** window, click the **Storage Service** button in the **Advanced Setup** directory.

.

Storage Service

The Storage service allows you to use Storage devices with modem to be more easily accessed

Volumename	FileSystem	Total Space	Used Space

Interface Grouping

Interface Group supports multiple ports to PVC and bridging groups. Each group will perform as an independent network.

To support this feature, you must create mapping groups with appropriate LAN and WAN interfaces using the Add button. The Remove button will remove the grouping and add the ungrouped interfaces to the Default group. Only the default group has IP interface.

Click **Add** to do advanced settings.

Interface Grouping -- A maximum 16 entries can be configured

Interface Grouping supports multiple ports to PVC and bridging groups. Each group will perform as an independent network. To support this feature, you must create mapping groups with appropriate LAN and WAN using the Add button. The Remove button will remove the grouping and add the ungrouped interfaces to the Default group. Only the default group has IP interface.

Group Name	Remove	WAN Interface	LAN Interfaces	DHCP Vendor IDs
Default			LAN4	
			LAN3	
			LAN2	
			LAN1	
			wlan0	

[Add] [Remove]

To create a new mapping group, enter **Group Name**, add interfaces to **Grouped Interfaces**.

Click **Apply / Save** to save the changes.

Interface grouping Configuration

To create a new interface group:
1. Enter the Group name and the group name must be unique and select either 2. (dynamic) or 3. (static) below:

2. If you like to automatically add LAN clients to a WAN Interface in the new group add the DHCP vendor ID string. By configuring a DHCP vendor ID string any DHCP client request with the specified vendor ID (DHCP 60) will be denied an IP address from the local DHCP server.

3.Select interfaces from the available interface list and add it to the grouped interface list using the arrow buttons to create the required mapping of the ports. **Note that these clients may obtain public IP addresses**

4. Click Apply/Save button to make the changes effective immediately

IMPORTANT If a vendor ID is configured for a specific client device, please REBOOT the client device attached to the modem to allow it to obtain an appropriate IP address.

Group Name: [   ]

WAN Interface used in the grouping [3G dongle/eth4 ∨]

Grouped LAN Interfaces   **Available LAN Interfaces**

| | [->] [<-] | LAN4
LAN3
LAN2
LAN1
wlan0 |

Automatically Add Clients
With the following DHCP
Vendor IDs
[   ]
[   ]
[   ]

IP Tunnel

IP Tunnel supports multiple ports to PVC and bridging groups. Each group will perform as an independent network.

IPv6inIPv4

The Router supports IP Tunnel configuration. Click **Add** to see the Add 6in4 Tunnel Configuration.

IP Tunneling -- 6in4 Tunnel Configuration

Name	WAN	LAN	Dynamic	IPv4 Mask Length	6rd Prefix	Border Relay Address	Remove

Add Remove

Enter the required 6in4 Tunnel Configuration information, click the **Apply / Save** button to save the information.

IP Tunneling -- 6in4 Tunnel Configuration

Currently, only 6rd configuration is supported.

Tunnel Name

Mechanism: 6RD

Associated WAN Interface:

Associated LAN Interface: LAN/br0

⊙ Manual ○ Automatic

IPv4 Mask Length:

6rd Prefix with Prefix Length:

Border Relay IPv4 Address:

Apply/Save

\

IPv4inIPv6

The Router supports IP Tunnel configuration. Click Add to see the Add 4in6 Tunnel Configuration.

Name	WAN	LAN	Dynamic	AFTR	Remove

Add   Remove

Enter the required 4in6 Tunnel configuration information, click the **Apply / Save** button to save the information.

IP Tunneling -- 4in6 Tunnel Configuration

Currently, only DS-Lite configuration is supported.

Tunnel Name	
Mechanism:	DS-Lite
Associated WAN Interface:	
Associated LAN Interface:	LAN/br0

⊙ Manual ○ Automatic

AFTR:

Apply/Save

IPSec

To access the **IPSec Tunnel Mode Connections** window, click the **IPSec** button in the **Advanced Setup** directory.

This window allows you to configure **IPSec**.

Click **Add New Connection** to edit IPSec tunnel mode connections from this page

IPSec Tunnel Mode Connections

Add, remove or enable/disable IPSec tunnel connections from this page.

| Connection Name | Remote Gateway | Local Addresses | Remote Addresses | Remove |

Add New Connection   Remove

This window allows you to advanced settings.

IPSec Settings

IPSec Connection Name	new connection
Tunnel Mode	ESP
Remote IPSec Gateway Address (IPv4 address in dotted decimal)	0.0.0.0
Tunnel access from local IP addresses	Subnet
IP Address for VPN	0.0.0.0
IP Subnetmask	255.255.255.0
Tunnel access from remote IP addresses	Subnet
IP Address for VPN	0.0.0.0
IP Subnetmask	255.255.255.0
Key Exchange Method	Auto(IKE)
Authentication Method	Pre-Shared Key
Pre-Shared Key	key
Perfect Forward Secrecy	Disable
Advanced IKE Settings	Show Advanced Settings

Apply/Save

Certificate

To access the **Certificate** windows, click the **Certificate** button in the **Advanced Setup** directory.

Local

This window allows you to configure Certificate.

Click **Create Certificate Request** to Create new certificate request connections from this page

Local Certificates

Add, View or Remove certificates from this page. Local certificates are used by peers to verify your identity. Maximum 4 certificates can be stored.

Name	In Use	Subject	Type	Action

Create Certificate Request   Import Certificate

Enter the required new certificate configuration information, click the **Apply** button to save the information.

Create new certificate request

To generate a certificate signing request you need to include Common Name, Organization Name, State/Province Name, and the 2-letter Country Code for the certificate.

Certificate Name:

Common Name:

Organization Name:

State/Province Name:

Country/Region Name: US (United States)

Apply

Click **Import Certificate** to import certificate request connections from this page

Import certificate

Enter certificate name, paste certificate content and private key.

Certificate Name:

Enter the required import certificate configuration information, click the **Apply** button to save the information.

Certificate:
```
-----BEGIN CERTIFICATE-----
<insert certificate here>
-----END CERTIFICATE-----
```

Private Key:
```
-----BEGIN RSA PRIVATE KEY-----
<insert private key here>
-----END RSA PRIVATE KEY-----
```

Trusted CA

This window allows you to configure **Trusted CA**.

Click **Import Certificate** to import certificate request connections from this page

Enter the required import CA certificate configuration information, click the **Apply** button to save the information.

Trusted CA (Certificate Authority) Certificates

Add, View or Remove certificates from this page. CA certificates are used by you to verify peers' certificates.
Maximum 4 certificates can be stored.

Name	Subject	Type	Action

Import Certificate

Import CA certificate

Enter certificate name and paste certificate content.

Certificate Name:

Certificate:

```
-----BEGIN CERTIFICATE-----
<insert certificate here>
-----END CERTIFICATE-----
```

Apply

Power Management

To access the **Power Management** window, click the **Power Management** button in the **Advanced Setup** directory.

This window allows you to enable/disable power management. Click the **Apply** button when you are finished.

.

Multicast

To access the **IGMP Configuration** window, click the **Multicast** button in the **Advanced Setup** directory.

Enter IGMP protocol configuration fields if you want modify default values shown below.

IGMP Configuration

Enter IGMP protocol configuration fields if you want modify default values shown below.

