D-Link®

Quick Installation Guide

DWR-980

Wireless AC1200 4G LTE Router with VDSL2 Support, Gigabit Ethernet Ports, and 2 FXS Ports

BEFORE YOU BEGIN

Delivery Package

- Router DWR-980
- Power adapter DC 12V/2.5A
- Ethernet cable
- Two detachable LTE/3G antennas
- RJ-11 telephone cable
- "***Quick Installation Guide***" (brochure).

If any of the items are missing, please contact your reseller.

The "***User Manual***" and "***Quick Installation Guide***" documents are available on D-Link website (see www.dlink.ru).

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

Default Settings

Domain name of device		`dlinkrouter.local.`
IP address of device		`192.168.0.1`
Username (login)		`admin`
Password		`admin`
Name of wireless network (SSID)	**2.4GHz**	`DWR-980`
	5GHz	`DWR-980-5G`
Network key (PSK password)		see WPS PIN on the barcode label on the back panel of the device

! Router DWR-980 with default settings cannot connect to the Internet. To get started, please set your own password for access to the web-based interface and change the WLAN name (SSID); then, if needed, configure other settings recommended by your ISP.

System Requirements and Equipment

- A computer with any operating system that supports a web browser.
- A web browser to access the web-based interface of the router:
  - Apple Safari 8 and later
  - Google Chrome 48 and later
  - Microsoft Internet Explorer 10 and later
  - Microsoft Edge 20.10240 and later
  - Mozilla Firefox 44 and later
  - Opera 35 and later.
- A NIC (Ethernet or Wi-Fi adapter) to connect to the router.
- An 802.11a, b, g, n, or ac Wi-Fi adapter to create a wireless network.
- Analog phone.
- An active SIM card (when it is necessary to connect to the Internet via mobile operators' networks)[1].

1 Contact your operator to get information on the service coverage and fees.

CONNECTING TO PC

PC with Ethernet Adapter

1. Connect an Ethernet cable between any of LAN ports located on the back panel of the router and the Ethernet port of your PC.
2. ***To connect via built-in modem***: insert a SIM card into the slot on the left side panel of the router with the gold contacts facing towards the front of the device and gently push until it clicks.

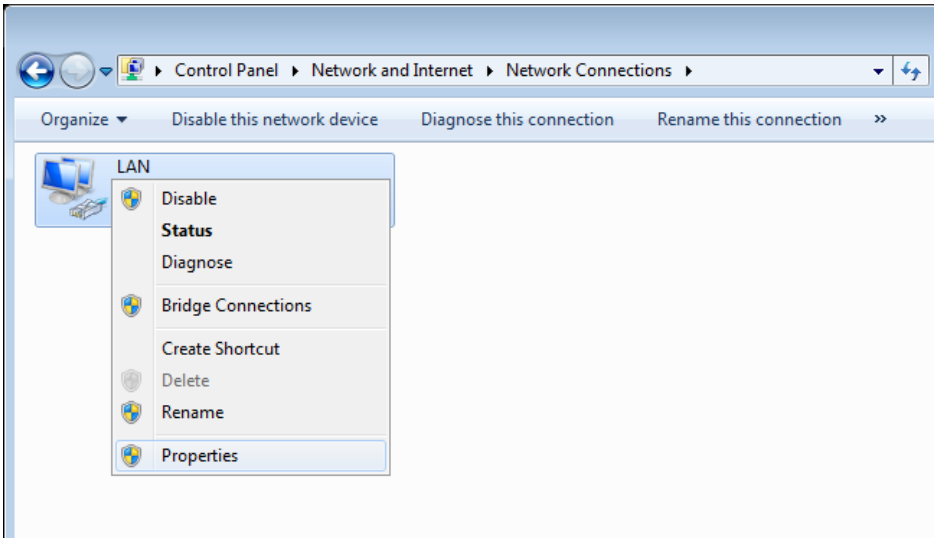
   ! If you need to connect a SIM card or change it to another one when the router is powered on, power off the router, insert or change the SIM card, and power on the router.

3. ***To connect the router to a DSL line***: connect a phone cable between the phone jack and the **DSL** port of the router.
4. ***To connect the router to an Ethernet line:*** connect an Ethernet cable between the **WAN** port of the router and the Ethernet line.
5. Connect another phone cable between an FXS port of the router and the phone.
6. 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.
7. Turn on the router by moving the **POWER** switch on its back panel to the ON (**I**) position.

Then make sure that your PC is configured to obtain an IP address automatically (as DHCP client).

