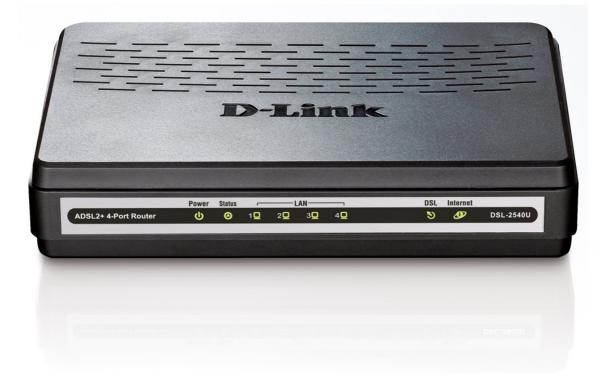


User Manual



DSL-2540U

ADSL/Ethernet Router with Built-in Switch

Contents

Chapter 1. Int:	roduction
Contents and Au	dience
Conventions	
Document Struct	zure
Chapter 2. Ove:	rview
General Informa	ation5
Specifications.	
Product Appeara	ance9
Front Panel.	9
Back Panel	
Delivery Packag	ge11
Safety Instruct	zions
Chapter 3. Inst	tallation and Connection12
Before You Begi	.n12
Connecting to P	PC13
PC with Ether	rnet Adapter13
Obtaining IP	Address Automatically in OS Windows XP13
Obtaining IP	Address Automatically in OS Windows 716
Connecting to W	Neb-based Interface
Saving and Rest	coring Settings
Chapter 4. Con:	figuring via Web-based Interface
-	figuring via Web-based Interface25
- Wizards	
Wizards Internet Setu	
Wizards Internet Setu PPPoE or P	up Wizard
Wizards Internet Setu PPPoE or P IPoA or St	25 up Wizard
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP	25 up Wizard
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP	25 up Wizard. 25 PPPOA Connection. 26 catic IP Connection. 30 P Connection. 33 anection. 36
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP Bridge Con Site Setup Wi	25 up Wizard. 25 PPPOA Connection. 26 catic IP Connection. 30 P Connection. 33 anection. 36
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP Bridge Con Site Setup Wi Status	25 up Wizard. 25 PPPOA Connection. 26 catic IP Connection. 30 P Connection. 33 unection. 36 izard. 38
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP Bridge Con Site Setup Wi Status Network Stati	25 up Wizard. 25 25PPoA Connection. 26 catic IP Connection. 30 P Connection. 30 P Connection. 33 anection. 36 izard. 38 39
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP Bridge Con Site Setup Wi Status Network Statis DSL Status WAN Status	25 up Wizard. 25 PPPOA Connection. 26 catic IP Connection. 30 P Connection. 30 P Connection. 33 anection. 36 izard. 38
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP Bridge Con Site Setup Wi Status Network Statis DSL Status WAN Status	25 up Wizard. 25 PPPOA Connection. 26 satic IP Connection. 30 P Connection. 30 P Connection. 33 unection. 36 izard. 38 istics. 39 40 40
Wizards Internet Setu PPPOE or P IPOA or St Dynamic IP Bridge Con Site Setup Wi Status Network Statis DSL Status WAN Status DHCP	25 up Wizard. 25 PPPOA Connection. 26 ratic IP Connection. 30 P Connection. 33 anection. 36 izard. 38
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP Bridge Con Site Setup Wi Status Network Statis DSL Status WAN Status DHCP Routing Table LAN Clients.	25 up Wizard. 25 PPPOA Connection. 26 catic IP Connection. 30 P Connection. 30 P Connection. 33 izard. 38
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP Bridge Con Site Setup Wi Status Network Statis DSL Status WAN Status DHCP Routing Table LAN Clients	25 up Wizard 25 PPPOA Connection 26 catic IP Connection 30 P Connection 33 unection 33 izard 38 izard 39 istics 39 40 41 41 42 42 43 44 44
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP Bridge Con Site Setup W: Status Network Stat: DSL Status WAN Status DHCP Routing Table LAN Clients WAN	25 up Wizard. 25 PPPOA Connection. 26 catic IP Connection. 30 P Connection. 33 nnection. 36 izard. 38
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP Bridge Con Site Setup Wi Status Network Statis DSL Status WAN Status DHCP Routing Table LAN Clients WAN Creating A	25 up Wizard. 25 PPPOA Connection. 26 ratic IP Connection. 30 P Connection. 30 P Connection. 33 izard. 36 izard. 38
Wizards Internet Setu PPPoE or P IPoA or St Dynamic IP Bridge Con Site Setup Wi Status Network Statis DSL Status WAN Status DHCP Routing Table LAN Clients WAN Creating A Creating E	25 up Wizard. 25 PPPOA Connection. 26 catic IP Connection. 30 P Connection. 33 nnection. 36 izard. 38

Advanced	
UPnP	
Interface Grouping	
DDNS.	
DNS	
Routing	
ADSL	
Remote Access	
Firewall.	
IP Filters	
Virtual Servers	
DMZ	
Application Rules	
MAC Filter	
Control.	
URL Filter	
System	
Administrator Password	
Configuration	
System Log	
Firmware Upgrade	
NTP Client	
Chapter 5. Abbreviations and Acronyms	86

CHAPTER 1. INTRODUCTION

Contents and Audience

This manual describes the router DSL-2540U and explains how to configure and operate it.

This manual is intended for users familiar with basic networking concepts, who create an in-home local area network, and system administrators, who install and configure networks in offices.

Conventions

Example	Description	
text	The body text of the manual.	
Before You Begin	A reference to a chapter or section of this manual.	
"Quick Installation Guide"	A reference to a document.	
Change	A name of a menu, menu item, control (field, checkbox, drop- down list, button, etc.).	
192.168.1.1	Data that you should enter in the specified field.	
Information	An important note.	

Document Structure

Chapter 1 describes the purpose and structure of the document.

Chapter 2 gives an overview of the router's hardware and software features and describes its appearance and the package contents, and provides safety instructions.

Chapter 3 explains how to install the router DSL-2540U and configure a PC in order to access its web-based interface.

Chapter 4 describes all pages of the web-based interface in detail.

Chapter 5 introduces abbreviations and acronyms used in this manual.

CHAPTER 2. OVERVIEW

General Information

The DSL-2540U device is an affordable high-end ADSL/Ethernet router developed for home and SOHO (*Small Office/Home Office*) networks. It provides fast and simple broadband access to the Internet and a shared connection for multi users. The device allows accessing the Internet via ADSL technology and via Ethernet technology.

DSL-2540U provides all the essentials for creating a secure high-speed wired network: ADSL/ADSL2/ADSL2+ standards, Fast Ethernet standard, the built-in firewall, the QoS engine, and numerous additional features.

The router is equipped with an ADSL port to connect to an ADSL line and 4 Ethernet ports to connect workstations. Due to this feature, DSL-2540U represents a moderate-priced solution for creating wired networks without an additional switch. In addition, any Ethernet port of the device can be used to connect to a private Ethernet line.

The router DSL-2540U includes a built-in firewall. The advanced security functions minimize threats of hacker attacks, prevent unwanted intrusions to your network, and block access to unwanted websites for users of your LAN.

You can configure and manage the settings of the router DSL-2540U via the user-friendly webbased interface (the interface is available in several languages).

Specifications^{*}

Interfaces:

- ADSL: 1 RJ-11 port
- LAN: 4 RJ-45 10/100BASE-TX Fast Ethernet ports with auto-MDI/MDIX.

ADSL Standards:

- ADSL:
 - full rate ANSI T1.413 Issue 2, ITU-T G.992.1 (G.dmt) Annex A, ITU-T G.992.2 (G.lite) Annex A, ITU-T G.994.1 (G.hs).
- ADSL2:
 - ° ITU-T G.992.3 (G.dmt.bis) Annex A/L/M, ITU-T G.992.4 (G.lite.bis) Annex A.
- ADSL2+:
 - ITU-T G.992.5 Annex A/L/M.

WAN Connection Types:

- ADSL:
 - PPPoE
 - PPPoA
 - IPoA
 - Static IP
 - Dynamic IP
 - Bridge.
- Ethernet:
 - PPPoE
 - Static IP
 - Dynamic IP
 - Bridge.

^{*} The device features are subject to change without notice. For the latest versions of the firmware and relevant documentation, visit <u>www.dlink.ru</u>.

ATM/PPP Protocols:

- Bridged and routed Ethernet encapsulation
- VC-based or LLC-based multiplexing
- ATM Forum UNI3.1/4.0 PVC (up to 8 PVCs)
- ATM Adaptation Layer Type 5 (AAL5)
- ITU-T I.610 OAM F4/F5 loopback
- ATM QoS
- PPP over ATM (RFC 2364)
- PPP over Ethernet (PPPoE)
- Keep-alive for PPP connections.

Network Protocols and Functions:

- Static IP routing
- NAT (*Network Address Translation*)
- DHCP server/client/relay
- DNS relay
- DDNS
- UPnP
- Support of VLAN
- IGMP proxy.

Firewall and Access Management Functions:

- Network Address Translation (NAT)
- Stateful Packet Inspection (SPI)
- URL filter
- Packet filtering (IP/ICMP/TCP/UDP)
- Virtual servers
- Prevention of DoS attacks
- Intrusion detection system
- DMZ
- Port Triggering.

QoS:

- Interface grouping
- 3 priority queues.

Configuration and Management:

- Multilingual web-based interface for configuration and management
- Access via TELNET
- Firmware update via web-based interface
- Saving/restoring configuration to/from file
- Support of remote logging
- Automatic synchronization of system time with NTP server.

LEDs:

- Power
- Status
- LAN 1-4
- DSL
- Internet.

Power:

- External power adapter DC 12V/0.5A
- ON/OFF power switch
- Reset to Factory Defaults button.

Product Appearance

Front Panel



Figure	1.	Front	panel	view.
--------	----	-------	-------	-------

LED	Mode	Description
	Solid green	The router is powered on.
Power	No light	The router is powered off.
Solid red The router is in the crash recovery mode.		The router is in the crash recovery mode.
Status	Blinking green	Traffic (Internet traffic) is passing through the router.
Status	No light or solid green	A failure of the system.
LAN 1-4	Solid green	A device is connected to the port of the router (for the LAN port configured as the WAN port: the router is connected to an Ethernet line).
	Blinking green	The relevant LAN port is active (upstream or downstream traffic).
	Solid green DSL has been synchronized.	
DSL	Blinking green	Detecting a carrier signal and synchronizing DSL.
	No light	No carrier signal.
	Solid green	A WAN connection (ADSL and/or Ethernet) is established.
	Blinking green	Authorization is successful.
Internet	No light	The router is in the bridge mode or no WAN connection (neither Ethernet nor ADSL) is established.
	Solid red	An authorization failure.

Back Panel



Figure 2. Back panel view.

Port	Description
DSL	A DSL port to connect the router to the telephone line.
LAN 1-4	4 Ethernet ports to connect Ethernet devices. One port can be used to connect to a private Ethernet line.
RESET	A button to restore the factory default settings. To restore the factory defaults, push the button (with the device turned on), hold it for 7-10 seconds, and then release the button.
12V=0.5A	Power connector.
ON/OFF	A button to turn the router on/off.

Delivery Package

The following should be included:

- Router DSL-2540U
- Power adapter DC 12V/0.5A
- RJ-11 telephone cable
- Ethernet cable (CAT 5E)
- Splitter
- "Quick Installation Guide" (brochure).

