DSL-2600U

USER MANUAL

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Package Contents

- DSL-2600U ADSL2+ Router
- Power Adapter
- CD-ROM with User Manual
- One twisted-pair telephone cable used for ADSL connection
- One straight-through Ethernet cable
- One Quick Installation Guide
- One Splitter

Note: Using a power supply with a different voltage rating than the one included
with the DSL-2600U 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
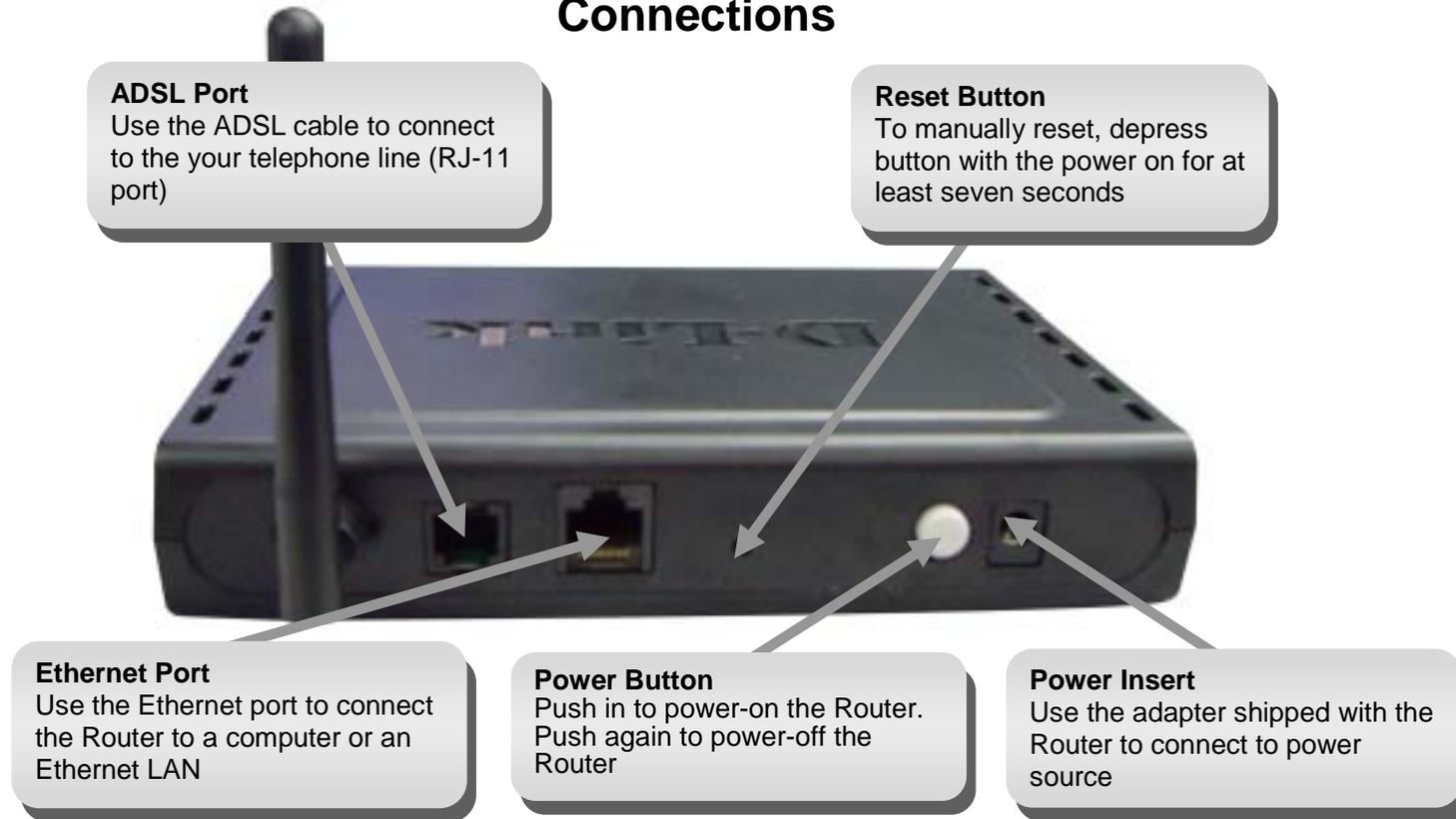 - Computer with Windows 2000, Windows XP, or Windows Vista
    : 项目符号和编号   : 项目符号和编号

Features

- **PPP (Point-to-Point Protocol) Security –** The DSL-2600U 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-2600U 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-2600U supports TCP/IP protocol, the language used for the Internet. It is compatible with access servers manufactured by major vendors.