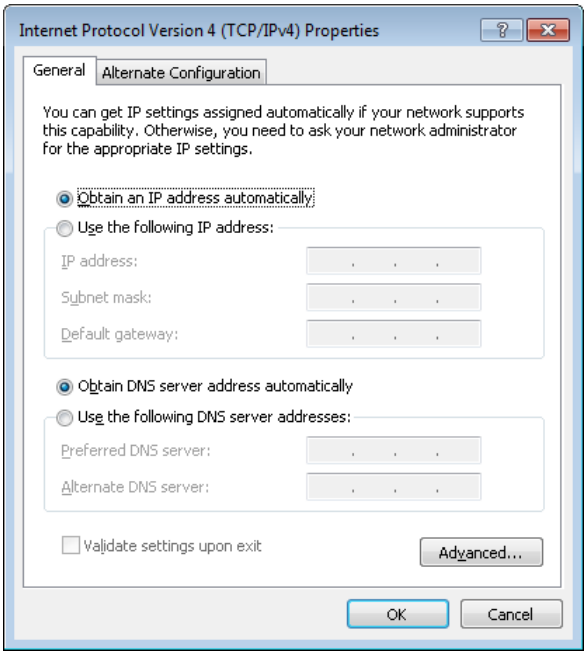
Obtaining IP Address Automatically (OS Windows 7)

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.)
3. In the menu located on the left part of the window, select the **Change adapter settings** line.
4. In the opened window, right-click the relevant **Local Area Connection** icon and select the **Properties** line in the menu displayed.



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.

6. Make sure that the **Obtain an IP address automatically** and **Obtain DNS server address automatically** choices of the radio buttons are selected. Click the **OK** button.



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

PC with Wi-Fi Adapter

1. ***To connect via built-in modem***: insert a SIM card into the slot on the left side panel of the router with the gold contacts facing towards the front of the device and gently push until it clicks.

   ! If you need to connect a SIM card or change it to another one when the router is powered on, power off the router, insert or change the SIM card, and power on the router.

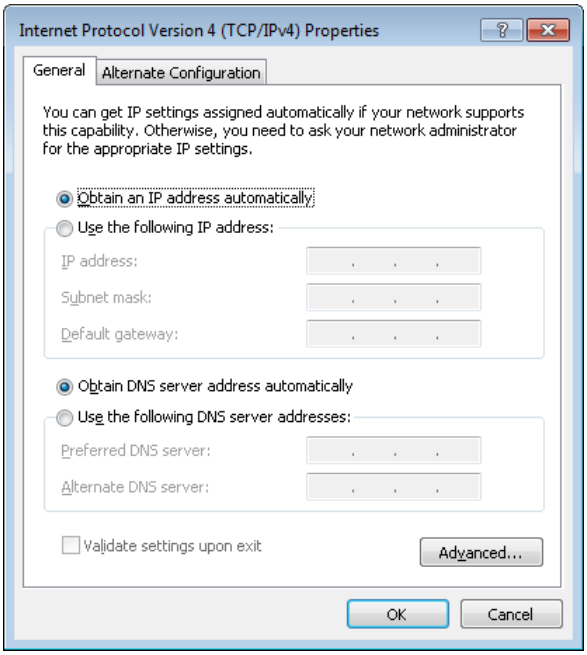
2. ***To connect the router to a DSL line***: connect a phone cable between the phone jack and the **DSL** port of the router.
3. ***To connect the router to an Ethernet line:*** connect an Ethernet cable between the **WAN** port of the router and the Ethernet line.
4. Connect another phone cable between an FXS port of the router and the phone.
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 moving the **POWER** switch on its back panel to the ON (**I**) position.
7. Make sure that the Wi-Fi adapter of your PC is on. As a rule, modern notebooks with built-in wireless NICs are equipped with a button or switch that turns on/off the wireless adapter (refer to your PC documents). If your PC is equipped with a pluggable wireless NIC, install the software provided with your Wi-Fi adapter.

Then make sure that your Wi-Fi adapter is configured to obtain an IP address automatically (as DHCP client).

Obtaining IP Address Automatically and Connecting to Wireless Network (OS Windows 7)

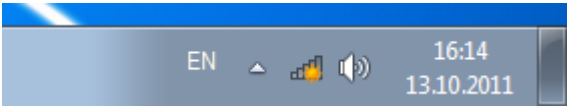
1. Click the **Start** button and proceed to the **Control Panel** window.
2. Select the **Network and Sharing Center** section. (If the Control Panel has the category view (the **Category** value is selected from the **View by** drop-down list in the top right corner of the window), choose the **View network status and tasks** line under the **Network and Internet** section.)
3. In the menu located on the left part of the window, select the **Change adapter settings** line.
4. In the opened window, right-click the relevant **Wireless Network Connection** icon. Make sure that your Wi-Fi adapter is on, then select the **Properties** line in the menu displayed.
5. In the **Wireless Network Connection Properties** window, on the **Networking** tab, select the **Internet Protocol Version 4 (TCP/IPv4)** line. Click the **Properties** button.

6. Make sure that the **Obtain an IP address automatically** and **Obtain DNS server address automatically** choices of the radio buttons are selected. Click the **OK** button.