Default Version:	3
Query Interval:	125
Query Response Interval:	10
Last Member Query Interval:	10
Robustness Value:	2
Maximum Multicast Groups:	25
Maximum Multicast Data Sources (for IGMPv3 : (1 - 24):	10
Maximum Multicast Group Members:	25
Fast Leave Enable:	☑
LAN to LAN (Intra LAN) Multicast Enable:	☑

Wireless

Press **Wireless** in the left menu to enter wireless section. You can select to configure wireless setup, security and management.

Basic

This page allows you to configure basic features of the wireless LAN interface.
You can enable or disable the wireless LAN interface, hide the network from
active scans, set the wireless network name (also known as SSID) and restrict the
channel set based on country requirements.
Click **"Apply/Save"** to configure the basic wireless options.

☑ Enable Wireless

☐ Enable Wireless Hotspot2.0 [WPA2 is required!]

☐ Hide Access Point

☐ Clients Isolation

☐ Disable WMM Advertise

☐ Enable Wireless Multicast Forwarding (WMF)

SSID: D-link

BSSID: 02:10:18:AA:BB:CD

Country: UNITED STATES

Max Clients: 16

Wireless - Guest/Virtual Access Points:

Enabled	SSID	Hidden	Isolate Clients	Disable WMM Advertise	Enable WMF	Enable HSPOT	Max Clients	BSSID
☐	wl0_Guest1	☐	☐	☐	☐	☐ [wpa2!]	16	N/A
☐	wl0_Guest2	☐	☐	☐	☐	☐ [wpa2!]	16	N/A
☐	wl0_Guest3	☐	☐	☐	☐	☐ [wpa2!]	16	N/A

Apply/Save

Security

This page allows you to configure security features of the wireless LAN interface.
You may setup configuration manually or through WiFi Protected Setup(WPS)

You can select to configure WEP encryption, Shared, 802.1x, WPA, and WPA2 authentication.

Wireless -- Security

This page allows you to configure security features of the wireless LAN interface.
You may setup configuration manually
        OR
through WiFi Protcted Setup(WPS)
Note: When both STA PIN and Authorized MAC are empty, PBC is used. If Hide Access Point enabled or Mac filter list is empty with "allow" chosen, WPS2 will be disabled

WPS Setup

Enable WPS   [Disabled ▾]

Manual Setup AP

You can set the network authentication method, selecting data encryption,
specify whether a network key is required to authenticate to this wireless network and specify the encryption strength.
Click "Apply/Save" when done.

Select SSID: [D-link ▾]

Network Authentication: [Open ▾]

WEP Encryption: [Disabled ▾]

[Apply/Save]

MAC Filter

This page can help you to allow or deny certain MAC addresses to pass through or block out.
Click **Add** to see the following page.

Wireless -- MAC Filter

Select SSID: D-link

MAC Restrict Mode: ⦿ Disabled   ○ Allow   ○ Deny   Note: If 'allow' is choosed and mac filter is empty, WPS will be disabled

MAC Address	Remove

Add   Remove

Enter MAC Address and click **Apply / Save** to add the MAC address to MAC filter.

Wireless -- MAC Filter

Enter the MAC address and click "Apply/Save" to add the MAC address to the wireless MAC address filters.

MAC Address: [   ]

Apply/Save

Wireless Bridge

This page allows you to configure bridge features of the wireless LAN.
Click **Refresh** to update the remote bridges.
Click **Apply / Save** to save the settings.

Wireless -- Bridge

This page allows you to configure wireless bridge features of the wireless LAN interface. You can select Wireless Bridge (also known as Wireless Distribution System) to disable access point functionality. Selecting Access Point enables access point functionality. Wireless bridge functionality will still be available and wireless stations will be able to associate to the AP. Select Disabled in Bridge Restrict which disables wireless bridge restriction. Any wireless bridge will be granted access. Selecting Enabled or Enabled(Scan) enables wireless bridge restriction. Only those bridges selected in Remote Bridges will be granted access.
Click "Refresh" to update the remote bridges. Wait for few seconds to update.
Click "Apply/Save" to configure the wireless bridge options.

AP Mode:	Access Point
Bridge Restrict:	Enabled
Remote Bridges MAC Address:	

[Refresh] [Apply/Save]

Advanced

This page allows you to configure advanced wireless LAN interface.
Configuring these settings may increase the performance of your router but if you are not familiar with networking devices and protocols, this section should be left at its default settings.
Click **Apply / Save** to save the settings.

Wireless -- Advanced

This page allows you to configure advanced features of the wireless LAN interface. You can select a particular channel on which to operate, force the transmission rate to a particular speed, set the fragmentation thresho RTS threshold, set the wakeup interval for clients in power-save mode, set the beacon interval for the access point, set XPress mode and set whether short or long preambles are used.
Click "Apply/Save" to configure the advanced wireless options.

Band:	2.4GHz	
Channel:	1	Current: 1 (interference: acceptable)
Auto Channel Timer(min)	0	
802.11n/EWC:	Auto	
Bandwidth:	20MHz	Current: 20MHz
Control Sideband:	Lower	Current: N/A
802.11n Rate:	Auto	
802.11n Protection:	Auto	
Support 802.11n Client Only:	Off	
RIFS Advertisement:	Auto	
OBSS Coexistence:	Enable	
RX Chain Power Save:	Disable	Power Save status: Full Power
RX Chain Power Save Quiet Time:	10	
RX Chain Power Save PPS:	10	
54g™ Rate:	1 Mbps	
Multicast Rate:	Auto	
Basic Rate:	Default	
Fragmentation Threshold:	2346	
RTS Threshold:	2347	
DTIM Interval:	1	
Beacon Interval:	100	
Global Max Clients:	16	
XPress™ Technology:	Disabled	
Transmit Power:	100%	
WMM(Wi-Fi Multimedia):	Enabled	
WMM No Acknowledgement:	Disabled	
WMM APSD:	Enabled	

[Apply/Save]

Station Info

This page shows the authenticated wireless stations and their status.
Click **Refresh** to update the information.

Diagnostics

Your modem is capable of testing your DSL connection with access to **Diagnostics**.

This window is used to test connectivity of the Router.

Management

The Management directory features an array of options designed to help you get the most out of your Router.

Settings

To access the **Settings - Backup** window, click the **Settings** button in the **Management** directory.

This window allows you to backup your DSL Router configurations.

Click the **Backup Settings** button to save your Router configurations to a file on your computer.

Settings - Backup

Backup Broadband Router configurations. You may save your router configurations to a file on your PC.

[Backup Settings]

This window allows Update DSL router settings. You may update your router settings using your saved files.

Click the **Update Settings** button to update your Router configurations with a file on your computer.

Tools -- Update Settings

Update DSL router settings. You may update your router settings using your saved files.

Settings File Name: [   ] [浏览...]

[Update Settings]

This window allows Restore DSL router settings to the factory defaults.

Click the **Restore DSL Settings** button to restore DSL router settings to the factory defaults.

Tools -- Restore Default Settings

Restore Broadband Router settings to the factory defaults.

[Restore Default Settings]

System Log

These windows allow you to view the System Log and configure the System Log options. To access the **System Log** window, click the **System Log** button in the **Management** directory.

Click the **View System Log** button to view the System Log.

Click the **Configure System Log** button to configure the System Log options.

System Log

The System Log dialog allows you to view the System Log and configure the System Log options.

Click "View System Log" to view the System Log.

Click "Configure System Log" to configure the System Log options.