- **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-2600U 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-2600U 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-2600U 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.

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Hardware Overview
Connections

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

Reset Button
To manually reset, depress button with the power on for at least seven seconds

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

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

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

Hardware Overview
LEDs

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.

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 activity on the WAN (ADSL) interface.

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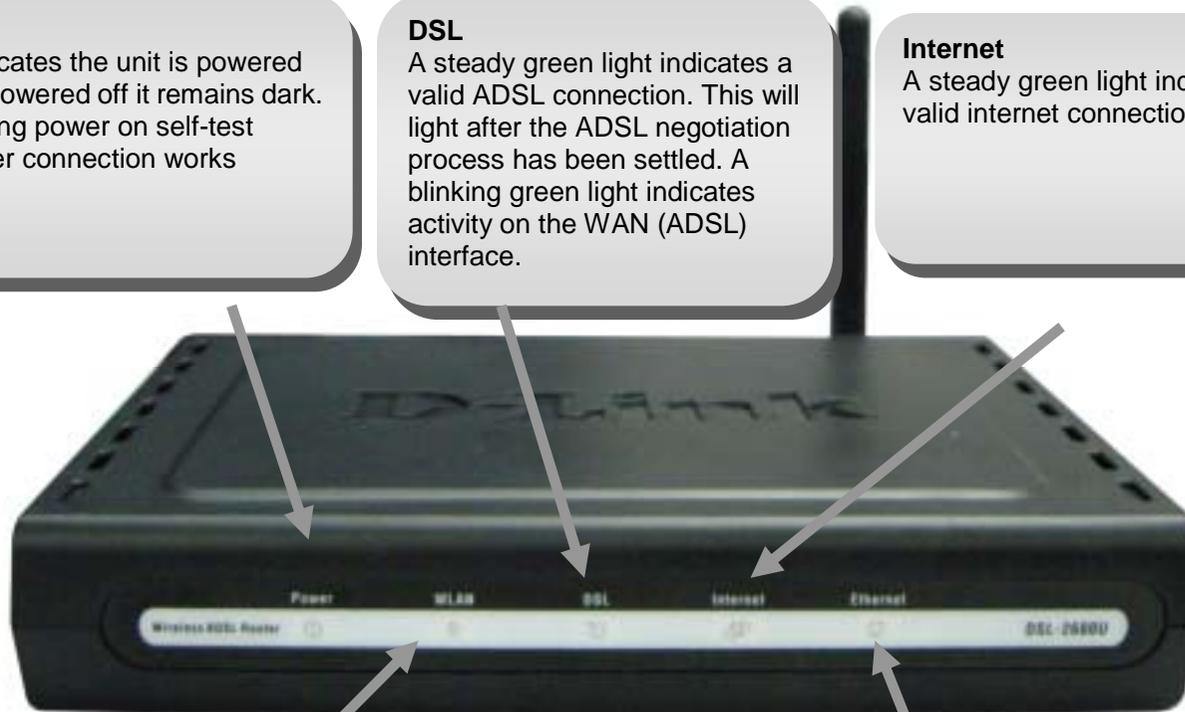
WLAN
A steady green light indicates a wireless connection. A blinking green light indicates activity on the WLAN interface.

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

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-2600U 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-2600U

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-2600U
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-2600U
This is the subnet mask used by the DSL-2600U, 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-2600U to this Ethernet port using an Ethernet cable. You can also use the Ethernet ports on the DSL-2600U to connect to other computer or Ethernet devices.

DHCP Client status
Your DSL-2600U 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-2600U will assign are from 10.1.1.2 to 10.1.1.254. 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-2600U ADSL Router.

Device Installation

The DSL-2600U 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 AC 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 Ethernet Link/Act 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 5~8 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 "**admin**" 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:

Summary

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

Device Info

BoardID:	DSL-2600U
Software Version:	RU_1.00
Bootloader (CFE) Version:	1.0.37-12.1
Wireless Driver Version:	3.131.35.6.cpe1.0a.s

This information reflects the current status of your DSL connection.