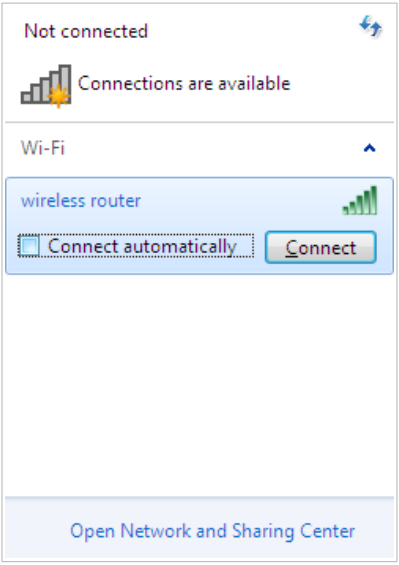


7. Click the **OK** button in the connection properties window.

8. To open the list of available wireless networks, select the icon of the wireless network connection and click the **Connect To** button or left-click the network icon in the notification area located on the right side of the taskbar.



9. In the opened window, in the list of available wireless networks, select the wireless network **DWR-980** (for operating in the 2.4GHz band) or **DWR-980-5G** (for operating in the 5GHz band) and click the **Connect** button.



10. In the opened window, enter the network key (see WPS PIN on the barcode label on the back panel of the device) in the **Security key** field and click the **OK** button.

11. Wait for about 20-30 seconds. After the connection is established, the network icon will be displayed as the signal level scale.

! If you perform initial configuration of the router via Wi-Fi connection, note that immediately after changing the wireless default settings of the router you will need to reconfigure the wireless connection using the newly specified settings.

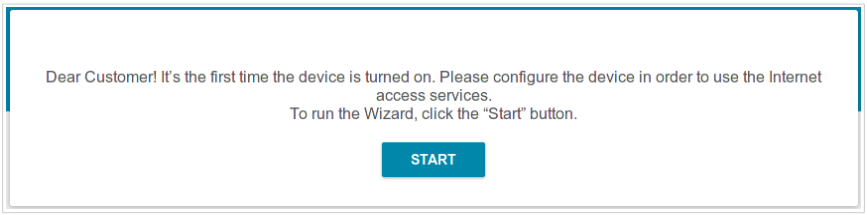
CONFIGURING ROUTER

Connecting to Web-based Interface

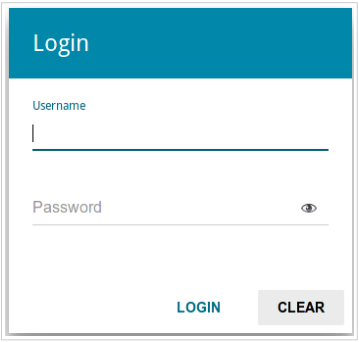
Start a web browser. In the address bar of the web browser, enter the domain name of the router (by default, **dlinkrouter.local**) with a dot at the end and press the **Enter** key. Also you can enter the IP address of the device (by default, **192.168.0.1**).

! 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.

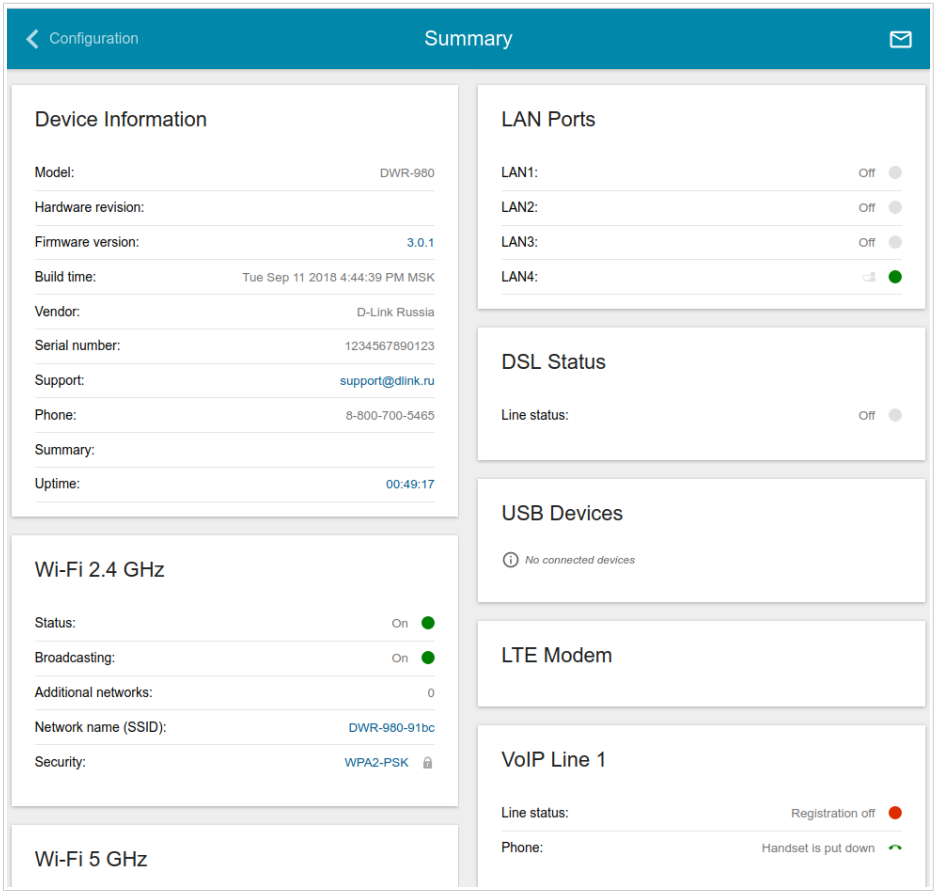
If the device has not been configured previously or the default settings have been restored, after access to the web-based interface the Initial Configuration Wizard opens (see the ***Initial Configuration Wizard*** section, page 16).