[View System Log] [Configure System Log]

Click on the **Refresh** button to refresh the system log settings.

System Log – Configuration

The system log displays chronological event log data. The event log can be read from local host or sent to a System Log server. The available event severity levels are: **Emergency**, **Alert**, **Critical**, **Error**, **Warning**, **Notice**, **Informational**, and **Debugging**.

This window allows you to log selected events. When you are finished, click the **Apply / Save** button.

Security Log

To access the**SecurityLog** window, click the **SecurityLog** button in the **Management** directory.

Click the View button.

Click the View button.

Security Log

Message

Refresh   Close

TR-069 Client

To access the **TR-069 Client – Configuration** window, click the **TR-069 Client** button in the **Management** directory.

Simple Network Management Protocol allows a management application to retrieve statistics and status from the TR-069 client in the Router. When you are finished, click the **Save/Apply** button.

TR-069 client - Configuration

WAN Management Protocol (TR-069) allows a Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to this device.

Select the desired values and click "Apply/Save" to configure the TR-069 client options.

Inform	○ Disable ● Enable
Inform Interval:	300
ACS URL:	
ACS User Name:	admin
ACS Password:	•••••
WAN Interface used by TR-069 client:	Any_WAN
Display SOAP messages on serial console	● Disable ○ Enable

☑ Connection Request Authentication

Connection Request User Name:	admin
Connection Request Password:	•••••
Connection Request URL:	

Apply/Save   GetRPCMethods

Internet Time

To access the **Time settings** window, click the **Internet Time** button in the **Management** directory.
This window allows you to set the Router's time configuration. When
you are finished, click the **Save/Apply** button.

Time settings
This page allows you to the modem's time configuration.

☐ Automatically synchronize with Internet time servers

[Apply/Save]

Access Control

To access the **Access Control** windows, click the **Access Control** button in the **Management** directory.

Passwords

This window allows you to change the password on the Router. When you are finished, click the **Save/Apply** button.

Access Control -- Passwords

Access to your broadband router is controlled through three user accounts: admin, support, and user.

The user name "admin" has unrestricted access to change and view configuration of your Broadband Router.

The user name "support" is used to allow an ISP technician to access your Broadband Router for maintenance and to run diagnostics.

The user name "user" can access the Broadband Router, view configuration settings and statistics, as well as, update the router's software.

Use the fields below to enter up to 16 characters and click "Apply/Save" to change or create passwords. Note: Password cannot contain a space.

User Name:

Old Password:

New Password:

Confirm Password:

Apply/Save

Services

This window allows you to enable or disable services.
When you are finished, click the **Save/Apply** button

Access Control -- Services

A Service Control List ("SCL") enables or disables services from being used.

Services	LAN	WAN
FTP	☑ Enable	☐ Enable
HTTP	☑ Enable	☐ Enable
ICMP	Enable	☑ Enable
SSH	☑ Enable	☐ Enable
TELNET	☑ Enable	☐ Enable
TFTP	☑ Enable	☐ Enable

Save/Apply

IP Address

This window allows you to add the ip address access control.

Access Control -- IP Address

The IP Address Access Control mode, if enabled, permits access to local management services from IP addresses contained in the Access Control List. If the Access Control mode is disabled, the system will not validate IP addresses for incoming packets. The services are the system applications listed in the Service Control List

Access Control Mode: ⦿ Disable ◯ Enable

IP Address	Subnet Mask	Remove

Add Remove

Click **Add** to see the following page.

Add IP Addresses

Enter the IP address of the management station permitted to access the local management services, and click "Apply/Save".

IP Address: [   ]
Subnet Mask: [   ]

This window allows you to set the IP address configuration. When you are finished, click the **Save/Apply** button.

Apply/Save

Update Software

To access the **Tools - Update Software** window, click the **Update Software** button in the **Management** directory.
This window allows you to update the Router's software.

Tools -- Update Software

Step 1: Obtain an updated software image file from your ISP.

Step 2: Enter the path to the image file location in the box below or click the "Browse" button to locate the image file.

Step 3: Click the "Update Software" button once to upload the new image file.

NOTE: The update process takes about 2 minutes to complete, and your DSL Router will reboot.

Software File Name: [　　　　] [浏览...]

[Update Software]

Reboot

To access this window, click the **Reboot** button in the **Management** directory.

To save your settings and reboot the system, click the **Reboot** button.

Click the button below to reboot the router.

[Reboot]

Tools

To access this window, click the **Tools** button in the **Management** directory.

This window allows you to test the connection between DSL-2790U and Internet.
 When you input a public IP address, click the **Ping** button.

Ping and Trace Route

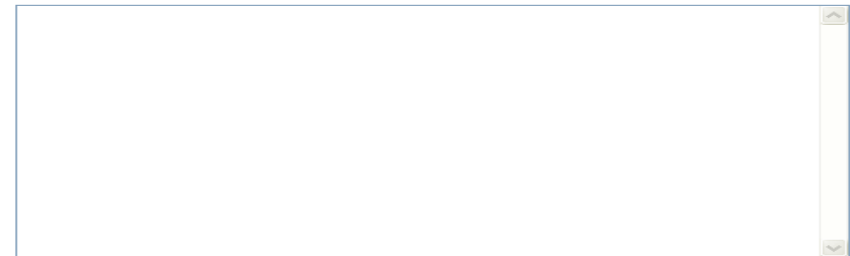You can use ping and trace route in this page.

Please input the IP address and click "Ping" or "Trace Route".

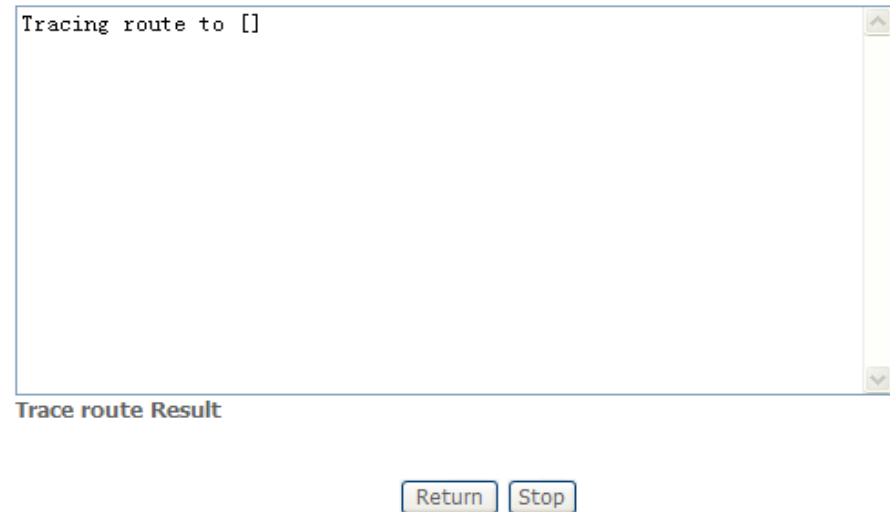IP Address: [   ]

[Ping] [Trace Route]

When you click the **Ping** button you will see the result

Ping Result
[Return]

This window will show you the path between the DSL-2750 and destination
When you input a public IP address, click the **trace** button.

```
Tracing route to []
```

Trace route Result

Return Stop

Troubleshooting

This chapter provides solutions to problems that might occur during the installation and operation of the DSL-2790U. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

1. How do I configure my DSL-2790U Router without the CD-ROM?

- Connect your PC to the Router using an Ethernet cable.
- Open a web browser and enter the address http://192.168.1.1
- The default username is 'admin' and the default password is 'admin'.
- If you have changed the password and cannot remember it, you will need to reset the Router to the factory default setting (see question 2), which will set the password back to 'admin'.