Line Rate - Upstream (Kbps):	
Line Rate - Downstream (Kbps):	
LAN IPv4 Address:	192.168.1.1
MAC Address:	00-11-22-33-44-55
Default Gateway:	
Primary DNS Server:	192.168.1.1
Secondary DNS Server:	192.168.1.1

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

Port/VPI/VCI	Con. ID	Category	Service	Interface	Protocol	Igmp	QoS	State	Status	IPv4 Address

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
Ethernet	183518	1887	0	0	492558	1659	0	0
Wireless	0	0	120	0	26767	285	0	0

Reset Statistics

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

Statistics -- WAN

Service	VPI/VCI	Protocol	Interface	Received				Transmitted			
				Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops

Reset Statistics

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

ATM Interface Statistics

In Octets	Out Octets	In Errors	In Unknown	In Hec Errors	In Invalid Vpi Vci Errors	In Port Not Enable Errors	In PTI Errors	In Idle Cells	In Circuit Type Errors	In OAM RM CRC Errors	In GFC Errors
0	0	0	0	0	0	0	0	0	0	0	0

AAL5 Interface Statistics

In Octets	Out Octets	In Ucast Pkts	Out Ucast Pkts	In Errors	Out Errors	In Discards	Out Discards
0	0	0	0	0	0	0	0

AAL5 VCC Statistics

VPI/VCI	CRC Errors	SAR Timeouts	Oversized SDUs	Short Packet Errors	Length Errors

Reset Close

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

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

Statistics – ADSL

Mode:	
Type:	
Line Coding:	
Status:	DOWN
Link Power State:	LO

	Downstream	Upstream
SNR Margin (dB):		
Attenuation (dB):		
Output Power (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   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
192.168.1.17	Complete	00:1A:A0:22:30:10	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

Wireless

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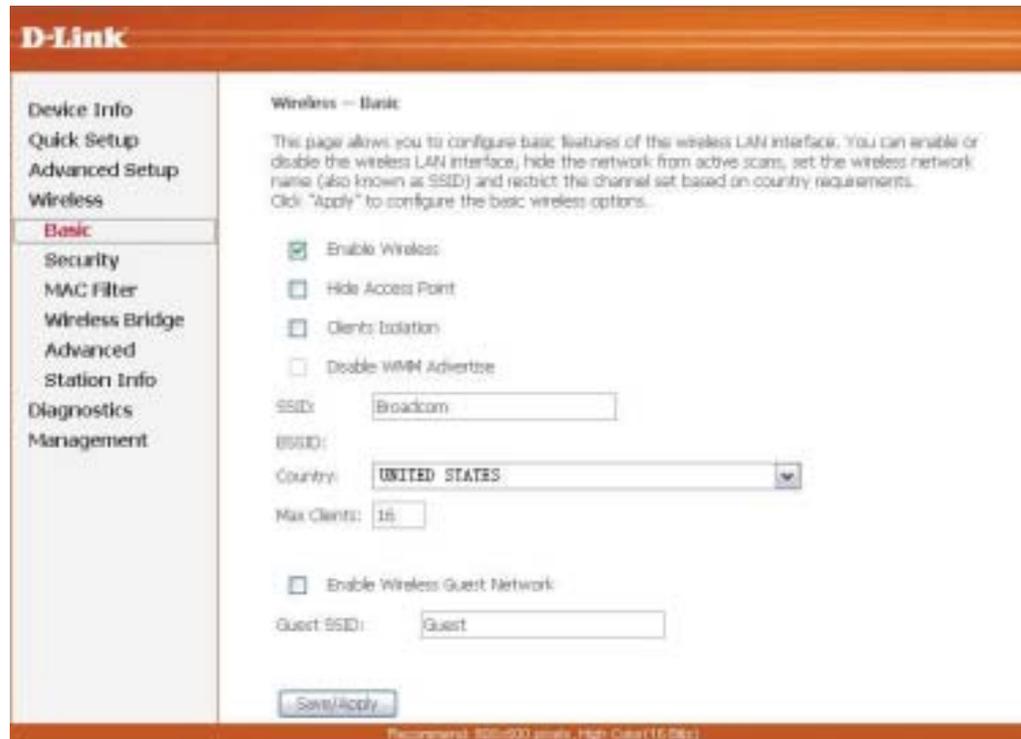
Basic

To access the **Wireless-- Basic** window, click the **Basic** button in the **Wireless** directory.

This window is used to configure **Wireless Basic**.

In default, check **Enable Wireless** box to launch wireless AP.