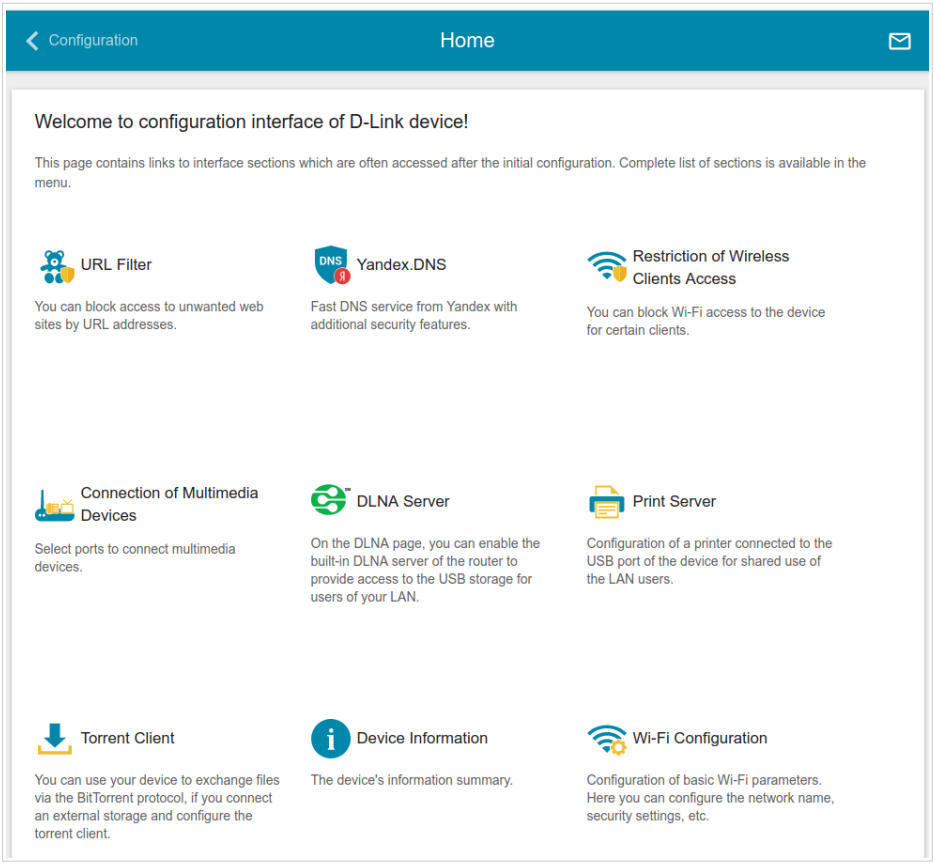
If you configured the device previously, after access to the web-based interface the login page opens. Enter the username (**admin**) in the **Username** field and the password you specified in the **Password** field, then click the **LOGIN** button.



The **Summary** page displays general information on the router and its software.



The **Home** page displays links to the most frequently used pages with device's settings.

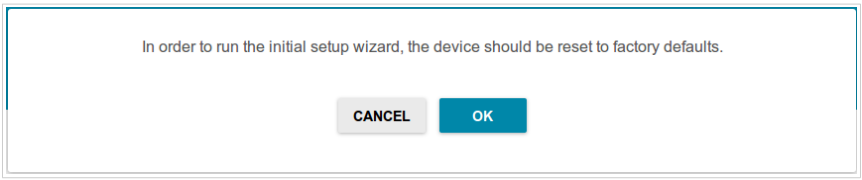


The web-based interface of the router is bilingual (English/Russian). You can select the needed language upon the initial configuration of the web-based interface of the router or in the **System / Configuration** section of the menu.

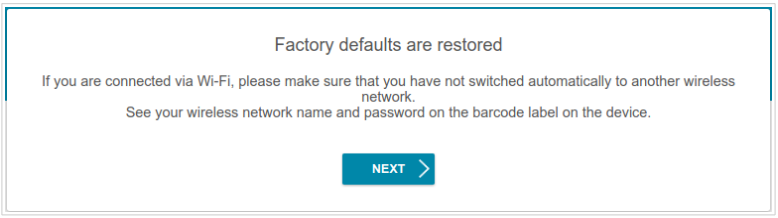
Other settings of the router are available in the menu in the left part of the page. Go to the relevant section and select the needed page or run the wizard in the **Initial Configuration** section.

Initial Configuration Wizard

In order to start the Initial Configuration Wizard manually, go to the **Initial Configuration** section.