The "*User Manual*" and "*Quick Installation Guide*" documents in Russian and English are available on D-Link website (see <u>ftp.dlink.ru/pub/ADSL/DSL-2540U/Description/</u>).

Using a power supply with a different voltage rating than the one included will cause damage and void the warranty for this product.

Safety Instructions

Place your router on a flat horizontal surface or mount the router on the wall (the mounting holes are located on the bottom panel of the device). Make sure that the router is provided with sufficient ventilation.

To prevent overheating, do not obstruct the ventilation openings of the router.

Plug the router into a surge protector to reduce the risk of damage from power surges and lightning strikes.

Operate the router only from an electrical outlet with the correct power source as indicated on the adapter.

Do not open the cover of the router. Otherwise any warranty will be invalidated.

Unplug the equipment before dusting and cleaning. Use a damp cloth to clean the equipment. Do not use liquid/aerosol cleaners or magnetic/static cleaning devices.

CHAPTER 3. INSTALLATION AND CONNECTION

Before You Begin

Please, read this manual prior to installing the device. Make sure that you have all the necessary information and equipment.

Operating System

Configuration of the router DSL-2540U (hereinafter referred to as "the router") is performed via the built-in web-based interface. The web-based interface is available from any operating system that supports a web browser.

Web Browser

The following web browsers are recommended: Windows Internet Explorer, Mozilla Firefox or Opera.

For successful operation, JavaScript should be enabled on the web browser. Make sure that JavaScript has not been disabled by other software (such as virus protection or web user security packages) running on your computer.

NIC (Ethernet Adapter)

Any computer that uses the router should be equipped with an Ethernet adapter (NIC). If your computer is not equipped with such a device, install an Ethernet adapter prior to using the router.

Connecting to PC

PC with Ethernet Adapter

- 1. Make sure that your PC is powered off.
- 2. Connect an Ethernet cable between any of Ethernet ports located on the back panel of the router and the Ethernet port of your PC.
- 3. *To connect the router to a DSL line*: connect a phone cable between the DSL port of the router and the ADSL OUT port of the splitter. Connect your phone to the PHONE port of the splitter. Then connect another phone cable between a phone jack and the ADSL IN port of the splitter.
- 4. *To connect the router to an Ethernet line:* connect the Ethernet cable between any of four Ethernet ports located on the back panel of the router and the Ethernet line.
- 5. Connect the power cord to the power connector port on the back panel of the router, then plug the power adapter into an electrical outlet or power strip.
- 6. Turn on the router by pressing the **ON/OFF** button on its back panel.
- 7. Turn on your PC and wait until your operating system is completely loaded.

Obtaining IP Address Automatically in OS Windows XP

- 1. Click the **Start** button and proceed to the **Control Panel > Network and Internet Connections > Network Connections** window.
- 2. In the **Network Connections** window, right-click the relevant **Local Area Connection** icon and select the **Properties** line in the menu displayed.

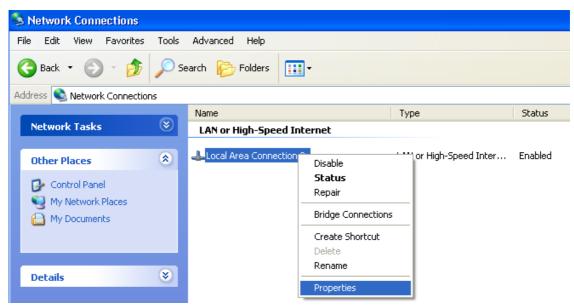


Figure 3. The Network Connections window.

3. In the Local Area Connection Properties window, on the General tab, select the Internet Protocol (TCP/IP) line. Click the Properties button.

🕹 Local Area Connection 2 Properties 🛛 🔹 💽
General Authentication Advanced
Connect using:
B D-Link DFE-550TX 10/100 Adapter
<u>C</u> onfigure
This connection uses the following items:
The set of the se
The second
✓
I <u>n</u> stall Uninstall Properties
Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected
OK Cancel

Figure 4. The Local Area Connection Properties window.

4. Select the **Obtain an IP address automatically** and **Obtain DNS server address automatically** radio buttons. Click the **OK** button.

Internet Protocol (TCP/IP) Prope	rties 🛛 🕐 🔀
General Alternate Configuration	
You can get IP settings assigned autor this capability. Otherwise, you need to the appropriate IP settings.	
Obtain an IP address automatical	ly 🔤
OUse the following IP address: —	
IP address:	
S <u>u</u> bnet mask:	· · · ·
Default gateway:	
Obtain DNS server address autor	natically
OUse the following DNS server add	dresses:
Preferred DNS server:	· · · · ·
Alternate DNS server:	
	Ad <u>v</u> anced
	OK Cancel

Figure 5. The Internet Protocol (TCP/IP) Properties window.

5. Click the **OK** button in the connection properties window.

Now your computer is configured to obtain an IP address automatically.

Obtaining IP Address Automatically in OS Windows 7

- 1. Click the **Start** button and proceed to the **Control Panel** window.
- 2. Select the **Network and Sharing Center** section. (If the Control Panel has the category view (the **Category** value is selected from the **View by** drop-down list in the top right corner of the window), choose the **View network status and tasks** line under the **Network and Internet** section.)

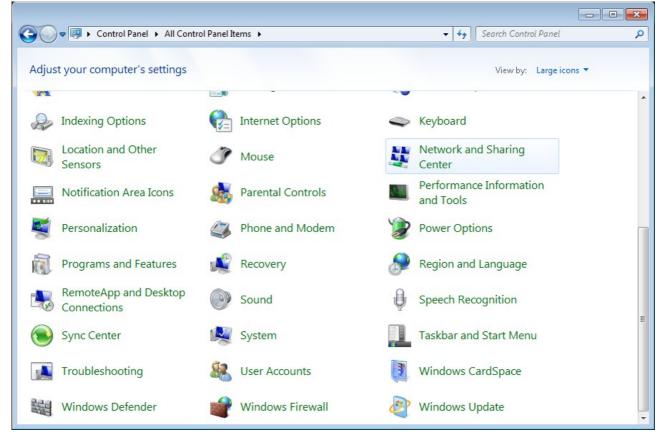


Figure 6. The Control Panel window.

3. In the menu located on the left part of the window, select the **Change adapter settings** line.

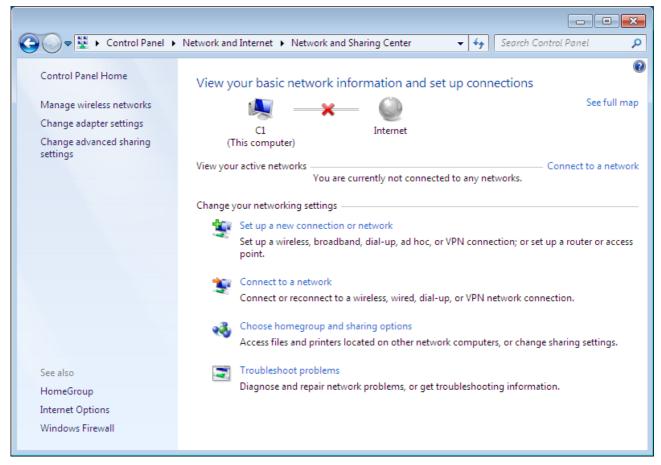


Figure 7. The Network and Sharing Center window.

4. In the opened window, right-click the relevant **Local Area Connection** icon and select the **Properties** line in the menu displayed.

		Control Panel Network an	d Internet 🕨 Network Connec	tions 🕨	•	Search Network Coni		ns	
 Disable Status Diagnose Bridge Connections Create Shortcut Delete Rename 	ganize 🔻	Disable this network device	Diagnose this connection	Rename this connection	»		== , N= ,	•	(
Image: Status Diagnose Bridge Connections Create Shortcut Delete Rename	LAN								
Diagnose Bridge Connections Create Shortcut Delete Rename		Disable							
Image: Second		Status							
Create Shortcut Delete Rename		Diagnose							
Image: Select end of the select	۲	Bridge Connections							
Rename		Create Shortcut							
	0	Delete							
Properties	۲	Rename							
	1	Properties							

Figure 8. The Network Connections window.

5. In the Local Area Connection Properties window, on the Networking tab, select the Internet Protocol Version 4 (TCP/IPv4) line. Click the Properties button.

📮 LAN Properties
Networking
Connect using:
2
<u>C</u> onfigure
This connection uses the following items:
 QoS Packet Scheduler File and Printer Sharing for Microsoft Networks Internet Protocol Version 6 (TCP/IPv6) Internet Protocol Version 4 (TCP/IPv4) Internet Topology Discovery Mapper I/O Driver Link-Layer Topology Discovery Responder
Install
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
OK Cancel

Figure 9. The Local Area Connection Properties window.

6. Select the **Obtain an IP address automatically** and **Obtain DNS server address automatically** radio buttons. Click the **OK** button.

Internet Protocol Version 4 (TCP/IPv4)	Properties
General Alternate Configuration	
You can get IP settings assigned auton this capability. Otherwise, you need to for the appropriate IP settings.	
Obtain an IP address automatical	χ
Use the following IP address:	
IP address:	· · · ·
Sybnet mask:	· · ·
Default gateway;	
Obtain DNS server address auton	natically
OUse the following DNS server add	resses:
Preferred DNS server:	· · ·
<u>A</u> lternate DNS server:	
Uaļidate settings upon exit	Ad <u>v</u> anced
	OK Cancel

Figure 10. The Internet Protocol Version 4 (TCP/IPv4) Properties window.

7. Click the **OK** button in the connection properties window.

Now your computer is configured to obtain an IP address automatically.

Connecting to Web-based Interface

When you have configured your computer, you can access the web-based interface and configure needed parameters (for example, create an interface to connect to the Internet, specify the settings of the firewall, edit the password for the administrator account, etc.)

- 1. Start a web browser (see the *Before You Begin* section, page 12).
- 2. In the address bar of the web browser, enter the IP address of the router (by default, the following IP address is specified: **192.168.1.1**). Press the **Enter** key.



Figure 11. Connecting to the web-based interface of the DSL-2540U device.

3. On the opened page, enter the username (login) and password for the administrator account (by default, the following username and password are specified: admin, admin). Then click the **Enter** link.

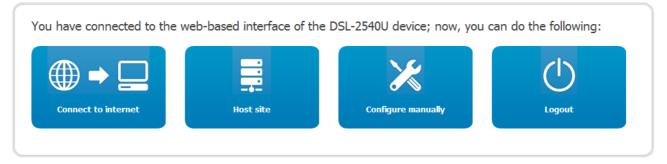
D-Link DSL-2540U	Language 👻
_ogin:	
admin	
Password:	

Figure 12. The login page.

If the error "*The page cannot be displayed*" (or "*Unable to display the page*"/"*Could not*. *connect to remote server*") occurs upon connecting to the web-based interface of the router, make sure that you have properly connected the router to your computer.

For security reasons, it is strongly recommended to change the administrator password upon initial configuration of the router. To do this, click the **Configure manually** button and proceed to the **System / Administrator password** page.

After successful registration the router's quick settings page opens.





To configure connection to the Internet, click the **Connect to internet** button. After clicking the button, the Internet Setup Wizard opens (see the *Internet Setup Wizard* section, page 25).

To configure access from the Internet to a web server located in your LAN, click the **Host site** button. After clicking the button, the Site Setup Wizard opens (see the *Site Setup Wizard* section, page 38).