- **SSID** (Service Set Identifier): The mobile users cannot access WLAN until setting their SSID as the same value of the wireless ADSL. The SSID value of the ADSL is "default"
- **Hide Access Point:** If checked, wireless station will no see SSID of the ADSL.

Security

To access the **Wireless** --**Security** window, click the **Security** button in the **Wireless** directory.

This window is used to configure **Wireless Security**.

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

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 "Save/Apply" when done.

Select SSID: Broadcom

Network Authentication: Open

WEP Encryption: Disabled

Save/Apply

WEP Encryption

Select **Enabled** of the WEP encryption list. You can enter WEP encryption page.

Encryption Strength: Key length: 128bits or 64bits.

Network Key 1-4: Up to four keys that are in form of hex digitals could be set. Mobile users can't access the AP if they haven't set the same key as AP. For 64bits and 128bits keys, you should input 10 and 26 hexadecimal digitals or 5 and 13 ASCII characters respectively. Every two digitals should be compared with others by a space character. For example: "7890ABCDEF" (hexadecimal digitals) or "QWERT" (ASCII characters) for a key length of 64bits.

Wireless -- Security

This page allows you to configure security features of the wireless LAN interface.
You may setup configuration manually

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 "Save/Apply" when done.

Select SSID: Broadcom

Network Authentication: Open

WEP Encryption: Enabled
Encryption Strength: 128-bit
Current Network Key: 1
Network Key 1:
Network Key 2:
Network Key 3:
Network Key 4:

Enter 13 ASCII characters or 26 hexadecimal digits for 128-bit
encryption keys
Enter 5 ASCII characters or 10 hexadecimal digits for 64-bit
encryption keys

Save/Apply

802.1x Authentication

Select **802.1x** to enter 802.1x authentication page.

The 802.1x authentication needs a Radius server in LAN. In this page, you can input Radius server IP address, port number and secret key.

Wireless -- Security

This page allows you to configure security features of the wireless LAN interface.
You may setup configuration manually

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 "Save/Apply" when done.

Select SSID: Broadcom

Network Authentication: 802.1X

RADIUS Server IP Address: 0.0.0.0
RADIUS Port: 1812
RADIUS Key:
WEP Encryption: Enabled
Encryption Strength: 128-bit
Current Network Key: 2
Network Key 1:
Network Key 2:
Network Key 3:
Network Key 4:

Enter 13 ASCII characters or 26 hexadecimal digits for 128-bit
encryption keys
Enter 5 ASCII characters or 10 hexadecimal digits for 64-bit
encryption keys

Save/Apply

Troubleshooting

This chapter provides solutions to problems that might occur during the installation and operation of the DSL-2600U . 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-2600U 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 next section **Network Basics** to check your PC's IP configuration if you can't see the login window.

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 to 8 seconds.
   - This process would take about 1~2 minutes to complete.

Note: Resetting the Router to the factory default settings will erase the current configuration settings. To reconfigure your settings, log into the Router as outlined in question 1, and then run the Quick Setup wizard.

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 etc., are the same as the settings provided by your ISP.

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

For ADSL subscribers, please contact your ISP to make sure the ADSL service has been enabled, and 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.
- Disable Windows Firewall
  In Windows XP, click **Start** > **Control Panel** and then double-click **Security Center**. Disable the **Windows Firewall** setting and click **OK**.
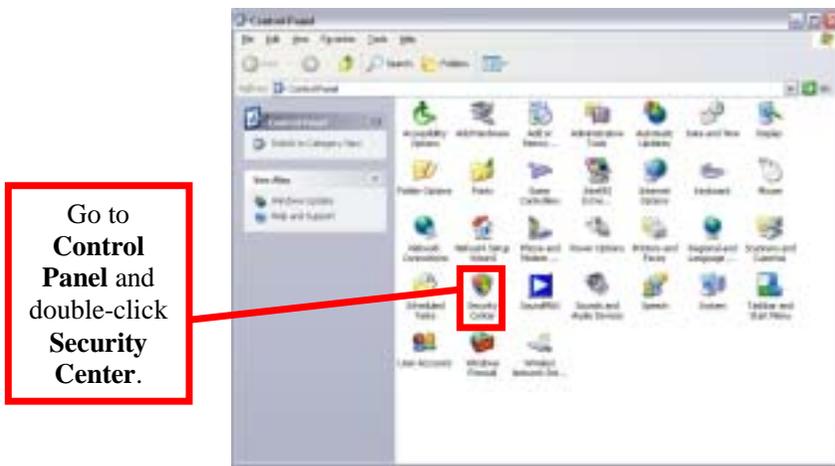
Go to **Control Panel** and double-click **Security Center**.