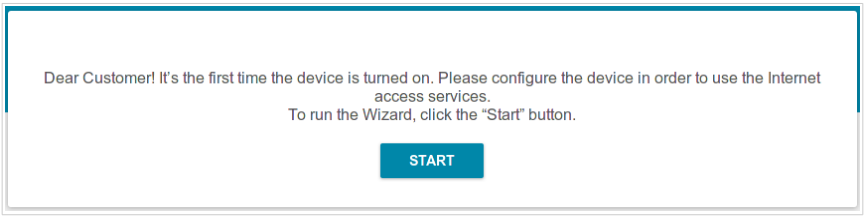


Click the **OK** button and wait until the factory default settings are restored.

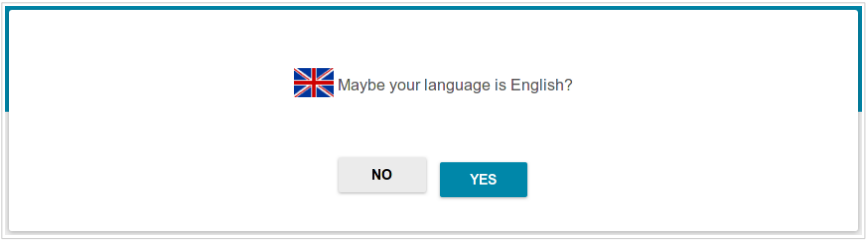


If you perform initial configuration of the router via Wi-Fi connection, please make sure that you are connected to the wireless network of DWR-980 (see the WLAN name (SSID) in the ***Default Settings*** section, page 3) and click the **NEXT** button. Then click the **START** button.

If the device has not been configured previously or the default settings have been restored, the Initial Configuration Wizard starts automatically upon access to the web-based interface or upon opening a web site on the Internet.



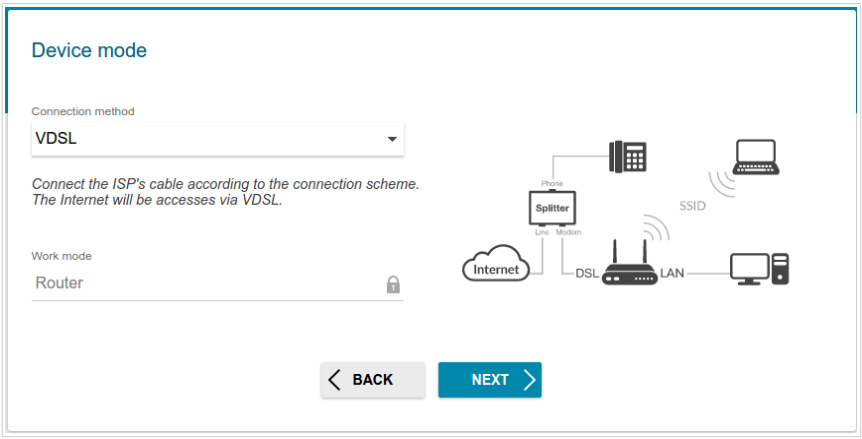
1. Click **YES** in order to leave the current language of the web-based interface or click **NO** to select the other language.



2. On the next page, click the **CONTINUE** button.

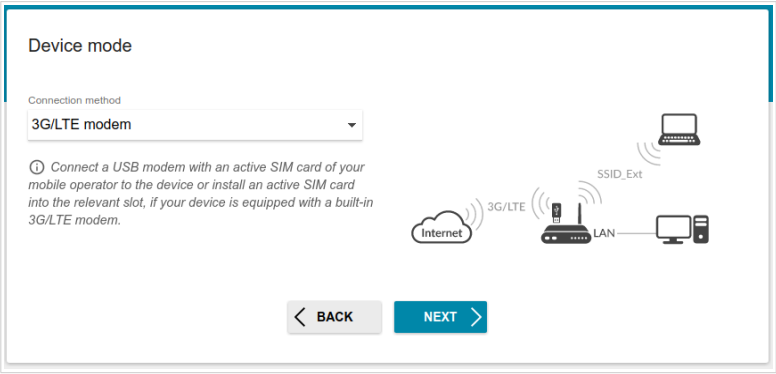
Selecting Operation Mode

In order to connect your device to a VDSL or ADSL line, on the **Device mode** page, from the **Connection method** list, select the **VDSL** or **ADSL** value correspondingly. In this mode you can configure a WAN connection, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, configure LAN ports to connect an STB or VoIP phone, and set your own password for access to the web-based interface of the device.



In order to connect your device to a private Ethernet line, on the **Device mode** page, from the **Connection method** list, select the **Ethernet (WAN)** value. In this mode you can configure a WAN connection, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, configure LAN ports to connect an STB or VoIP phone, and set your own password for access to the web-based interface of the device. If you want to use one of the LAN ports to connect your device to a private Ethernet line, select the **Ethernet (LAN)** value.

In order to connect your device to the network of a 3G or LTE operator, on the **Device mode** page, from the **Connection method** list, select the **3G/LTE modem** value. In this mode you can configure an LTE WAN connection, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, and set your own password for access to the web-based interface of the device.