To get back to the quick settings page from any Wizard or web-based interface menu section, leftclick the D-Link logo in the top left corner of the page.

To configure all parameters of the router independently without the Wizards, click the **Configure manually** button.

After clicking the button the system statistics page opens. The page displays general information on the router and its software (the version and the date of the firmware, the IP address of the device, etc.), and data on the DSL connection state.

Device information						
Model:	DSL-2540U					
Firmware version:	1.0.31					
Build time:	Thu Jun 21 11:39:32 MSK 2012					
Vendor:	D-Link Russia					
Support:	support@dlink.ru					
Summary:	Root filesystem image for DSL-2540U					
Board ID:	96332E					
Web revision:	ec1e951689a0066a4279b5f1b2f5a52f9e5d6692					
LAN IP: 192.168.1.1						
LAN MAC:	02:10:18:01:00:01					
DSL Status						
Connection state:	υρΦ					
Downstream rate:	23413 Kbps					
Upstream rate:	1080 Kbps					
Link Power State:	10					

Figure 14. The system statistics page.

From the system statistics page you can proceed to the page for upgrading the router's firmware, contact the technical support group, and proceed to the settings of the local interface.

To upgrade the firmware of the router, left-click the current firmware version (the right column of the Firmware version line). After clicking the line, the System / Firmware upgrade page opens (see the *Firmware Upgrade* section, page 84).

To contact the technical support group (to send an e-mail), left-click the support e-mail address (the right column of the **Support** line). After clicking the line, the e-mail client window for sending a new letter to the specified address opens.

To edit the router's local interface parameters, left-click the IP or MAC address of the local interface (the right column of the LAN IP line or LAN MAC line correspondingly). After clicking the line, the page for editing the LAN interface opens (see the LAN section, page 56).

The web-based interface of the router is multilingual. Select a needed language from the menu displayed when the mouse pointer is over the Language caption. You can change the language of the web-based interface in any menu item.

		-Li 25400	nk				System	 Language English Русский Українська 	•
Start	Status	Net	Advanced	Firewall	Control	System		Յայերեն	

Figure 15. Changing the language of the web-based interface.

After selecting the language, the notification on unsaved changes will be displayed. Click the Save button to save the current language of the web-based interface as the default language.

Saving and Restoring Settings

Note that you should regularly save the changes of the router's settings to the non-volatile memory.

The router's web-based interface displays the notification on unsaved changes at the top of the page.



Figure 16. The notification on unsaved changes.

You can save the router's settings via the top-page menu displayed when the mouse pointer is over the **System** caption.

		-Li 25400	nk				System Reboot Save&Reboot Save	Language	•
Start	Status	Net	Advanced	Firewall	Control	System	Backup		
Start	Status	Net	Auvanceu	T II Cyvali	Control	System	Factory		
							Logout		

Figure 17. The top-page menu.

Click the **Reboot** line if you have already saved the router's settings.

Click the **Save&Reboot** line to save new settings and immediately reboot the router.

Click the **Save** line to save new settings to the non-volatile memory and continue configuring the device. Also you can save the device's parameters via the **Save** button on the **System / Configuration** page.

Click the **Backup** line and follow the dialog box appeared to save the configuration (all settings of the router) to your PC. Also you can save the router's configuration to your PC via the **Backup** button on the **System / Configuration** page.

Click the **Factory** line to restore the factory default settings. Also you can restore the factory defaults via the **Factory** button on the **System / Configuration** page.

Also you can restore the factory default settings via the hardware **RESET** button located on the back panel of the router. Use a small paperclip to activate the button; insert it into the hole (with the device turned on), push, and hold for 7-10 seconds. Release the button and wait until the router is rebooted (about a minute). Now you can access the web-based interface of the router using the default IP address, username and password.

When you have configured all needed settings, click the **Logout** line.

CHAPTER 4. CONFIGURING VIA WEB-BASED INTERFACE

Wizards

Internet Setup Wizard

To configure connection to the Internet, click the **Connect to internet** button.

Internet connection wizard:

Get necessary information about Internet access type from Your provider. You can <u>add new connection</u> based on this information.

You can go back from any step of the wizard to the main page by clicking on D-Link logo.

Figure 18. Configuring connection to the Internet.

To create a new WAN connection, click the **add new connection** link.

Internet connection wizard:	
Select connection type:	
PPPoE A connection of this type requires a username and password. This type is used for connection via Ethernet or via DSL.	
PPPoA A connection of this type is an alternative to the PPPoE type. This type is used by some ISPs for connection via DSL. A connection of this type requires a username and password.	
IPoA A connection of this type allows using a fixed IP address, provided by your ISP. This type is used by some ISPs for connection via DSL.	
Static IP A connection of this type allows using a fixed IP address, provided by your ISP.	
Dynamic IP A connection of this type allows obtaining an IP address automatically from your ISP.	
Bridge A connection of this type is a transparent bridge. This type is often used for connection via DSL in couple with a PPPoE connection configured on your PC.	
	Next >

Figure 19. The page for selecting the connection type.

On the opened page, select the needed choice of the radio button and click the **Next** button.

PPPoE or PPPoA Connection

Internet connection w	izard:	
Connection name The connection name has be specify another name or skip	een generated automatically according to to to to the next step.	he specified parameters. You can
Name:	pppoe_0_35_1	< Back Next >

Figure 20. Configuring PPPoE WAN connection.

In the **Name** field, specify a name for the connection for easier identification and click the **Next** button.

АТМ		
VPI (0-255):	0	
VCI (32-65535):	35	
Advanced ATM settings		
Encapsulation Mode:	LLC -	
QoS:	UBR -	
ррр		
Username:		
Without authorization:		
Password:	•••••	
Password confirmation:	•••••	
Advanced PPP settings		

Figure 21. Configuring PPPoE WAN connection.

In the **VPI** field, specify the VPI. In the **VCI** field, specify the VCI.

From the **Encapsulation Mode** drop-down list, select a method of encapsulation.

In the **Username** field, enter your login, and in the **Password** and **Password confirmation** fields – the password provided by your ISP.

If authorization is not required, select the **Without authorization** checkbox.

If needed, specify additional settings for your PPPoE or PPPoA WAN connection.

Internet connection wiza	rd	
itemet connection wiza	iu.	
АТМ		
АІМ		
VPI (0-255):	0	
VCI (32-65535):	35	
Advanced ATM settings		
ррр		
Username:		
Without authorization:		
Password:	•••••	
Password confirmation:		
Advanced PPP settings		
Service name:		
Authentication algorithm:	AUTO	•
MTU:	1492	
Keep Alive:	v	
LCP interval (sec):	30	
LCP fails:	3	
Dial on demand:		
PPP IP extension:		
Use Static IP Address:		
PPP debug:		
PPPoE pass through:		

Parameter	Description
Service name	<i>Displayed for the</i> PPPoE <i>type only.</i> The name of the PPPoE authentication server.
Authentication algorithm	Select a required authentication method from the drop-down list or leave the AUTO value.
MTU	The maximum size of units transmitted by the interface.

Parameter	Description
Keep Alive	Select the checkbox if you want the router to keep you connected to your ISP even when the connection has been inactive for a specified period of time. When the checkbox is selected, the LCP interval and LCP fails fields are available. Specify the required values.
Dial on demand	Select the checkbox if you want the router to establish connection to the Internet on demand. In the Maximum idle time field, specify a period of inactivity (in seconds) after which the connection should be terminated.
PPP IP extension	This option is used by some ISPs. Contact your ISP to clarify if this checkbox needs to be enabled.
Use Static IP Address	Select the checkbox if you want to use a static IP address to access the Internet. In the Static IP Address field displayed when the checkbox is selected, specify a static IP address.
PPP debug	Select the checkbox if you want to log all data on PPP connection debugging.
PPPoE pass through	<i>Displayed for the</i> PPPoE <i>type only.</i> Select the checkbox if you want to allow PPPoE clients of computers from your LAN to connect to the Internet through this PPPoE connection of the router.

Click the **Next** button to continue.

If needed, change the connection settings available in the Miscellaneous section.

Internet connection wi	zard:		
Miscellaneous		 	
Enable IGMP Multicast:			
NAT:			
firewall:			
			< Back Next >

Figure 23. Configuring PPPoE WAN connection.

Parameter	Description
Enable IGMP Multicast	Select the checkbox to allow multicast traffic from the external network (e.g. video streaming) to be received.
NAT	Select the checkbox if you want one WAN IP address to be used for all computers of your LAN.
Firewall	Select the checkbox to enable protection against ARP and DDoS attacks.

Click the **Next** button to continue.

If needed, change the connection settings available in the **VLAN** section (the page is displayed for the **PPPoE** type only).

Internet connection wizard	:		
VLAN		 	
Allow to create several connections assigned to this port:			
Use VLAN:			< Back Next >

Figure 24. Configuring PPPoE WAN connection.

Parameter	Description
Allow to create several connections assigned to this port	Select the checkbox to allow the router to use several untagged connections.
Use VLAN	Select the checkbox to allow the router to use tagged VLAN connections.
VLAN ID	An identifier for the VLAN. The field is displayed when the Use VLAN checkbox is selected.
VLAN priority	A priority tag for the type of traffic transmitted. The field is displayed when the Use VLAN checkbox is selected.

Click the **Next** button to continue.

After that the page displaying all specified settings opens. Click the **Save** button to create the connection or the **Back** button to specify other settings.

After clicking the **Save** button, the quick settings page opens.

IPoA or Static IP Connection

Internet connection	wizard:	
Connection name		
The connection name ha specify another name or s	s been generated automatically according to th skip to the next step.	he specified parameters. You can
Name:	static_0_35_1	

Figure 25. Configuring Static IP WAN connection.

In the **Name** field, specify a name for the connection for easier identification and click the **Next** button.

атм		
VPI (0-255):	0	
VCI (32-65535):	35	
Advanced ATM settings		
Encapsulation Mode:	LLC -	
QoS:	UBR 🗸	
(P		
IP Address:		
Netmask:		
Gateway IP address:		
Advanced IP settings		

Figure 26. Configuring Static IP WAN connection.

In the **VPI** field, specify the VPI. In the **VCI** field, specify the VCI.

From the **Encapsulation Mode** drop-down list, select a method of encapsulation.

Fill in the IP address and Netmask fields.

In the **Gateway IP address** field, enter the IP address of the gateway used by this WAN connection.

Click the **Next** button to continue.

If needed, change the connection settings available in the Miscellaneous section.

ard:		
		< Back Next >
	ard:	

Figure 27. Configuring Static IP WAN connection.

Parameter	Description
Enable IGMP Multicast	Select the checkbox to allow multicast traffic from the external network (e.g. video streaming) to be received.
NAT	Select the checkbox if you want one WAN IP address to be used for all computers of your LAN.
Firewall	Select the checkbox to enable protection against ARP and DDoS attacks.

Click the **Next** button to continue.

If needed, change the connection settings available in the **VLAN** section (the page is displayed for the **Static IP** type only).

Internet connection wizard	:
VLAN	
Allow to create several connections assigned to this port:	
Use VLAN:	
	< Back Next >

Figure 28. Configuring Static IP WAN connection.

Parameter	Description
Allow to create several connections assigned to this port	Select the checkbox to allow the router to use several untagged connections.
Use VLAN	Select the checkbox to allow the router to use tagged VLAN connections.
VLAN ID	An identifier for the VLAN. The field is displayed when the Use VLAN checkbox is selected.
VLAN priority	A priority tag for the type of traffic transmitted. The field is displayed when the Use VLAN checkbox is selected.