Note: Please refer to the next section "Networking Basics" to check your PC's IP configuration if you can't see the login windows.

2. How do I reset my Router to the factory default settings?

- Ensure the Router is powered on.
- Press and hold the reset button on the back of the device for approximately 5 seconds.
- This process should take around 30~60 seconds.

3. What can I do if my Router is not working correctly?

There are a few quick steps you can take to try and resolve any issues:
- Follow the directions in Question 2 to reset the Router.
- Check that all the cables are firmly connected at both ends.
- Check the LEDs on the front of the Router. The Power indicator should be on, the Status indicator should flash, and the DSL and LAN indicators should be on as well.
- Please ensure that the settings in the Web-based configuration manager, e.g. ISP username and password, are the same as the settings that have been provided by your ISP.

4. Why can't I get an Internet connection?

For ADSL ISP users, please contact your ISP to make sure the service has been enabled/connected by your ISP and that your ISP username and password are correct.

5. What can I do if my router can't be detected by running installation CD?

- Ensure the Router is powered on.
- Check that all the cables are firmly connected at both ends and all LEDs work correctly.
- Ensure only one network interface card on your PC is activated.
- Click on **Start** > **Control Panel** > **Security Center** to disable the setting of **Firewall**.
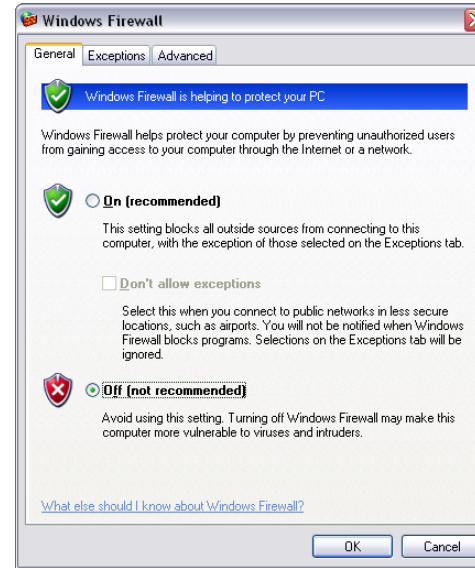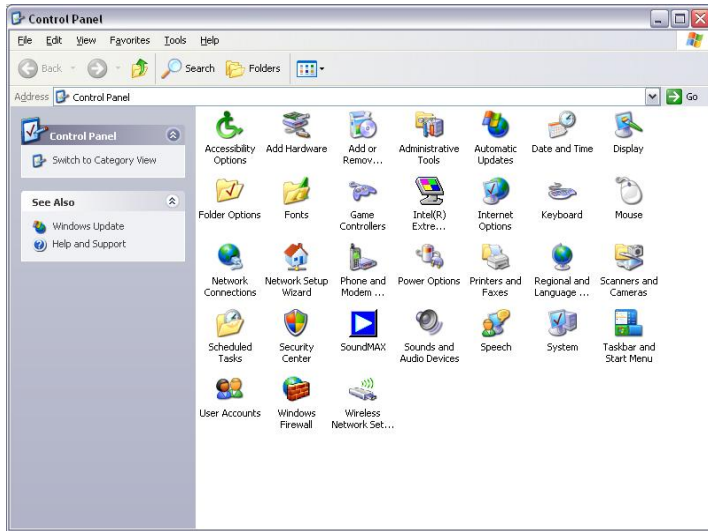
Note: There might be a potential security issue if you disable the setting of Firewall on your PC. Please remember to turn it back on once you have finished the whole installation procedure and can surf on Internet without any problem.

Networking Basics

Check Your IP Address

After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.
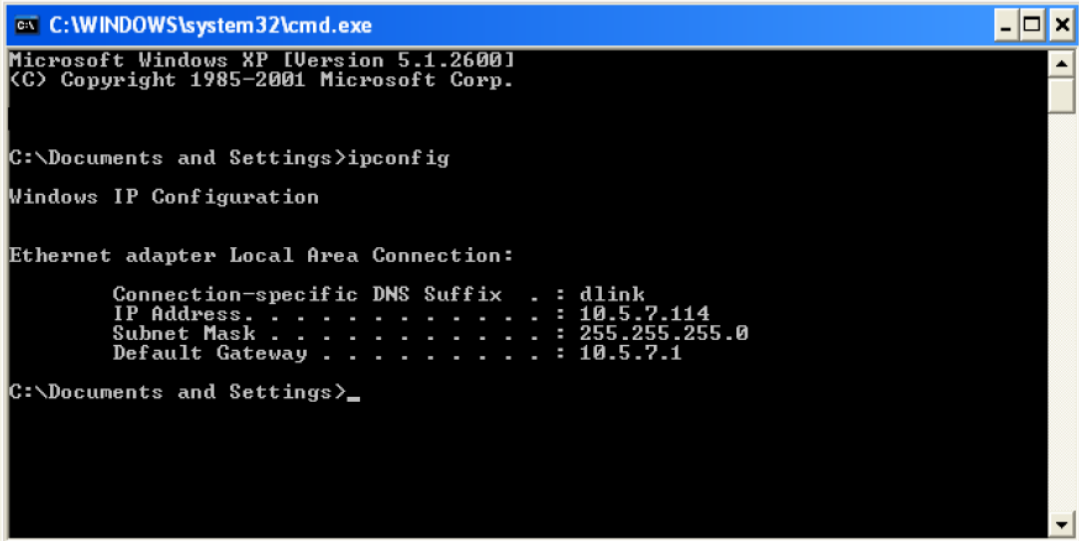
Click on **Start** > **Run**. In the run box type *cmd* and click on the **OK**.

At the prompt, type *ipconfig* and press **Enter**.

This will display the IP address, subnet mask, and the default gateway of your adapter.

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.

If you are connecting to a wireless network at a hotspot (e.g. hotel, coffee shop, airport), please contact an employee or administrator to verify their wireless network settings.

```
C:\WINDOWS\system32\cmd.exe

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

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

        Connection-specific DNS Suffix  . : dlink
        IP Address. . . . . . . . . . . . : 10.5.7.114
        Subnet Mask . . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . . : 10.5.7.1

C:\Documents and Settings>_
```

Statically Assign an IP Address

If your DHCP is disabled, or you need to assign a static IP address, please follow the steps below:

Step 1
Windows® XP - Click on **Start** > **Control Panel** > **Network Connections**.
Windows® 2000 - From the desktop, right-click on the **My Network Places** > **Properties**.

Step 2
Right-click on the **Local Area Connection** which represents your D-Link network adapter and select **Properties**.

Step 3
Highlight **Internet Protocol (TCP/IP)** and click on the **Properties**.

Step 4
Click on the **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.
Example: If the router's LAN IP address is 192.168.1.1, make your IP address 192.168.1.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network. Set Default Gateway the same as the LAN IP address of your router (192.168.1.1).

Set Primary DNS the same as the LAN IP address of your router (192.168.1.1). The Secondary DNS is not needed or you may enter a DNS server from your ISP.