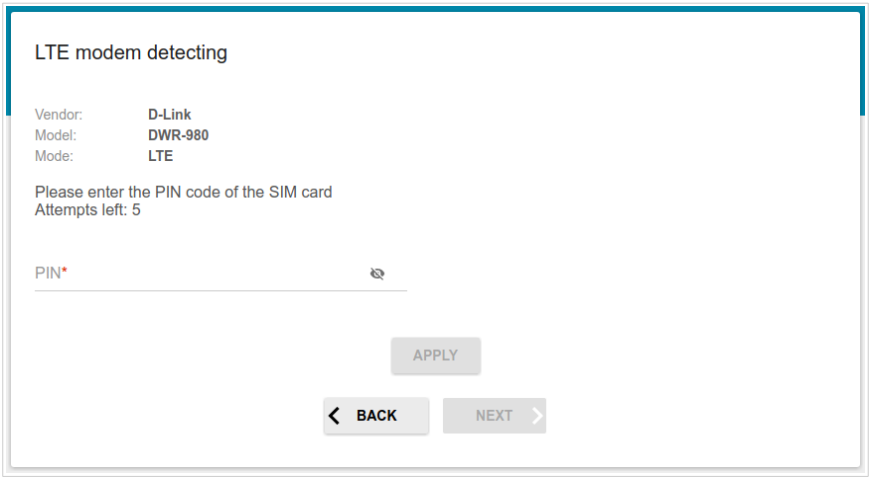
In order to connect your device to a wireless ISP (WISP), on the **Device mode** page, from the **Connection method** list, select the **Wi-Fi** value. In this mode you can connect your device to another access point, configure a WAN connection, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, configure LAN ports to connect an STB or VoIP phone, and set your own password for access to the web-based interface of the device.

When the operation mode is selected, click the **NEXT** button.

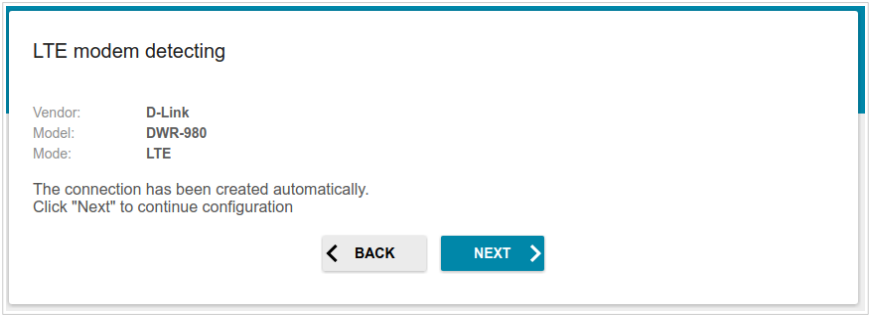
Creating LTE WAN Connection

This configuration step is available for the **3G/LTE modem** mode.

1. If the PIN code check is enabled for the SIM card inserted into the built-in modem, enter the PIN code in the **PIN** field and click the **APPLY** button.



2. Please wait while the router automatically creates a WAN connection for your mobile operator.



3. Click the **NEXT** button.

If the router failed to create a WAN connection automatically, click the **CONFIGURE MANUALLY** button. On the **Internet connection type** page, configure all needed settings and click the **NEXT** button.

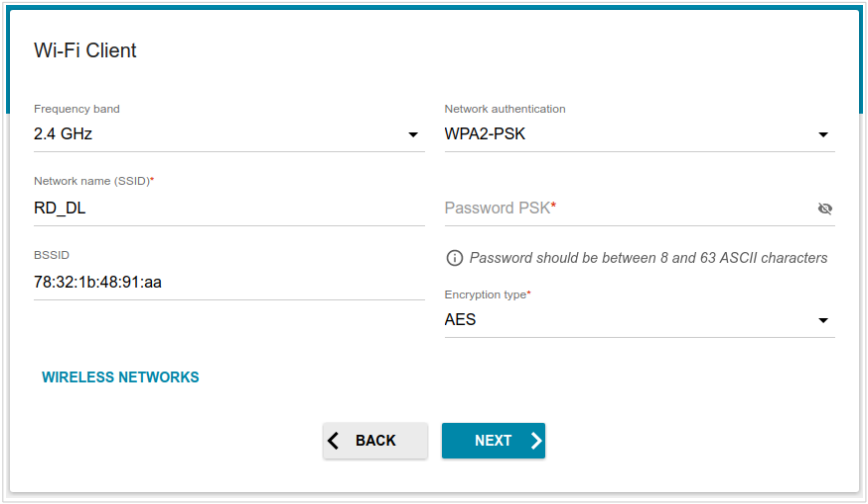
Wi-Fi Client

This configuration step is available for the **Wi-Fi** mode.

1. On the **Wi-Fi Client** page, click the **WIRELESS NETWORKS** button and select the network to which you want to connect in the opened window. When you select a network, the **Network name (SSID)** and **BSSID** fields are filled in automatically.

If you cannot find the needed network in the list, click the **UPDATE LIST** icon ( ).

2. If a password is needed to connect to the selected network, fill in the relevant field. Click the **Show** icon ( ) to display the entered password.