Click the **Next** button to continue.

After that the page displaying all specified settings opens. Click the **Save** button to create the connection or the **Back** button to specify other settings.

After clicking the **Save** button, the quick settings page opens.

Dynamic IP Connection

ternet connectio	n wizard:	
Connection name		
The connection name	has been generated automatically according to th or skip to the next step.	ne specified parameters. You can
Name:	dynamic 0 35 1	
	· · · · · ·	
		< Back Next >

Figure 29. Configuring Dynamic IP WAN connection.

In the **Name** field, specify a name for the connection for easier identification and click the **Next** button.

nternet connection w	zard:	
АТМ		
VPI (0-255):	0	
VCI (32-65535):	35	
Advanced ATM settings		
Encapsulation Mode:	LLC -	
QoS:	UBR -	
Advanced IP settings		
Vendor ID:		
		< Back Next >

Figure 30. Configuring Dynamic IP WAN connection.

In the **VPI**, specify the VPI. In the **VCI** field, specify the VCI.

From the **Encapsulation Mode** drop-down list, select a method of encapsulation.

If your ISP has provided its identifier, fill in the **Vendor ID** field.

Click the **Next** button to continue.

If needed, change the connection settings available in the **Miscellaneous** section.

internet connection wi	zard:		
Miscellaneous		 	
Enable IGMP Multicast:			
NAT:	V		
firewall:	V		
			< Back Next >

Figure 31. Configuring Dynamic IP WAN connection.

Parameter	Description
Enable IGMP Multicast	Select the checkbox to allow multicast traffic from the external network (e.g. video streaming) to be received.
NAT	Select the checkbox if you want one WAN IP address to be used for all computers of your LAN.
Firewall	Select the checkbox to enable protection against ARP and DDoS attacks.

Click the **Next** button to continue.

If needed, change the connection settings available in the **VLAN** section.

Internet connection wizard:	:
VLAN	
Allow to create several connections assigned to this port: Use VLAN:	
	< Back Next >

Figure 32. Configuring Dynamic IP WAN connection.

Parameter	Description	
Allow to create several connections assigned to this port	Select the checkbox to allow the router to use several untagged connections.	
Use VLAN	Select the checkbox to allow the router to use tagged VLAN connections.	
VLAN ID	An identifier for the VLAN. The field is displayed when the Use VLAN checkbox is selected.	
VLAN priority	A priority tag for the type of traffic transmitted. The field is displayed when the Use VLAN checkbox is selected.	

Click the **Next** button to continue.

After that the page displaying all specified settings opens. Click the **Save** button to create the connection or the **Back** button to specify other settings.

After clicking the **Save** button, the quick settings page opens.

Bridge Connection

Internet connectio	on wizard:	
Connection name		
	has been generated automatically according to the s or skip to the next step.	specified parameters. You can
Name:	bridge_0_35_1	
		< Back Next >

Figure 33. Configuring Bridge WAN connection.

In the **Name** field, specify a name for the connection for easier identification and click the **Next** button.

nternet connection wi	zard:	
АТМ		
VPI (0-255):	0	
VCI (32-65535):	35	
Advanced ATM settings		
Encapsulation Mode:	LLC -	
QoS:	UBR 🝷	
		< Back Next >

Figure 34. Configuring Bridge WAN connection.

In the **VPI** field, specify the VPI. In the **VCI** field, specify the VCI.

From the **Encapsulation Mode** drop-down list, select a method of encapsulation.

Click the **Next** button to continue.

If needed, change the connection settings available in the **VLAN** section.

Internet connection wizard	:	
VLAN		
Allow to create several connections assigned to this port:		
Use VLAN:		
		< Back Next >

Figure 35. Configuring B	Bridge WAN connection.
--------------------------	------------------------

Parameter	Description					
Allow to create several connections assigned to this port	Select the checkbox to allow the router to use several untagged connections.					
Use VLAN	Select the checkbox to allow the router to use tagged VLAN connections.					
VLAN ID	An identifier for the VLAN. The field is displayed when the Use VLAN checkbox is selected.					
VLAN priority	A priority tag for the type of traffic transmitted. The field is displayed when the Use VLAN checkbox is selected.					

Click the **Next** button to continue.

After that the page displaying all specified settings opens. Click the **Save** button to create the connection or the **Back** button to specify other settings.

After clicking the **Save** button, the quick settings page opens.

Site Setup Wizard

To create a virtual server for redirecting incoming Internet traffic to a specified IP address in the LAN, click the **Host site** button.

Virtual server settings	
Name: Interface: Private IP:	✓ Select address> ▼
Remote IP:	Save

Figure 36. The page for adding a virtual server.

On the opened page, you can specify the following parameters:

Parameter	Description
Name	Enter a name for the virtual server for easier identification. You can specify any name.
Interface	Select a WAN connection to which this virtual server will be assigned.
Private IP	Enter the IP address of the server from the local area network. To choose a device connected to the router's LAN at the moment, select the relevant value from the drop-down list located to the right of the Private IP field (the field will be filled in automatically).
Remote IP	Enter the IP address of the server from the external network.

When needed settings are configured, click the **Save** button. After that you get to the quick settings page.

Status

The pages of this section display data on the current state of the router:

- network statistics
- DSL connection status
- active WAN connections
- IP addresses leased by the DHCP server
- the routing table
- data on devices connected to the router's network and its web-based interface.

Network Statistics

On the **Status / Network statistics** page, you can view statistics for all interfaces (connections) existing in the system. For each connection the following data are displayed: state, IP address, subnet mask and gateway (if the connection is established), MAC address, MTU value, and volume of data received and transmitted (with increase of the volume the units of measurement are changed automatically: byte, Kbyte, Mbyte, Gbyte).

art Stati	is Ne	t Advanced	Firewall	Control	System					
work stat	tistics	DSL status	WAN status	DHCP	Routing table	LAN dients				
Name	Туре	Status	;	IP		Mask	Gateway	MAC	MTU	Rx/Tx
LAN	ipoe	Up 🔍	192	2.168.1.67	255.	255.255.0	-	84:C9:B2:BD:DC:E8	1500	41.830 Mbyte/46.091 Mbyte

Figure 37. The Status / Network statistics page.

DSL Status

The information shown on the tabs of the **Status / DSL status** page can be used for troubleshooting and diagnosing connection problems.

Sta	rt 🧕	5tatus	Net	Advand	ed Firewall	Control	System				
N	twork s	tatistics	DSL	status	WAN status	DHCP	Routing table	LAN clients			
/	Main	Main Line Framing Counters									
	Cor	nnection st	ate:		Up						
		Downstream rate: 20615 Kbps Upstream rate: 1528 Kbps									
		stream rate « Power St									
	Mo				L0 ADS	512+					
	Tre					N /D:ON					
	Line	e status:			No	Defect					

Figure 38. The Status / DSL status page.

WAN Status

The **Status / WAN status** page displays active WAN connections.

rt	Status	Net	Advanc	ed Firewall	Control	System					
twor	k statistics	DSL s	tatus	WAN status	DHCP	Routing table	LAN clients				
	Name		Туре		Interfac	e	VPI/VCI	Category	Enabled	Status	IP address

Figure 39. The Status / WAN status page.

DHCP

The **Status / DHCP** page displays the information on computers that have been identified by hostnames and MAC addresses and have got IP addresses from the DHCP server of the device, as well as the IP address expiration periods (the lease time).

letwork statistics	DSL status	WAN status	DHCP	Routing table	LAN dients	
	IP add	ress			MAC address	Expires
	192.168	3.1.2			7c:61:93:ee:88:67	46min, 4sec
	192.168	3.1.3			00:23:32:f9:56:44	statDhcpExpired
	192.168	3.1.4			e8:06:88:15:16:5e	statDhcpExpired

Figure 40. The Status / DHCP page.

Routing Table

The **Status / Routing table** page displays the information on routes. The table contains destination IP addresses, gateways, subnet masks, and other data.

ari	t Status	Net Adva	nced Firewa	ll Cont	rol System					
let	work statistics	DSL status	WAN status	DHCP	Routing table	LAN dients				
	I	iterface		Des	tination		Gateway	Mask	Flags	Metric
			103	. 168. 1.0		0.0.0.0	255.255.255.0	U	0	

Figure 41. The Status / Routing table page.

LAN Clients

On the **Status / LAN clients** page, you can view data on network devices connected to the router. The page displays devices connected to the built-in switch of the router, and devices accessing the web-based interface of the router.

two	ork statistics	DSL status	WAN status	DHCP	Routing table	LAN clients		
		IP add	ress		Flags	5	MAC address	Interface
192, 168, 1, 40					0x2		1C:6F:65:B0:82:BA	LAN

Figure 42. The Status / LAN clients page.

For each device the following data are displayed: the IP address, the MAC address, and the interface to which the device is connected.

Net

In this menu you can configure basic parameters of the router's local area network and configure connection to the Internet (a WAN connection).

WAN

On the Net / WAN page, you can create and edit connections used by the router.

Start	Status	Net	Advanced	Firewall	Control	System				
WAN	LAN									
	Name			Connect	tion Type		Port	Status	Direction	Default gateway
										Add

Figure 43. The Net / WAN page.

To create a new connection, click the **Add** button. On the page displayed, specify the relevant values.

To edit an existing connection, left-click the relevant line in the table. On the page displayed, change the parameters and click the **Save** button.

To delete an existing connection, left-click the relevant line in the table. On the page displayed, click the **Delete** button.

To use one of existing WAN connections as a default gateway, select the choice of the **Default** gateway radio button located in the line corresponding to this connection.

Creating ADSL WAN Connection

General settings	
Connection Type:	Bridge 👻
Port:	DSL(new) 👻
Name:	bridge_0_35_3
Enable:	
Direction:	WAN
АТМ	
VPI (0-255):	0
VCI (32-65535):	35
Encapsulation Mode:	LLC 👻
QoS:	UBR 👻
VLAN	
Allow to create several connections assigned to this port:	
Use VLAN:	

Figure 44. The page for creating a new connection. The General settings, ATM and VLAN sections.

Parameter	Description	
General settings		
	A type of network protocol to be used by the connection. Available values: • PPPoA	
	• PPPoE	
Connection Type	Static IP	
	Dynamic IP	
	• IPoA	
	• Bridge.	
Port	A physical interface to which the new connection will be assigned. Leave the DSL(new) value to create a new interface at the physical layer.	
Name	A name for connection for easier identification.	
Enable	Select the checkbox to enable the connection.	
Direction	The direction of this connection.	
ATM		
VPI	Virtual Path Identifier. The valid range is from 0 to 250.	
VCI	Virtual Circuit Identifier. The valid range is from 32 to 65535.	
Encapsulation Mode	Select LLC or VC from the drop-down list.	
QoS	A class of traffic for this connection. UBR	
	(<i>Unspecified Bit Rate</i>): The UBR service is used for applications that allow various delays and losses of packets. It is appropriate to use the UBR service for text/data/image transfer applications, as well as messaging, distribution, retrieval, and remote terminal applications.	
	UBR With PCR	
	(Unspecified Bit Rate with Peak Cell Rate): The UBR service is used for applications that allow various delays and losses of packets. The Peak Cell Rate is a determining factor in how often cells are sent in an effort to minimize lag or jitter caused by traffic inconsistencies. When you select this value from the drop-down list,	

Parameter	Description
	the Peak Cell Rate field is displayed. Specify a required value (in cells per second).
	CBR
	(<i>Constant Bit Rate</i>): This service is used for applications that require a constant data rate. It is mostly used for transferring uncompressed audio and video, e.g. videoconferencing, interactive audio (telephony), audio/video distribution (television, distance education, e-shops), and retrieval (video-on demand, audio libraries). When you select this value from the drop-down list, the Peak Cell Rate field is displayed. Specify a required value (in cells per second).
	Non Realtime VBR
	(<i>Non-Real-time Variable Bit Rate</i>): This service can be used for transferring data that have critical response-time requirements, e.g. air ticket booking, bank transactions, and process monitoring. When you select this value from the drop-down list, the Peak Cell Rate , Sustainable Cell Rate , and Maximum Burst Size fields are displayed. Specify required values.
	Realtime VBR
	(<i>Real-time Variable Bit Rate</i>): This service is used for delay- sensitive applications such as real time video. The Rt-VBR provides higher network flexibility than the CBR service. When you select this value from the drop-down list, the Peak Cell Rate , Sustainable Cell Rate , and Maximum Burst Size fields are displayed. Specify required values.