Step 5
Click on the **OK** twice to save your settings.
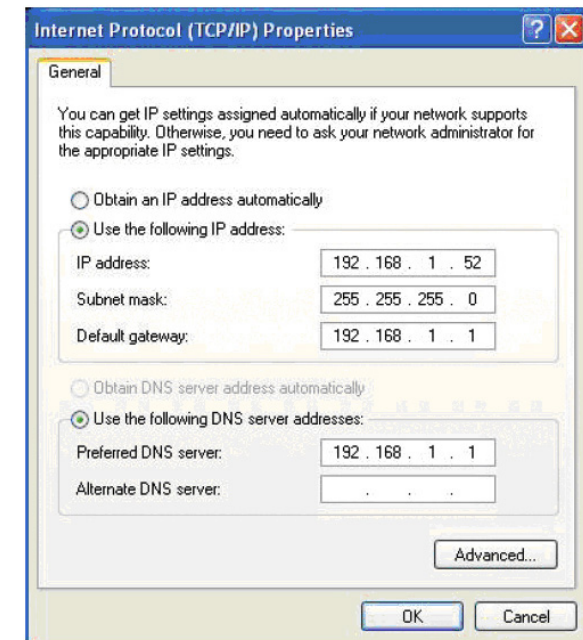
Usage of USB Interface

The Combo DSL Gateway is a device with both Ethernet Interface and USB Interface, which is independent, you may use either of them to connect to the different computers, in this way the two computers can connect to the network at one time. The Gateway can be seen as a simple two-port HUB. So, do not connect both the Ethernet Interface and USB Interface to a same computer.

When using USB Interface, you must install the drivers. After installation, a virtual network card, "USB Remote NDIS Network Device", will be added into the computer. It has all the functions of a real network card, and it makes installation more easily.

NOTES:
The following shows the steps for Windows®2000, the installation, configuration and uninstallation of Windows®98 or Windows®XP are similar to this.

Driver Automatic Installation

There are two files in the DRIVER-CD.
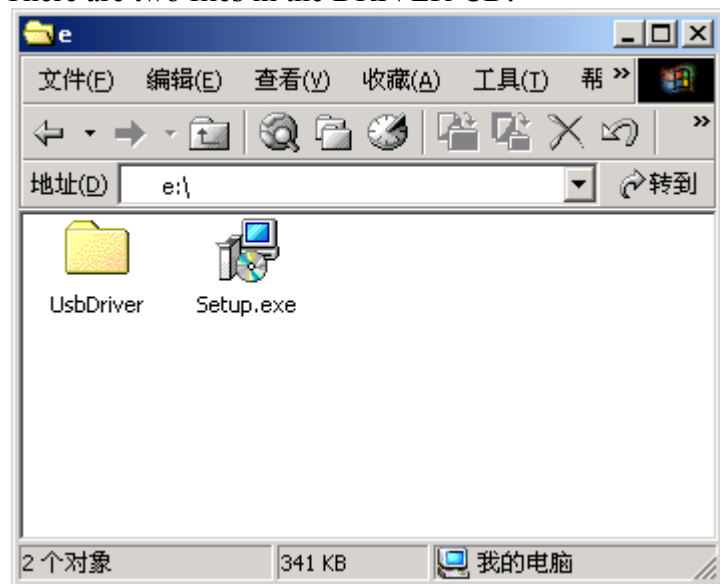
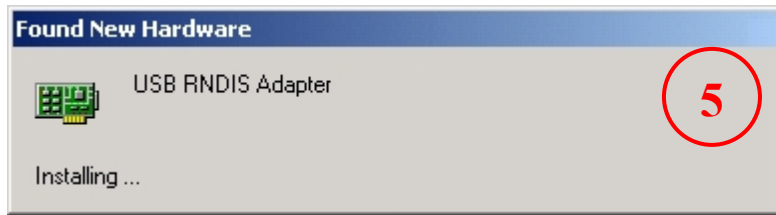1. Run "setup.exe" in DRIVER-CD and click "Next" button.
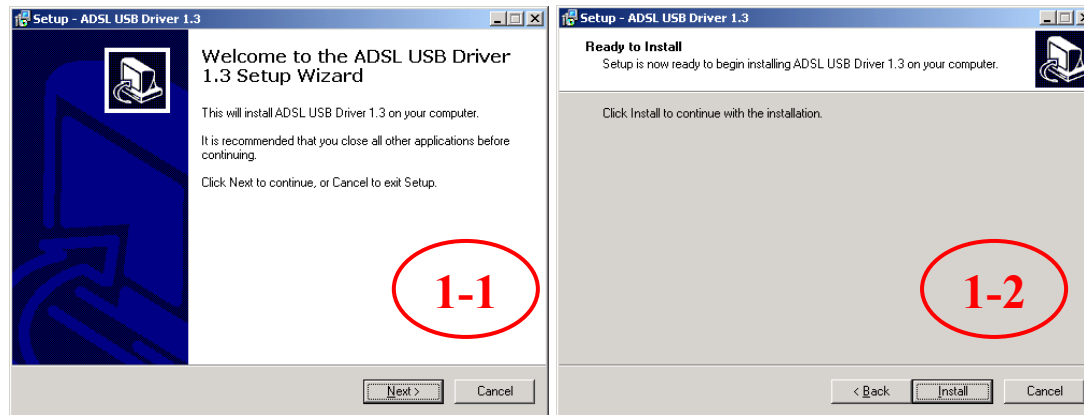
2. Click "Install" button to install the driver and wait few seconds.
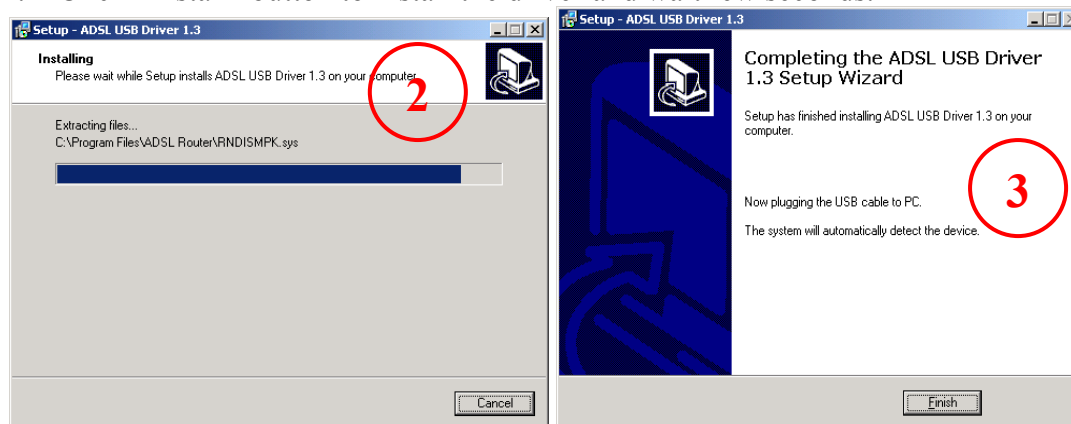
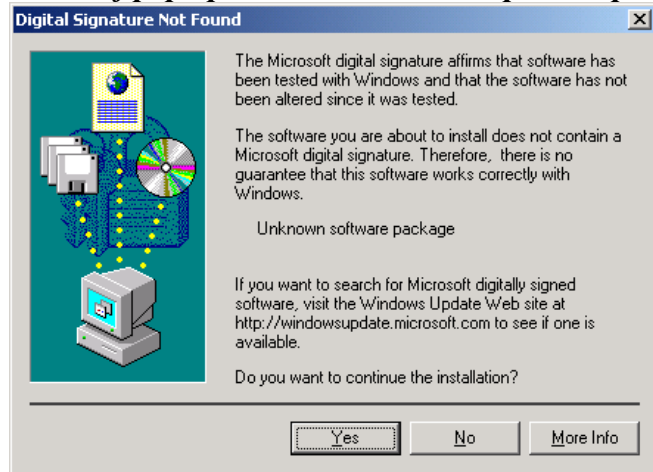3. Click "finish" to complete the install.