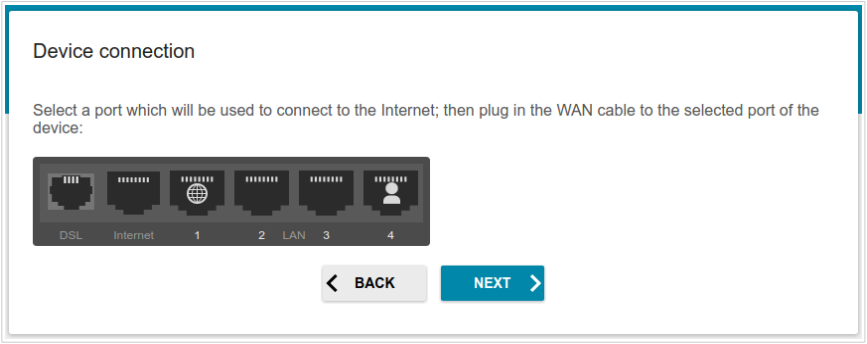
If you connect to a hidden network, select the band where the hidden network operates from the **Frequency band** list and enter the network name in the **Network name (SSID)** field. Then select a needed value from the **Network authentication** list and then, if needed, enter the password in the relevant field.

3. Click the **NEXT** button.

Configuring LAN Port as WAN Port

This configuration step is available for the **Ethernet (LAN)** mode.

1. On the **Device connection** page, select a free LAN port which will be used as the WAN port.



2. Click the **NEXT** button.

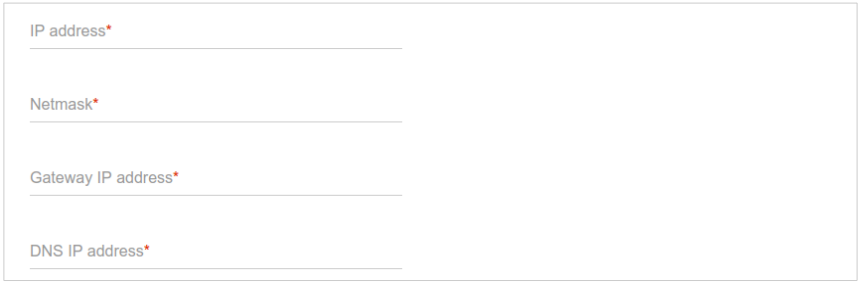
Configuring Ethernet WAN Connection

This configuration step is available for the **Ethernet (WAN)** and **Ethernet (LAN)** modes.

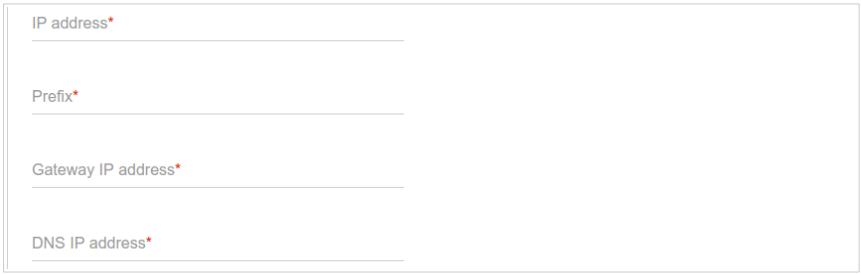
! You should configure your WAN connection in accordance with data provided by your Internet service provider (ISP). Make sure that you have obtained all necessary information prior to configuring your connection. Otherwise contact your ISP.

1. On the **Internet connection type** page, from the **Connection type** list, select the connection type used by your ISP and fill in the fields displayed on the page.

Static IPv4: Fill in the following fields: **IP address**, **Netmask**, **Gateway IP address**, and **DNS IP address**.

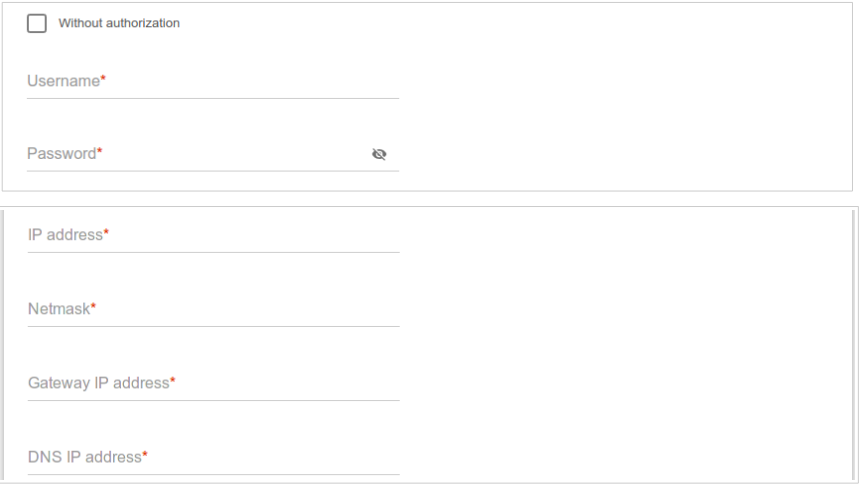


Static IPv6: Fill in the following fields: **IP address**, **Prefix**, **Gateway IP address**, and **DNS IP address**.