The VLAN section is displayed for the **PPPoE**, **Static IP**, **Dynamic IP**, and **Bridge** connection types.

Parameter	Description
	VLAN
Allow to create several connections assigned to this port	Select the checkbox to allow the router to use several untagged connections.
Use VLAN	Select the checkbox to allow the router to use tagged VLAN connections.
VLAN ID	An identifier for the VLAN. The field is displayed when the Use VLAN checkbox is selected.
VLAN priority	A priority tag for the type of traffic transmitted. The field is displayed when the Use VLAN checkbox is selected.

The **Miscellaneous** section is displayed for all connection types except for **Bridge**.

Miscellaneous

Enable IGMP Multicast:	
NAT:	1
firewall:	V

Figure 45. The page for creating a new connection. The **Miscellaneous** section.

Parameter	Description
Miscellaneous	
Enable IGMP Multicast	Select the checkbox to allow multicast traffic from the external network (e.g. video streaming) to be received.
NAT	Select the checkbox if you want one WAN IP address to be used for all computers of your LAN.
Firewall	Select the checkbox to enable protection against ARP and DDoS attacks.

The **PPP** section is displayed for the **PPPoE** and **PPPoA** connection types.

-		
ν	ν	υ

Username:	
Without authorization:	
Password:	
Password confirmation:	•••••
Password commadon:	•••••
Service name:	
Authentication algorithm:	AUTO 👻
MTU:	1492
Keep Alive:	
LCP interval (sec):	30
LCP fails:	3
Dial on demand:	
PPP IP extension:	
Use Static IP Address:	
PPP debug:	
PPPoE pass through:	

Figure 46. The page for creating a new connection. The **PPP** section.

Parameter	Description
	PPP
Username	A username (login) to access the Internet.
Without authorization	Select the checkbox if you don't need to enter a username and password to access the Internet.
Password	A password to access the Internet.
Password confirmation	The confirmation of the entered password (to avoid mistypes).
Service name	<i>Displayed for the</i> PPPoE <i>type only.</i> The name of the PPPoE authentication server.
Authentication algorithm	Select a required authentication method from the drop-down list or leave the AUTO value.
МТО	The maximum size of units transmitted by the interface.
Keep Alive	Select the checkbox if you want the router to keep you connected to your ISP even when the connection has been inactive for a specified period of time. When the checkbox is selected, the LCP interval and LCP fails fields are available. Specify the required values.

Parameter	Description
Dial on demand	Select the checkbox if you want the router to establish connection to the Internet on demand. In the Maximum idle time field, specify a period of inactivity (in seconds) after which the connection should be terminated.
PPP IP extension	This option is used by some ISPs. Contact your ISP to clarify if this checkbox needs to be enabled.
Use Static IP Address	Select the checkbox if you want to use a static IP address to access the Internet. In the Static IP Address field displayed when the checkbox is selected, specify a static IP address.
PPP debug	Select the checkbox if you want to log all data on PPP connection debugging.
PPPoE pass through	<i>Displayed for the</i> PPPoE <i>type only.</i> Select the checkbox if you want to allow PPPoE clients of computers from your LAN to connect to the Internet through this PPPoE connection of the router.

The IP section is displayed for the Static IP, Dynamic IP and IPoA connection types.

IP	
IP Address:	
Netmask:	
Gateway IP address:	

Figure 47. The page for creating a new connection. The **IP** section.

Parameter	Description
IP	
IP Address	Displayed for the Static IP and IPoA types only.
	Enter an IP address for this WAN connection.
Netmask	Displayed for the Static IP and IPoA types only.
	Enter a subnet mask for this WAN connection.
Gateway IP Address	Displayed for the Static IP and IPoA types only.
	Enter an IP address of the gateway used by this WAN connection.
Vendor ID	Displayed for the Dynamic IP type only.
	The identifier of your ISP. Optional.

When all needed settings are configured, click the **Save** button.

Creating Ethernet WAN Connection

Prior to creating an Ethernet WAN connection, specify a LAN port that will be used as the WAN port (see the *Interface Grouping* section, page 59).

General settings	
Connection Type:	PPPoE 👻
Port:	LAN4 👻
Name:	pppoe_LAN4_2
Enable:	
Direction:	WAN
Ethernet	
MTU:	1500
MAC:	02:10:18:01:00:01 <select address=""> 🔻</select>
	Clone MAC

Figure 48. The page for creating a new connection. The General settings and Ethernet sections.

Parameter	Description
	General settings
	A type of network protocol to be used by the connection. Available values:
	• PPPoE
Connection Type	Static IP
	Dynamic IP
	• Bridge.
Port	Select the value corresponding to the LAN port specified as the WAN port.
Name	A name for connection for easier identification.
Enable	Select the checkbox to enable the connection.
Direction	The direction of this connection.
	Ethernet
МТО	The maximum size of units transmitted by the interface.
MAC	A MAC address assigned to the interface.

Parameter

Description

VLAN

(The section is displayed, if the VLAN MUX Mode or ServiceMUX Mode choice of the Ethernet WAN type radio button is selected on the Advanced / Interface grouping page.)

Allow to create several connections assigned to this port	If the checkbox is selected, the router is able to use several untagged connections.
Use VLAN	If the checkbox selected, the router is able to use tagged VLAN connections.
VLAN ID	An identifier for the VLAN. The field is displayed when the Use VLAN checkbox is selected.
VLAN priority	A priority tag for the type of traffic transmitted. The field is displayed when the Use VLAN checkbox is selected.

The **Miscellaneous** section is displayed for all connection types except for **Bridge**.

Miscellaneous

Enable IGMP Multicast:	
NAT:	\checkmark
firewall:	

Figure 49. The page for creating a new connection. The **Miscellaneous** section.

Parameter	Description
	Miscellaneous
Enable IGMP Multicast	Select the checkbox to allow multicast traffic from the external network (e.g. video streaming) to be received.
NAT	Select the checkbox if you want one WAN IP address to be used for all computers of your LAN.
Firewall	Select the checkbox to enable protection against ARP and DDoS attacks.

The **PPP** section is displayed for the **PPPoE** connection type.

DDD			
		-	
	υ	υ	D

Username:	
Without authorization:	
Password:	•••••
Password confirmation:	•••••
Service name:	
Authentication algorithm:	AUTO 👻
MTU:	1492
Keep Alive:	\checkmark
LCP interval (sec):	30
LCP fails:	3
Dial on demand:	
PPP IP extension:	
Use Static IP Address:	
PPP debug:	
PPPoE pass through:	

Figure 50. The page for creating a new connection. The **PPP** section.

Parameter	Description
	PPP
Username	A username (login) to access the Internet.
Without authorization	Select the checkbox if you don't need to enter a username and password to access the Internet.
Password	A password to access the Internet.
Password confirmation	The confirmation of the entered password (to avoid mistypes).
Service name	The name of the PPPoE authentication server.
Authentication algorithm	Select a required authentication method from the drop-down list or leave the AUTO value.
МТО	The maximum size of units transmitted by the interface.
Keep Alive	Select the checkbox if you want the router to keep you connected to your ISP even when the connection has been inactive for a specified period of time. When the checkbox is selected, the LCP interval and LCP fails fields are available. Specify the required values.

Parameter	Description
Dial on demand	Select the checkbox if you want the router to establish connection to the Internet on demand. In the Maximum idle time field, specify a period of inactivity (in seconds) after which the connection should be terminated.
PPP IP extension	This option is used by some ISPs. Contact your ISP to clarify if this checkbox needs to be enabled.
Use Static IP Address	Select the checkbox if you want to use a static IP address to access the Internet. In the Static IP Address field displayed when the checkbox is selected, specify a static IP address.
PPP debug	Select the checkbox if you want to log all data on PPP connection debugging.
PPPoE pass through	Select the checkbox if you want to allow PPPoE clients of computers from your LAN to connect to the Internet through this PPPoE connection of the router.

The **IP** section is displayed for the **Static IP** and **Dynamic IP** connection types.

IP	
IP Address:	
Netmask:	
Gateway IP address:	

Figure 51. The page for creating a new connection. The **IP** section.

Parameter	Description
	IP
IP Address	Displayed for the Static IP type only.
	Enter an IP address for this WAN connection.
Netmask	Displayed for the Static IP type only.
Netillask	Enter a subnet mask for this WAN connection.
Gateway IP Address	Displayed for the Static IP type only.
Galeway IP Address	Enter an IP address of the gateway used by this WAN connection.
Vendor ID	Displayed for the Dynamic IP type only.
	The identifier of your ISP. Optional.

When all needed settings are configured, click the **Save** button.

LAN

To configure the router's local interface, proceed to the **Net / LAN** page.

Start	Status	Net	Advanced	Firewall	Control	System
WAN	LAN					
	Address:			192.168		1
	tmask:			255.255]
	ntic DHCP					
	address: IC address:]
MA	iC address;			IP addr	ess	
	CP server					
Mo	de:			Enable	•	
	art IP:			192.168]
	d IP: ase time (min)			192.168 1440	.1.254]
	abe ante (min,			1440		

Figure 52. The page for configuring the local interface.

If needed, edit the basic parameters of the local interface.

Parameter	Description
IP Address	The IP address of the router in the local subnet. By default, the following value is specified: 192.168.1.1 .
Netmask	The mask of the local subnet. By default, the following value is specified: 255.255.25.0 .

When needed settings are configured, click the **Save** button.

In the **Static DHCP** section, you can specify MAC address and IP address pairs (set a fixed IP address in the local area network for a device with a certain MAC address). The router assigns IP addresses in accordance with the specified pairs only when the DHCP server is enabled (in the **DHCP server** section, in the **Mode** drop-down list, the **Enable** value is selected).

To create a MAC-IP pair, click the **Add** button and specify the following parameters:

Parameter	Description
IP address	An IP address which will be assigned to the device with the specified MAC address.
MAC address	The MAC address of the device from the LAN.

When all needed MAC-IP pairs are specified, click the **Save** button.

Existing MAC-IP pairs are displayed in the table of the **Static DHCP** section. To remove a pair, select the relevant line in the table and click the **Remove** button. Then click the **Save** button.

In the **DHCP server** section, you can configure the built-in DHCP sever of the router.