Deselect the **Firewall** by clicking the **Off (not recommended)** radio button. Click **OK** when you are finished.

Note: There might be a potential security issue if you disable the Firewall setting on your PC. Please remember to turn it back on once you have finished the

installation procedure and successfully installed your router.

In Windows Vista, click **Start** > **Control Panel** and then double-click **Windows Firewall**. Next, click **Turn Windows Firewall on or off**. Choose **Off (not recommended)**. Finally, click **Apply** and then click "**OK**" to complete disabling the Windows Firewall.

Go to **Control Panel** and double-click **Windows Firewall**.

Click **Turn Windows Firewall on or off**.

Deselect the **Firewall** by clicking the **Off (not recommended)** radio button. Click **OK** when you are finished.
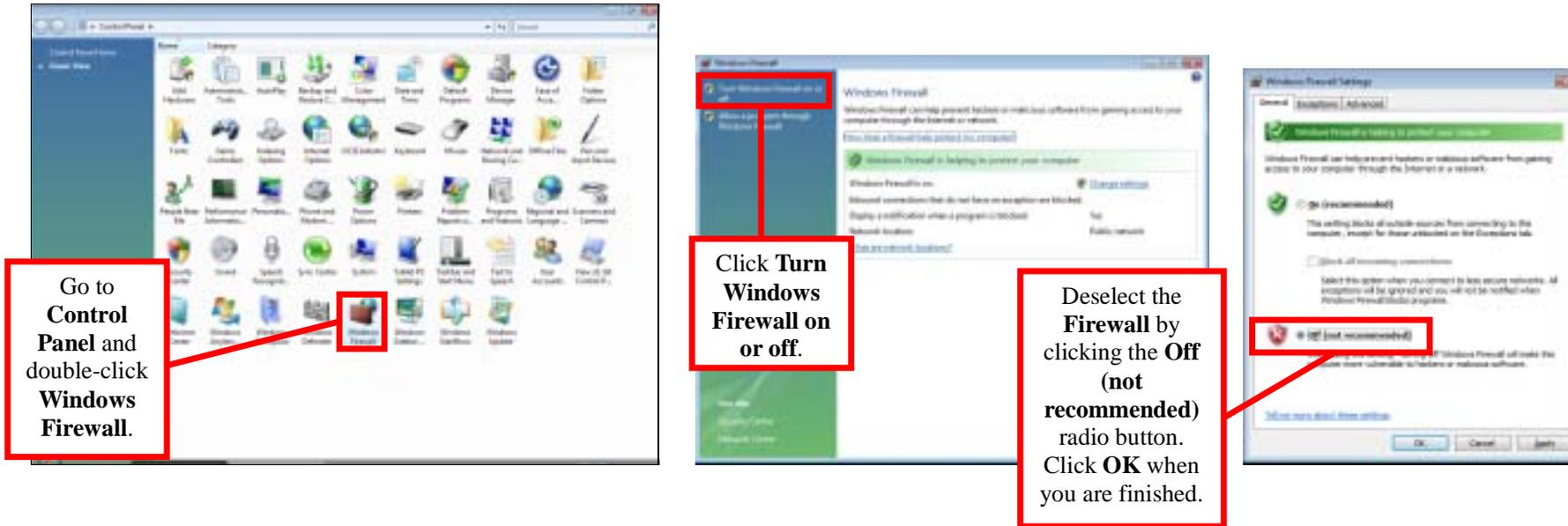
Technical Specifications

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)
- ITU G.992.5 Annex A

ADSL2 Standards
- ITU G.992.3 (G.dmt.bis) Annex A
- ITU G.992.4 (G.lite.bis) Annex A

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 12 Mbps
- ADSL full rate downstream: up to 24 Mbps / upstream: up to 1 Mbps

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:
Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the

equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This device has been designed to operate with antennas having a maximum gain of 3dBi. Antennas having a gain greater than 3dBi are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

RF EXPOSURE

To comply with FCC and Industry Canada RF radiation exposure

requirements, the antenna(s) used for this transmitter must be installed such that a minimum separation distance of 20cm is maintained between the radiator (antenna) & user's/nearby people's body at all times and must not be co-located or operating in conjunction with any other antenna or transmitter.