4. Plug in the power cord, and turn on the power.

5. Connect USB port of the Gateway to USB port on your PC with the USB cable that comes with the Gateway.

6. System install the drivers automatically.

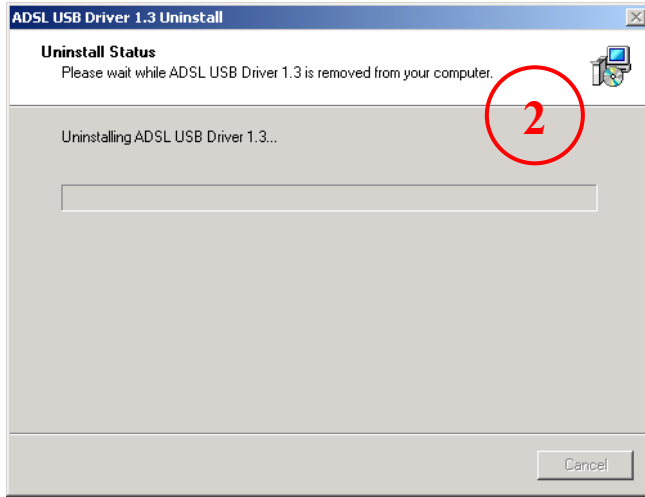*Notice: If pop up a windows like blow picture, please click "Yes" to allow it.*
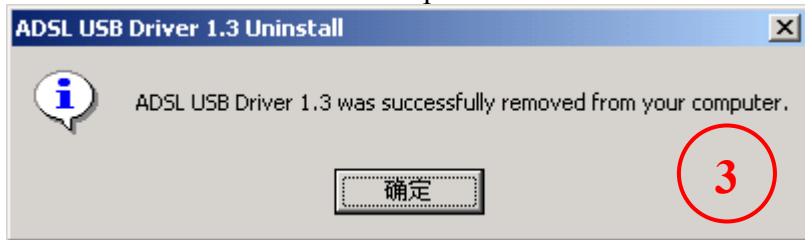

Driver Automatic Uninstallation

1. Run "setup.exe" in DRIVER-CD and click "Next" button.

2. Click "Yes" button to start uninstall the driver.

3. Click "OK" button completed uninstall the driver.

Driver Manual Installation

1. Plug in the power cord, and turn on the power.
2. Connect USB port of the Gateway to USB port on your PC with the USB cable that comes with the Gateway.
3. Once the new hardware is detected as shown in the dialog box below, Choice "Search for a suitable driver for my device". Then click "Next" button.
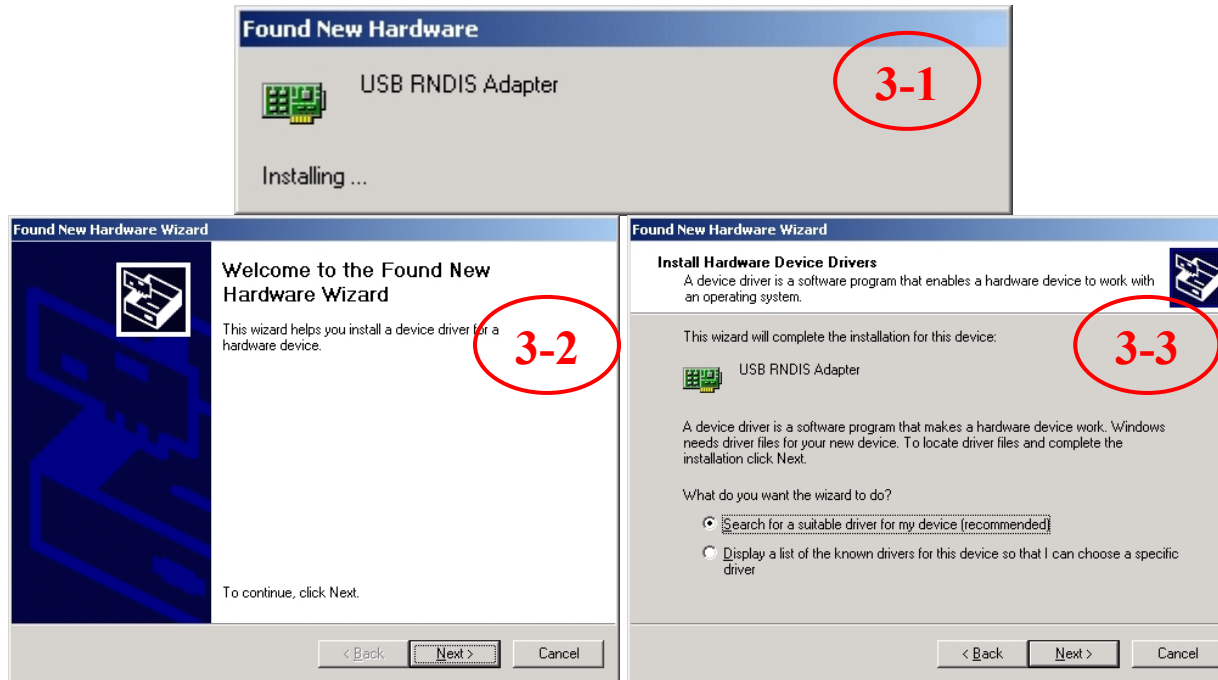
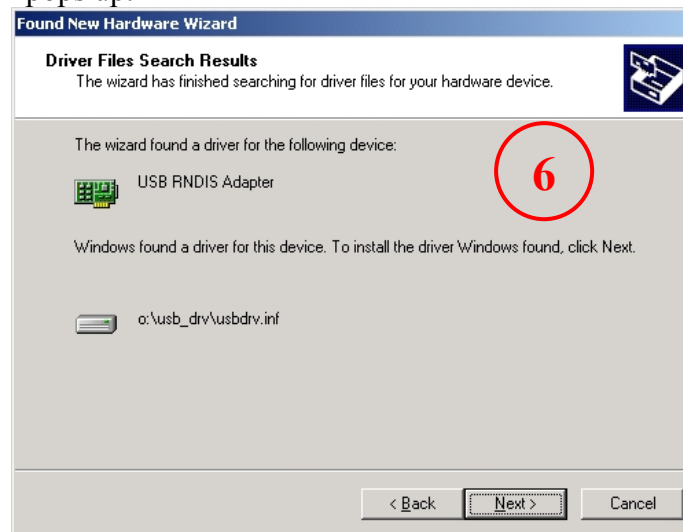4. Dialog box is. Choice "Specify a location", and Click "Next" button.
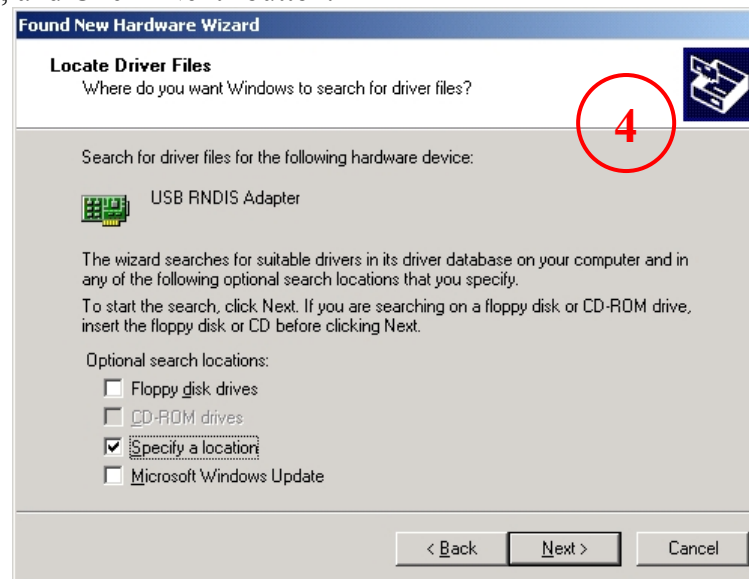
5. A new box will pop up for selection of the location of the driver. If the location is incorrect please click "Browse" and select the right location, then click "Next" button.
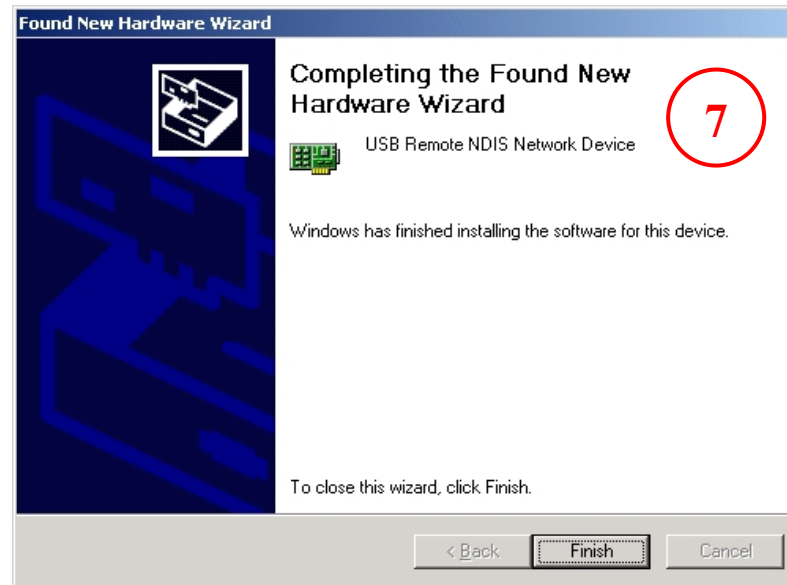   The default location is in the "USB_DRV" folder of the CD.