Parameter	Description
	An operating mode of the router's DHCP server.
Mode	Enable : the router assigns IP addresses to clients automatically in accordance with the specified parameters. When this value is selected, the Start IP , End IP , and the Lease time fields are displayed on the page.
Wode	Disable : the router's DHCP server is disabled, clients' IP addresses are assigned manually.
	Relay : an external DHCP server is used to assign IP addresses to clients. When this value is selected, the External DHCP server IP field is displayed on the page.
Start IP	The start IP address of the address pool used by the DHCP server to distribute IP addresses to clients.
End IP	The end IP address of the address pool used by the DHCP server to distribute IP addresses to clients.
Lease time	The lifetime of IP addresses leased by the DHCP server. At the end of this period the leased IP address is revoked and can be distributed to another device, unless the previous device has confirmed the need to keep the address.
External DHCP server IP	The IP address of the external DHCP server which assigns IP addresses to the router's clients.

When all needed settings are configured, click the **Save** button.

Advanced

In this menu you can configure advanced settings of the router:

- enable the UPnP function
- define interface groups and allow the router to connect to a private Ethernet line
- configure a DDNS service
- add name servers
- define static routes
- edit the ADSL connection parameters
- create rules for remote access to the web-based interface.

UPnP

On the **Advanced / UPnP** page, you can enable and disable the UPnP function.

UPnP is a set of networking protocols designed for automatic configuration of network devices. The UPnP function performs automatic configuration of the device's parameters for network applications requiring an incoming connection to the router.

Start	Status	Net	Advanced	Firewa	ll Contro	ol Sys	tem	
UPnP	Interfa	e grouping	DDNS	DNS	Routing	ADSL	Remote access	
	PnP sett							
E	nabled:							
								Change

Figure 53. The Advanced / UPnP page.

If you want to enable the UPnP function in the router, select the **Enabled** checkbox and click the **Change** button.

If you want to manually specify all parameters needed for network applications, deselect the **Enabled** checkbox and click the **Change** button.

Interface Grouping

On the **Advanced / Interface grouping** page, you can assign virtual PVC connections to the router's ports (create groups of interfaces), which allows distinguishing different types of traffic. This function is mostly used in Triple-play networks. Also on the page you can configure the router to connect to a private Ethernet line.

The Ethernet WAN function allows using any Ethernet port of the router to access the Internet via Ethernet technology. When the function is enabled, the router is still able to access the Internet via ADSL technology.

To use the functions of this page, first enable virtual ports for the Ethernet switch (select the **Enable virtual ports** checkbox).

Star	t S	Status	Net Ac	lvanced	Firewall	Control	Syster						
UPr	ηΡ	Interfac	ce grouping	DDNS	DNS	Routing	ADSL	Remote access					
	Enable virtual ports: Ethernet WAN port: No LAN4 LAN3 LAN2 LAN1 Ethernet WAN type: Single service over one connection VLAN MLX Mode - Multiple Vian service over ServiceMLX Mode												
	117-113 117-113												
					DEFAULT				LAN4 LAN3 LAN2 LAN1				
L											Save		

Figure 54. The Advanced / Interface grouping page.

To enable the Ethernet WAN function, follow the steps below.

- 1. Select the choice corresponding to the LAN port that will be used as the WAN port of the **Ethernet WAN port** radio button.
- 2. Select the needed choice of the Ethernet WAN type radio button.
 - **Single service over one connection**: if you need to assign one WAN connection to the created Ethernet WAN interface.
 - **VLAN MUX Mode**: if you need to assign one or more tagged VLAN connections to the created Ethernet WAN interface.
 - **ServiceMUX Mode**: if you need to assign several untagged connections to the created Ethernet WAN interface.
- 3. Click the **Save** button.

To create a new rule for interface grouping (a group of ports), click the **Add group** button (the button is not displayed if there is no WAN connection in the system).

User Manual

-	Start	Status	Net	Adva	anced	Firewall	Control	Syster	n
ſ	UPnP	Interfa	ice grouj	ping	DDNS	DNS	Routing	ADSL	Remote access
	N	lame:							
		ANs:	LAN4 LAN2		2				
			LAN1						
	v	VANs:	interne	et_ppp	oe	•			
					4				

Figure 55. The page for adding a new group of ports.

You can specify the following parameters:

Parameter	Description				
Name	A name for the group for easier identification. You can specify any name.				
LANs	The list of available internal interfaces is displayed in the left column of the line.				
	Use the button ==> to select interfaces. The selected interfaces will be displayed in the right column of the field.				
WANs	WAN connections to which the new group will be assigned. <i>WAN connections of PPPoA and IPoA type cannot be added to groups</i> .				
VVANS	Use the button ==> to select WAN connections. The selected connections will be displayed in the right column of the field.				

Click the **Save** button.

When you add an interface to the new group, it is excluded from the group to which it has been assigned before.

To edit or remove an existing group, select the relevant group on the **Advanced / Interface grouping** page. On the page displayed, change the parameters and click the **Save** button, or click the **Delete** button. When you delete a group, interfaces assigned to it are reassigned to the **DEFAULT** group.

DDNS

On the **Advanced / DDNS** page, you can define parameters of the DDNS service, which allows associating a domain name with dynamic IP addresses.

JPPP Interface grouping DDNS DNS Routing ADSL Remote access	art Status Net Advanced	Firewall Control	System		
	PnP Interface grouping DDNS	DNS Routing	ADSL Remote access		
UUNS Service Host name User name Interface					
	DDNS Serv	ice	Host name	User name	Interface

Figure 56. The Advanced / DDNS page.

To add a new DDNS service, click the **Add** button.

Start	Status	Net	Advanced	Firewa	all Contro	ol Sys	tem
UPnP	Interfac	e grouping	DDNS	DNS	Routing	ADSL	Remote access
	DDNS clie						
	DDNS Servi				LinkDDNS •		
	Host name: User name:						
	User passw Interface:	ord:			•		

Figure 57. The page for editing a DDNS service.

You can specify the following parameters:

Parameter	Description					
DDNS Service	Select a DDNS provider from the drop-down list.					
Host name	The domain name registered at your DDNS provider.					
User name	The username to authorize for your DDNS provider.					
User password	The password to authorize for your DDNS provider.					
Interface	Select a WAN connection which IP address will be used to access the DDNS service.					

Click the **Change** button.

To edit parameters of the existing DDNS service, click the relevant service link. On the opened page, change the needed parameters and click the **Change** button.

To remove an existing DDNS service, click the relevant service link. On the opened page, click the **Delete** button.

DNS

On the **Advanced / DNS** page, you can add DNS servers to the system.

itar	t Status	Net	Advanced	Firew	all Cont	rol Sy	stem
UP	P Interfa	ce grouping	DDNS	DNS	Routing	ADSL	Remote access
	DNS sett						
	Manual: Interface:]		
	Name ser	ers:		L L	•		
				L			
L							

Figure 58. The Advanced / DNS page.

DNS servers are used to determine the IP address from the name of a server in Intranets or the Internet (as a rule, they are specified by an ISP or assigned by a network administrator).

The device performs the DNS relay function, i.e., it redirects the DNS requests of users to external DNS servers. You can specify the addresses of DNS servers manually on this page, or configure the router to obtain DNS servers addresses automatically from your ISP upon installing a connection.

When you use the built-in DHCP server, the network parameters (including DNS servers) are distributed to clients automatically.

If you want to configure automatic obtainment of DNS servers addresses, deselect the **Manual** checkbox, select a WAN connection which will be used to obtain addresses of DNS servers automatically from the **Interface** drop-down list, and click the **Change** button.

If you want to specify the DNS server manually, select the **Manual** checkbox and enter a DNS server address in the **Name servers** list. To specify several addresses, press the **Enter** key and enter a needed address in the next line. Then click the **Change** button.

To remove a DNS server from the system, remove the relevant line from the **Name servers** field and click the **Change** button.

Routing

On the **Advanced / Routing** page, you can add static routes (routes for networks that are not connected directly to the device but are available through the interfaces of the device) into the system.

Start	Status Ne	Advanced	Firew	all Contro	l Syste	em				
UPnP	Interface gro	ping DDNS	DNS	Routing	ADSL	Remote access				
	You can add, e		routes he			Destination netmask	Gateway	Via Interface		
		Schucon heer	UIK			Deschadon neemas	Gateway	Vid Interface	Accessibility	
										Add

Figure 59. The Advanced / Routing page.

To create a new route, click the **Add** button.

	Start	Status	Net	Advanced	Firewa	all Contro	ol Syst	tem
	UPnP	Interface	grouping	DDNS	DNS	Routing	ADSL	Remote access
		ination netv						
	Desti Gatev	ination netr way:	nask:					
	Metri	ic: nterface:						
	via Ir	iterrace:			<aut< th=""><th>• <0</th><th></th><td></td></aut<>	• <0		
l								

Figure 60. The page for adding a static route.

You can specify the following parameters:

Parameter	Description						
Destination network	A destination network to which this route is assigned.						
Destination netmask	The destination network mask.						
Gateway	An IP address through which the destination network can be accessed. The field is displayed when the <auto></auto> value is selected from the Via Interface drop-down list.						
Metric	A metric for the route. The lower the value, the higher is the route priority. <i>Optional</i> .						
Via Interface	Select an interface (connection) through which the destination network can be accessed from the drop-down list. If you have selected the <auto></auto> value of this drop-down list, the router itself sets the interface on the basis of data on connected networks.						

Click the **Save** button.

To edit an existing route, select the needed route in the table. On the opened page, change the needed parameters and click the **Save** button.

To remove an existing route, select the needed route in the table. On the opened page, click the **Delete** button.

If you need to specify a host from the LAN as the default route, select the **<Auto>** value from the **Via Interface** drop-down list, enter **0.0.0.0** in the **Destination network** and **Destination network** fields, enter the IP address of the host from the LAN in the **Gateway** field, and then click the **Save** button.

ADSL

The **Advanced / ADSL** page includes the set of ADSL standards that should be defined by an ISP. Contact your ISP to set proper parameters. Select the relevant options and click the **Change** button.

Start	Status Net A	dvanced	Firewa	all Contr	ol Syst	en
UPnP	Interface grouping	DDNS	DNS	Routing	ADSL	Remote access
S	elect the modulati	on below				
	G.Dmt Enabled:		1			
	G.lite Enabled:		1			
	F1.413 Enabled:		1			
	ADSL2 Enabled:		1			
	AnnexL Enabled:		1			
	ADSL2+ Enabled:		1			
	AnnexM Enabled:					
S	elect the phone lir	ie pair be	elow			
	Phone line pair:		0	Inner pair Outer pair		
c	apability					
	Bitswap Enable:		V			
	SRA Enable:					
						(Change)

Figure 61. The Advanced / ADSL page.

Remote Access

On the **Advanced / Remote access** page, you can configure remote access to the web-based interface of the router. By default, the access from external networks to the router is closed. If you need to allow access to the router from the external network, create relevant rules.

Start	Status Net	Advanced	Firew	all Cont	rol Sy	stem				
UPnP	Interface grouping	DDNS	DNS	Routing	ADSL	Remote access				
	emote access o									
	Name		Inter	face		IP add	0.00	Mask	Public port	

Figure 62. The Advanced / Remote access page.

To create a new rule, click the **Add** button.

Status Net	Advanced	Firew	all Cont	trol Sys	stem
Interface grouping	DDNS	DNS	Routing	ADSL	Remote access
emote access ru	le editing				
Name: Interface:			Autos -		
IP address:			(Auto> ♥	<	Select address>
Mask: Protocol:		Ē			
Public port:					
	Interface grouping emote access ru lame: nterface: 2 address:	Interface grouping DDNS emote access rule editing lame: hterface: address: lask:	Interface grouping DDNS DNS emote access rule editing ame: terface: address: task: rotocol:	Interface grouping DDNS DNS Routing emote access rule editing ame: therface: address: task:	Interface grouping DDNS DNS Routing ADSL emote access rule editing ame: terface: address: lask: rotocol: HTTP

Figure 63. The page for adding a rule for remote management.