6. Click "Next" or "Continue" for any dialog box pops up.

7. A message box will show the installation of "USB Remote NDIS Network Device" is complete. Click "Finish" button.

8. After the steps above, you will find there is a new item called "USB Remote NDIS Network Device" in "Control Panel"-"System"-"Device Manager"-"Network adapters".
   And a new "Local Area Connection X" is added in "Network Connections".
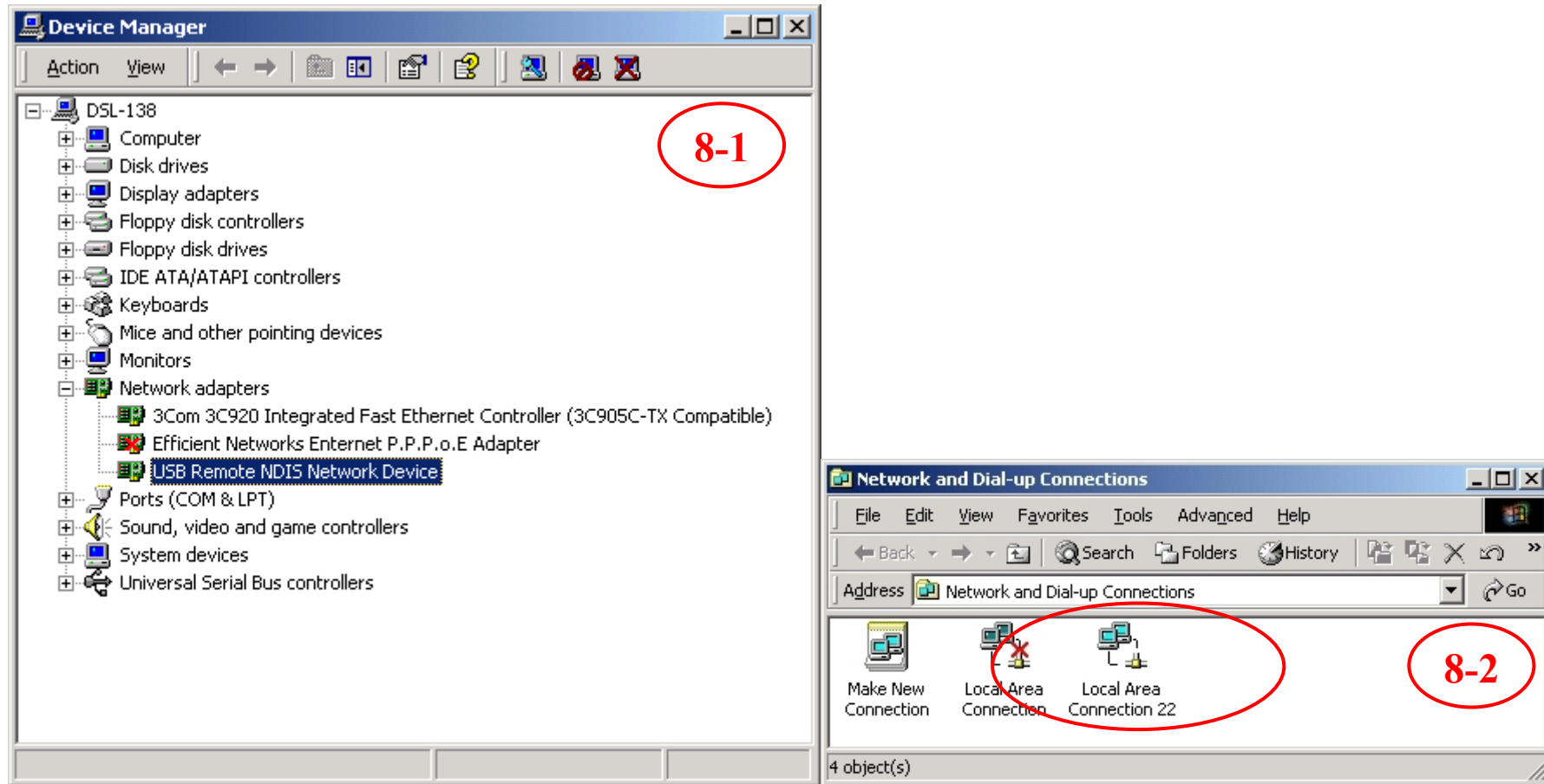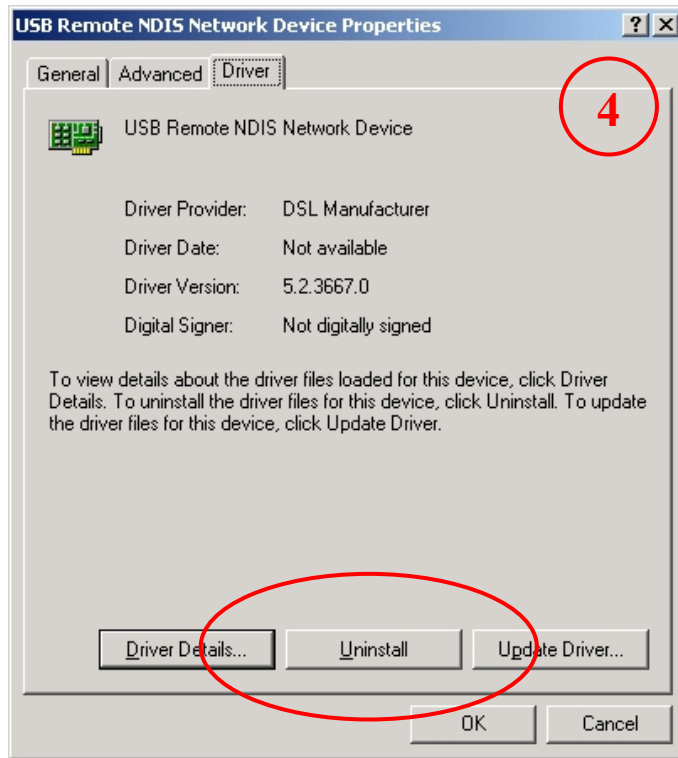
Driver Manual Uninstallation

1. Right click the icon of "My Computer" on the desktop, choice "Properties" item on menu pop up.

2. Click "Device Manager" button in "Hardware" page.

3. Double Click the "USB Remote NDIS Network Device" in "Device Manager" dialog box.
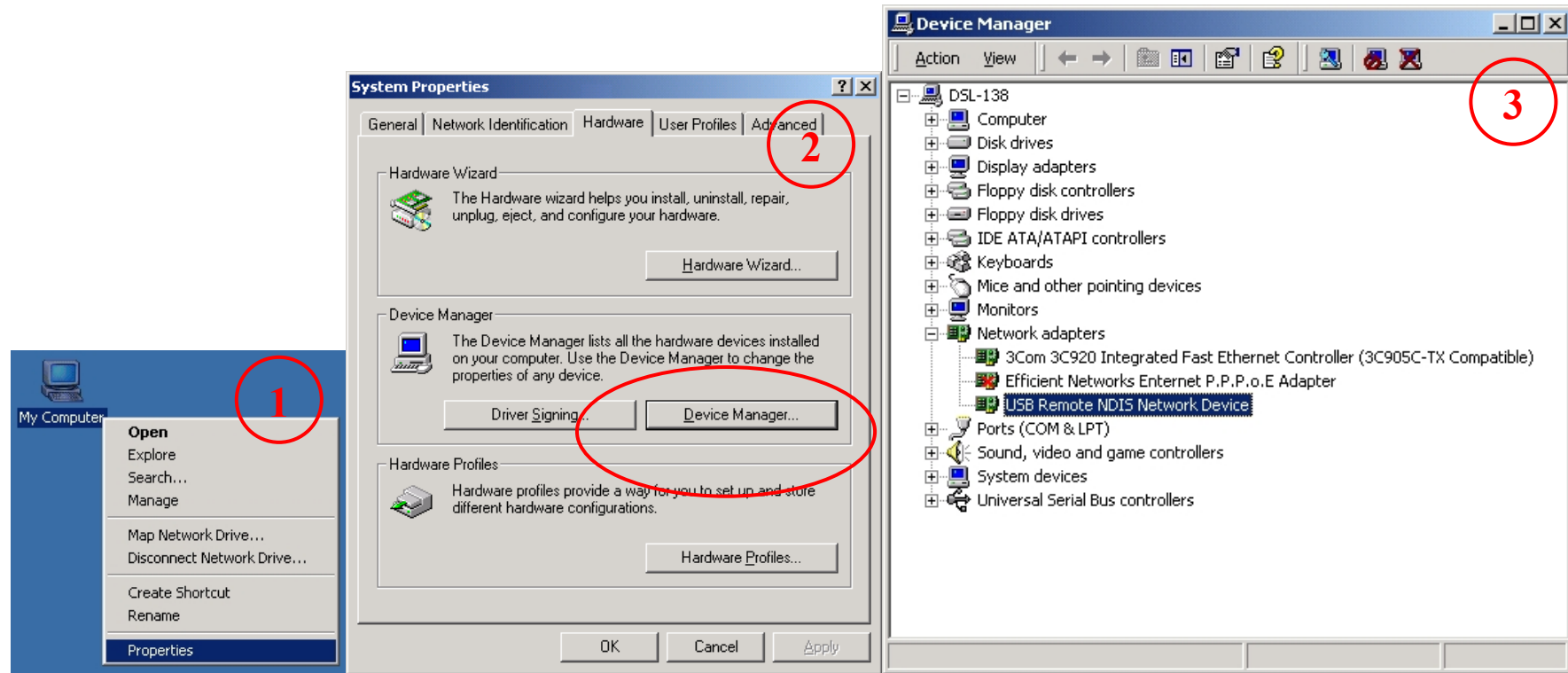
4. Click "Uninstall" button in "Driver" page.

5. Click "OK" when the dialog box shown as below to finish the uninstallation.

Technical Specifications

ADSL Standards

- ANSI T1.413 Issue 2
- ITU G.992.1 (G.dmt) AnnexA
- ITU G.992.2 (G.lite) Annex A
- ITU G.994.1 (G.hs)

ADSL2 Standards

- ITU G.992.3 (G.dmt.bis) Annex A
- ITU G.992.4 (G.lite.bis) Annex A

ADSL2+ Standards

- ITU G.992.5 Annex A/M

Protocols

- IEEE 802.1d Spanning Tree
- TCP/UDP
- ARP
- RARP
- ICMP
- RFC1058 RIP v1
- RFC1213 SNMP v1 & v2c
- RFC1334 PAP
- RFC1389 RIP v2
- RFC1577 Classical IP over ATM
- RFC1483/2684 Multiprotocol Encapsulation over ATM Adaptation Layer 5 (AAL5)
- RFC1661 Point to Point Protocol
- RFC1994 CHAP
- RFC2131 DHCP Client / DHCP Server
- RFC2364 PPP over ATM
- RFC2516 PPP over Ethernet

Data Transfer Rate

- G.dmt full rate downstream: up to 8 Mbps / upstream: up to 1 Mbps
- G.lite: ADSL downstream up to 1.5 Mbps / upstream up to 512 Kbps
- G.dmt.bis full rate downstream: up to 12 Mbps / upstream: up to 1 Mbps
- ADSL full rate downstream: up to 24 Mbps / upstream: up to 1 Mbps

Wireless Transfer Rates

- IEEE 802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5,65,78,104,117,130 Mbps
- IEEE 802.11b: 11, 5.5, 2, and 1Mbps
- IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps

Media Interface

- ADSL interface: RJ-11 connector for connection to 24/26 AWG twisted pair telephone line
- LAN interface: RJ-45 port for 10/100BASE-T Ethernet connection

Certification:

- This device complies with Part15 of the FCC Rules. Operation is subject to the following conditions:
  (1) This device may not cause harmful interference.
  (2) This device must accept any interference received, including interference that may cause undesired operation