You can specify the following parameters:

Parameter	Description						
Name	A name for the rule for easier identification. You can specify any name.						
Interface	A physical interface through which the web-based interface of the router is accessed.						
IP address	A host or a subnet to which the rule is applied. To choose a device connected to the router's LAN at the moment, select the relevant value from the drop-down list located to the right of the field (the field will be filled in automatically).						
Mask	The mask of the subnet.						
Protocol	The protocol available for remote management of the router.						
Public port	An external port of the router. You can specify only one port. The field is displayed when the HTTP value is selected from the Protocol drop-down list.						

Click the **Change** button.

To edit a rule for remote access, click the relevant link. On the opened page, change the needed parameters and click the **Change** button.

To remove a rule for remote access, click the relevant link. On the opened page, click the **Delete** button.

Firewall

In this menu you can configure the firewall of the router:

- add rules for IP filtering
- create virtual servers
- define a DMZ
- configure the Port Triggering function
- configure the MAC filter.

IP Filters

On the **Firewall / IP filters** page, you can create new rules for filtering IP packets and edit or remove existing rules.

Status	Net	Advanced	Firewall	Control Syst	em					
ers V	rtual serve	rs DMZ	Application rule	es MAC filter						
Nan	ne	Pr	otocol		IP addre	55		Po	ort	Action
				Source	e	Destination	Sour	ce	Destination	Action
										Add
	ers Vi P filters	ers Virtual server	ers Virtual servers DMZ P filters configuration	ers Virtual servers DMZ Application rul	ers Virtual servers DMZ Application rules MAC filter P filters configuration Name Protocol	ers Virtual servers DMZ Application rules MAC filter P filters configuration IP addre	ers Virtual servers DMZ Application rules MAC filter P filters configuration Name Protocol IP address	ers Virtual servers DMZ Application rules MAC filter P filters configuration Name Protocol IP address	ers Virtual servers DMZ Application rules MAC filter P filters configuration Name Protocol IP address Pro	ers Virtual servers DMZ Application rules MAC filter P filters configuration Name Protocol IP address Port

Figure 64. The Firewall / IP filters page.

To create a new rule, click the **Add** button.

User Manual

: Stal	tus Net	Advanced	Firewall C	ontrol System	
filters	Virtual serve	rs DMZ	Application rules	MAC filter	
IP filt	er rule edit	ing			
Name:					
Protoc			TCP/UDP	×	
Action	: dresses		ACCEPT		
				nask (field after "/")	
	resses range:				
Source	-			<select address=""> 💌</select>	
Destin	ation:			<select address=""></select>	
Ports					
Υου ι	an specify ei	ther a port	or port range, and	d several: 80,8080 or 400:500	
Source	e:				
Destin	ation:				

Figure 65. The page for adding a rule for IP filtering.

You can specify the following parameters:

Parameter	Description
	IP filter rule editing
Name	A name for the rule for easier identification.
Protocol	A protocol for network packet transmission. Select a value from the drop-down list. To apply the rule to all protocols from the list, select the <all></all> value (when this value is selected, the Ports section is not displayed).
Action	Select an action for the rule. ACCEPT : Allows packet transmission in accordance with the criteria specified by the rule.
	DROP : Denies packet transmission in accordance with the criteria specified by the rule.
	IP Addresses
IP address range	Select the checkbox if you want to specify a range of IP addresses as the source or destination IP address.

Parameter	Description
	The source host/subnet IP address.
	If the IP address range checkbox is selected, specify the starting IP address of the range in the Source (first) field and the ending IP address in the Source (last) field.
Source	If the IP address range checkbox is not selected, specify the IP address of the host or subnet in the Source field. To specify an IP address add /32.
	To choose a device connected to the router's LAN at the moment, select the relevant IP address from the drop-down list located to the right of the field (the field will be filled in automatically).
	The destination host/subnet IP address.
	If the IP address range checkbox is selected, specify the starting IP address of the range in the Destination (first) field and the ending IP address in the Destination (last) field.
Destination	If the IP address range checkbox is not selected, specify the starting IP address of the host or subnet in the Destination field. To specify an IP address add /32 .
	To choose a device connected to the router's LAN at the moment, select the relevant IP address from the drop-down list located to the right of the field (the field will be filled in automatically).
	Ports
Source	A port of the source IP address. You can specify one port, several ports separated by a comma, or a range of ports separated by a colon.
Destination	A port of the destination IP address. You can specify one port, several ports separated by a comma, or a range of ports separated by a colon.

Click the **Change** button.

To edit a rule for IP filtering, select the relevant rule in the table. On the opened page, change the needed parameters and click the **Change** button.

To remove a rule for IP filtering, select the relevant rule in the table. On the opened page, click the **Delete** button.

Virtual Servers

On the **Firewall / Virtual servers** page, you can create virtual servers for redirecting incoming Internet traffic to a specified IP address in the local area network.

Start Status Net	Advanced Firewall	Control System					
IP filters Virtual serv	ers DMZ Application	rules MAC filter					
You can add, edit	and delete virtual servers	: here					
Name	Interface	Protocol	Public port	Private port	Private IP	Remote IP	
							Add

Figure 66. The Firewall / Virtual servers page.

To create a new virtual server, click the **Add** button.

Start St	tatus Net	Advanced	Firewall	Control	System					
IP filters	Virtual serve	rs DMZ	Application	rules M	AC filter					
Viet	ual server se	ttings								
VIIC	uai server se	cuirgs						 		
Tem	plate:		Custo	m	-					
Nam	ie:									
Inter	rface:		-							
Prot	ocol:		TCP	-						
Publi	ic port (begin):									
Publi	ic port (end):									
Priva	ate port (begin):									
Priva	ate port (end):									
Priva	ate IP:				<select a<="" td=""><td>ldress> 👻</td><td></td><td></td><td></td><td></td></select>	ldress> 👻				
Rem	iote IP:									
										_
										C

Figure 67. The page for adding a virtual server.

You can specify the following parameters:

Parameter	Description
Template	Select a virtual server template from the drop-down list, or select Custom to specify all parameters of the new virtual server manually.
Name	A name for the virtual server for easier identification. You can specify any name.
Interface	A WAN connection to which this virtual server will be assigned.
Protocol	A protocol that will be used by the new virtual server. Select a value from the drop-down list.

Parameter	Description
Public port (begin)/ Public port (end)	A port of the router from which traffic is directed to the IP address specified in the Private IP field. Specify the start and the end value for the port range. If you need to specify one port, enter the needed value in the Public port (begin) field and leave the Public port (end) field blank.
Private port (begin)/ Private port (end)	A port of the IP address specified in the Private IP field to which traffic is directed from the Public port . Specify the start and the end value for the port range. If you need to specify one port, enter the needed value in the Private port (begin) field and leave the Private port (end) field blank.
Private IP	The IP address of the server from the local area network. To choose a device connected to the router's LAN at the moment, select the relevant value from the drop-down list located to the right of the Private IP field (the field will be filled in automatically).
Remote IP	The IP address of the server from the external network.

 $Click \ the \ Change \ button.$

To edit the parameters of an existing server, select the relevant server in the table. On the opened page, change the needed parameters and click the **Change** button.

To remove an existing server, select the relevant server in the table. On the opened page, click the **Delete** button.

DMZ

A DMZ is a host or network segment located "between" internal (local) and external (global) networks. In the router, the DMZ implements the capability to transfer a request coming to a port of the DSL router from the external network to a specified host of the internal network.

On the Firewall / DMZ page you can specify the IP address of the DMZ host.

Start	Status	Net	Advanced	Firewall	Control	System
IP filt	ers Vir	ual servers	DMZ	Application ru	iles MAC	filter
	Demilita	rized zor	e settings			
	Enabled:					
	IP addre.	57				<pre></pre> Select address> *
						Change

Figure 68. The Firewall / DMZ page.

To enable the DMZ, select the **Enabled** checkbox, enter the IP address of a host from your network in the **IP address** field. To choose a device connected to the router's LAN at the moment, select the relevant value from the drop-down list located to the right of the field (the field will be filled in automatically) and click the **Change** button.

Note that when the DMZ is enabled, all traffic coming to a port of the WAN interface of the router is directed to the same port of the specified IP address. Also note that virtual servers have higher priority than the DMZ host. In other words, if there has been created a virtual server that directs traffic from external port 80 to a port of the device from the router's local network, then entering http://router_WAN_IP in the address bar, users of the external network are directed to the specified port and IP address configured for the virtual server, but not to port 80 of the device with the IP address specified on the Firewall / DMZ page.

To disable the DMZ, deselect the **Enabled** checkbox and click the **Change** button.

Application Rules

On the Firewall / Application rules page, you can define rules for the Port Triggering function.

Iters	Virtual servers	0147			MAC filter				
niters	virtual servers	DMZ	Application (rules	MAC filter				
Confi	figuration of a	pplicatio	n rules						
Confi	figuration of a	pplicatio	n rules						
Confi			n rules				Port	Prot	
Confi	figuration of a Rules na		n rules		erface	Incoming			
Confi			n rules				Port	Prot	tocol
Confi			n rules				Port	Prot	tocol

Figure 69. The Firewall / Application rules page.

To add a new rule for the Port Triggering function, click the **Add** button.

tart Status Net Advanced	Firewall Control System
IP filters Virtual servers DMZ	Application rules MAC filter
Application rule editing	
Rules name:	
Interface:	
Incoming port and protoco	l settings
Protocol:	TCP/UDP 👻
Starting port:	
Ending port: Outgoing port and protoco	satting
	i secuniya
Protocol:	TCP/UDP
Starting port: Ending port:	
croing por cr	

Figure 70. The page for adding a rule for the Port Triggering function.

You can specify the following parameters:

Parameter	Description	
	Application rule editing	
Rules name	A name for the rule for easier identification.	
Interface	A WAN connection to which this rule will be assigned.	
	Incoming port and protocol settings	
Protocol	A protocol to which this rule will be applied upon receiving data to the specified port or port range.	
Starting port/ Ending port	A range of the router's ports which will be open to receive data from the external network (incoming traffic). Specify the start and the end value for the port range. If you need to specify one port, enter the needed value in the Starting port field and leave the Ending por field blank.	
	Outgoing port and protocol settings	
Protocol	A protocol to which this rule will be applied upon transferring data from the specified port or port range.	
Starting port/ Ending port	A range of the router's ports from which data are transferred to the external network (outgoing traffic). Specify the start and the end value for the port range. If you need to specify one port, enter the needed value in the Starting port field and leave the Ending port field blank.	

Click the **Change** button.

To edit an existing rule for the Port Triggering function, select the relevant rule in the table. On the opened page, change the needed parameters and click the **Change** button.

To remove an existing rule for the Port Triggering function, select the relevant rule in the table. On the opened page, click the **Delete** button.

MAC Filter

The MAC-address-based filtering allows forwarding and blocking traffic subject to the source and destination MAC addresses.

MAC-address-based filtering is active only when the device is configured as a transparent bridge (the Bridge mode).

On the **Configuration** tab, you can select the operating mode of the MAC filter. Select the **Allow** value from the **Action** drop-down list to allow traffic affected by the rules from the **MAC addresses** tab and block the other traffic. Select the **Deny** value from the drop-down list to block only traffic affected by the rules from the **MAC addresses** tab.

tart	Status	Net	Advanced	Firewall	Control	System
IP filte	rs Virtu	al servers	DMZ	Application rul	es MAC	filter
~	onfiguration	MAG	C addresses			
	MAC fi	ter poli	cy setting	js		
					Int	erface

Figure 71. The Firewall / MAC filter page. The Configuration tab.

To create a new rule, proceed to the **MAC addresses** tab and click the **Add** button.

Start Status Net Advanced Firewall Control Status IP filters Virtual servers DMZ Application rules MAC filter	r			
Configuration MAC addresses				
MAC filter configuration You can add, edit and delete addresses here				
Source MAC address	Destination MAC address	Direction	Protocol	Interface
				Add

Figure 72. The Firewall / MAC-filter page. The MAC-addresses tab.

On the opened page, specify the needed parameters.

Start Status Net Advanced Firewal	I Control System
IP filters Virtual servers DMZ Application	rules MAC filter
Configuration MAC addresses	
MAC address editing	
Source MAC address:	<select address=""></select>
Destination MAC address:	<select address=""></select>
Direction: Protocol:	<any></any>
Interface:	<any></any>
	(Change)
L	

Figure 73. The page for adding a rule for MAC-address-based filtering.

Parameter	Description			
Source MAC address	The MAC address of the source host. To choose a device connected to the router's LAN at the moment, select the relevant value from the drop-down list located to the right of the field (the field will be filled in automatically).			
Destination MAC address	The MAC address of the destination host. To choose a device connected to the router's LAN at the moment, select the relevant value from the drop-down list located to the right of the field (the field will be filled in automatically).			
Direction	Select a direction for which the rule will be applied.			
Protocol	Select a protocol for which the rule will be applied. The <any></any> value means any protocol from those displayed in the list.			
Interface	Select a WAN connection (with the Bridge connection type only) for which the rule will be applied.			

Click the **Change** button.

To edit a rule for filtering, select the relevant rule on the **MAC addresses** tab. On the opened page, change the needed parameters and click the **Change** button.

To remove a rule for filtering, select the relevant rule on the **MAC addresses** tab. On the opened page, click the **Delete** button.

Control

This menu is designed to create restrictions on access to certain web sites.

URL Filter

On the **Control / URL filter** page, you can specify restrictions on access to certain web sites.

Start Status Net Advanced	Firewall Control System	
URL filter		
Configuration URL addresses		
URL filter configuration		
Enable/Disable URL filter: URL filter type:	Block listed URLs 🗸	
	Block listed URLs	
		(Change)

Figure 74. The Control / URL filter page. The Configuration tab.

To enable the URL filter, select the **Enable/Disable URL filter** checkbox on the **Configuration** tab, then select a needed mode from the **URL filter type** drop-down list:

- **Block listed URLs**: when this value is selected, the router blocks access to all addresses specified on the **URL-addresses** tab;
- **Block all URLs except listed**: when this value is selected, the router allows access to addresses specified on the **URL-addresses** tab and blocks access to all other web sites.

Click the **Change** button.

To specify URL addresses to which the selected filtering will be applied, go to the **URL** addresses tab and click the **Add** button.

Start Status Net Advanced Firewall Control System		
Configuration URL addresses		
You can add, edit and delete addresses here	L address	Port
		(Add)

Figure 75. The Control / URL-filter page. The URL-addresses tab.

On the opened page, specify the needed parameters.

User Manual

Save

Start Status Net Advanced Fire	ewali Control System		
URL filter			
Configuration URL addresses			
URL address editing			
URL address: Port:	80		

Figure 76. The page for adding an address for the URL filter.

Enter a URL address in the **URL address** field, specify a port (as usual, you need to specify port 80 for HTTP), then click the **Save** button.

To remove an address from the list of URL addresses, select the relevant address in the table on the **URL addresses** tab and click the **Delete** button.

To disable the URL filter, deselect the **Enable/Disable URL filter** checkbox on the **Configuration** tab, then click the **Change** button.

System

In this menu you can do the following:

- change the password used to access the router's settings
- save the current settings to the non-volatile memory
- create a backup of the router's configuration
- restore the router's configuration from a previously saved file
- restore the factory default settings
- view the system log
- update the firmware of the router
- configure automatic synchronization of the system time.

Administrator Password

On the **System / Administrator password** page, you can change the password for the administrator account used to access the web-based interface of the router and to access the device via TELNET.

For security reasons, it is strongly recommended to change the administrator password upon initial configuration of the router.

Start	Status	Net	Advanced	Firewall	Control	System	
Adm	inistrator p	assword	Configura	ation Sy	ystem log	Firmware upgrade	e NTP dient
		m passwo	admin		for the we	b-based interface w	will be changed at the same time.
							Save

Figure 77. The System / Administrator password page.

Enter the new password in the **Password** and **Confirmation** fields and click the **Save** button.

Configuration

On the **System / Configuration** page, you can save the changed settings to the non-volatile memory, restore the factory defaults, backup the current configuration, or restore the router's configuration from a previously created file.

Start	Status	Net	Advanced	Firewall	Control	System	
Adn	inistrator pass	word	Configuratio	n System	n log Fir	rmware upgrade	NTP dient
	-	tory def		Concrete	ory	Choc	se) (Restore

Figure 78. The System / Configuration page.

The following buttons are available on the page:

Control	Description
Save	Click the button to save settings to the non-volatile memory. Please, save settings every time you change the router's parameters. Otherwise the changes will be lost upon reboot of the router.
Factory	Click the button to restore the factory default settings. Also you can restore the factory defaults via the hardware RESET button (see the <i>Saving and Restoring Settings</i> section, page 24).
Backup	Click the button and follow the dialog box appeared to save the configuration (all settings of the router) to your PC.
Restore	Click the button to upload a previously saved configuration (all settings of the router) from a file on your PC. Click the Choose/Browse ¹ button to select a previously saved configuration file located on your PC.

Actions of the **Save**, **Factory**, and **Backup** buttons also can be performed via the top-page menu displayed when the mouse pointer is over the **System** caption.

¹ The name of the button depends upon the web browser that you use.

System Log

On the **System / System log** page, you can set the system log options and configure sending the system log to a remote host.

ta	t Status	Net	Advanced	Firewall	Control	System					
Ad	ministrator pas	sword	Configuration	System	log F	irmware upgrade	NTP dient				
	Configuratio	n Lo	a								
	Logging:			✓							
	Logging ty			Local	Local and remote 👻						
	Logging lev				messages						
	Remote logging level: Server address type:				Error messages						
	Server:				0.0.0.0						
	Port:			514							

Figure 79. The System / System log page. The Configuration tab.

To enable logging of the system events, select the **Logging** checkbox on the **Configuration** tab. Then specify the needed parameters.

Control	Description		
	Select a type of logging from the drop-down list.		
Logging type	 Local: the system log is stored in the router's memory (and displayed on the Log tab). When this value is selected, the Server address type, Server, and Port fields are not displayed. 		
	• Remote : the system log is sent to the remote host specified in the Server field.		
	• Local and remote: the system log is stored in the router's memory (and displayed on the Log tab) and sent to the remote host specified in the Server field.		
Logging level	Select a type of messages and alerts/notifications to be stored locally in the router's memory. The field is available, when the Local or Local and remote value is selected from the Logging type drop-down list.		
Remote logging level	Select a type of messages and alerts/notifications to be sent to the remote host specified in the Server field. The field is available, when the Remote or Local and remote value is selected from the Logging type drop-down list.		
Server address type	From the drop-down list, select the IP value to specify an IP address of a host from the local or global network, or the URL value to specify a URL address of a remote server.		

Control	Description
Server	The IP or URL address of the host from the local or global network, to which the system log will be sent.
Port	A port of the host specified in the Server field. By default, the value 514 is specified.

After specifying the needed parameters, click the **Change** button.

To disable logging of the system events, deselect the **Logging** checkbox and click the **Change** button.

On the **Log** tab, the events specified in the **Logging level** list are displayed.

itart	Status	Net	Advanced	Firewall	Control	System	
Adminis	strator pass	word	Configuration	System	n log F	Firmware upgrade	NTP client
6	onfiguration		pq				

Figure 80. The System / System log page. The Log tab.

To view the latest system events, click the **Refresh** button.

To save the system log to your PC, click the **Export** button and follow the dialog box appeared.

Firmware Upgrade

On the System / Firmware upgrade page, you can upgrade the firmware of the router.

Start	Status Net	: Advanced	Firewall C	Control System	
Administra	ator password	Configuration	System log	Firmware upgr	NTP dient
Sel	lect update file:				hoose

Figure 81. The System / Firmware upgrade page.

The current version of the router's firmware is displayed in the **Firmware version** field on the **Start** page. If you need to install a newer version of the firmware, follow the next steps:

Attention! Do not turn off the router before the firmware upgrade is completed. This may cause the device breakdown.

- 1. Download a new version of the firmware from www.dlink.ru.
- 2. Click the **Choose/Browse²** button on the **System / Firmware upgrade** page to locate the new firmware file.
- 3. Click the **Update** button to upgrade the firmware of the router.
- 4. Wait until the router is rebooted (about one and a half or two minutes).
- 5. Log into the web-based interface using the login (admin) and the current password.
- 6. Select the **Factory** line in the top-page menu displayed when the mouse pointer is over the **System** caption.
- 7. Wait until the router is rebooted. Log into the web-based interface, using the default IP address, login and password (**192.168.1.1**, **admin**, **admin**).

² The name of the button depends upon the web browser that you use.

NTP Client

On the **System / NTP client** page, you can configure automatic synchronization of the system time with a time server on the Internet.

Star	Status	Net	Advanced	Firewall	Control	System	
Adr	inistrator pass	word	Configuration	System le	og Firmv	ware upgrade	NTP client
	Enabled:						
	Timezone;			(GMT	- +3 h.) Bagl	hdad, Khartoun	
	NTP server.	57			ol.ntp.org ol.ntp.org		

Figure 82. The System / NTP client page.

To enable automatic synchronization with a time server:

- 1. Select the **Enabled** checkbox.
- 2. Select your time zone.
- 3. Specify the needed NTP server in the **NTP servers** field or leave the server specified by default.
- 4. Click the **Change** button.

When the router is powered off or rebooted, the system time is reset to the default value.
 If you have set automatic synchronization for the system time, the internal clock of the device will be configured after connecting to the Internet.

ARP	Address Resolution Protocol
DDNS	Dynamic Domain Name System
DDoS	Distributed Denial of Service
DHCP	Dynamic Host Configuration Protocol
DMZ	DeMilitarized Zone
DNS	Domain Name System
GMT	Greenwich Mean Time
IGMP	Internet Group Management Protocol
IP	Internet Protocol
IPoA	Internet Protocol over ATM
ISP	Internet Service Provider
LAN	Local Area Network
LCC	Logical Link Control
LCP	Link Control Protocol
MAC	Media Access Control
МТU	Maximum Transmission Unit
NAT	Network Address Translation
ΝΤΡ	Network Time Protocol
PPPoA	Point-to-Point Protocol over ATM
PPPoE	Point-to-point protocol over Ethernet
QoS	Quality of Service
UPnP	Universal Plug and Play
URL	Uniform Resource Locator
VC	Virtual Circuit
VCI	Virtual Circuit Identifier
VLAN	Virtual Local Area Network
VPI	Virtual Path Identifier
WAN	Wide Area Network