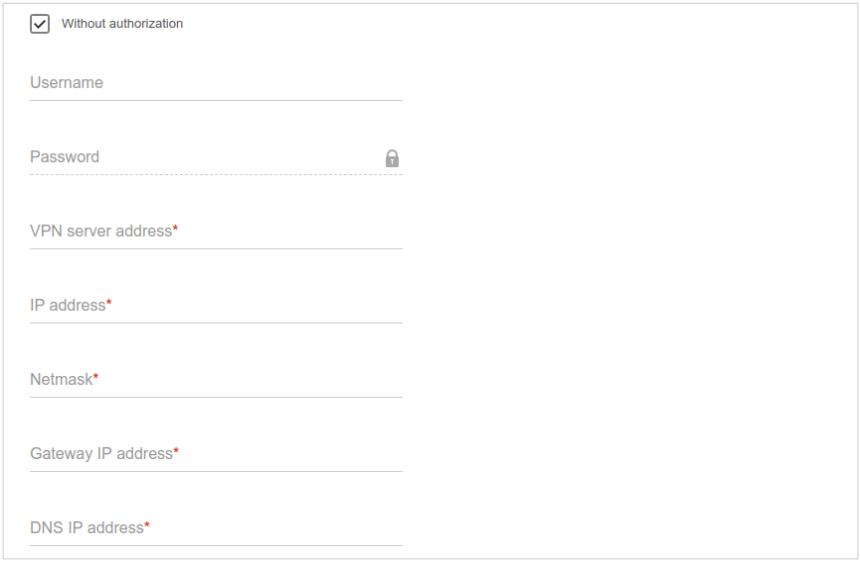
PPPoE, IPv6 PPPoE, PPPoE Dual Stack, PPPoE + Dynamic IP (PPPoE Dual Access): Enter authorization data provided by your ISP (the username (login) in the **Username** field and the password in the **Password** field). Click the **Show** icon ( ) to display the entered password. If authorization is not required, select the **Without authorization** checkbox.

PPPoE + Static IP (PPPoE Dual Access): Enter authorization data provided by your ISP (the username (login) in the **Username** field and the password in the **Password** field). Click the **Show** icon ( ) to display the entered password. If authorization is not required, select the **Without authorization** checkbox. Also fill in the following fields: **IP address**, **Netmask**, **Gateway IP address**, and **DNS IP address**.

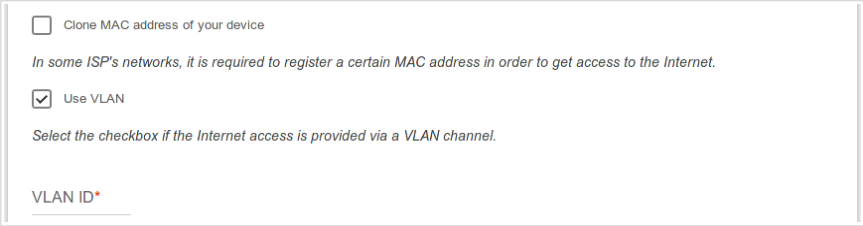


PPTP + Dynamic IP or L2TP + Dynamic IP: Enter authorization data provided by your ISP (the username (login) in the **Username** field and the password in the **Password** field). Click the **Show** icon ( ) to display the entered password. If authorization is not required, select the **Without authorization** checkbox. In the **VPN server address** field, enter the IP or URL address of the PPTP or L2TP authentication server.

PPTP + Static IP or L2TP + Static IP: Enter authorization data provided by your ISP (the username (login) in the **Username** field and the password in the **Password** field). Click the **Show** icon ( ) to display the entered password. If authorization is not required, select the **Without authorization** checkbox. In the **VPN server address** field, enter the IP or URL address of the PPTP or L2TP authentication server. Also fill in the following fields: **IP address**, **Netmask**, **Gateway IP address**, and **DNS IP address**.



2. If your ISP uses MAC address binding, select the **Clone MAC address of your device** checkbox.
3. If the Internet access is provided via a VLAN channel, select the **Use VLAN** checkbox and fill in the **VLAN ID** field.



4. Click the **NEXT** button.

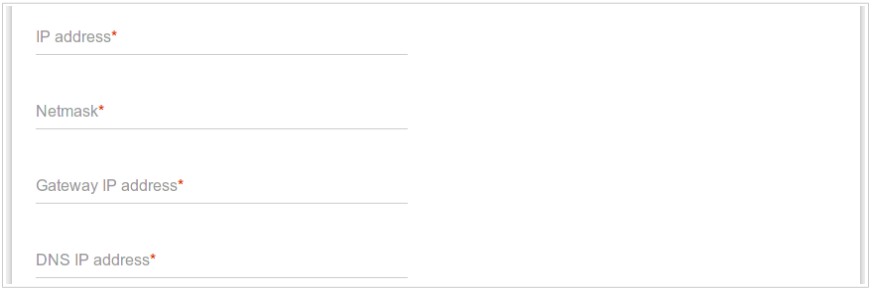
Configuring VDSL WAN Connection

This configuration step is available for the **VDSL** mode.

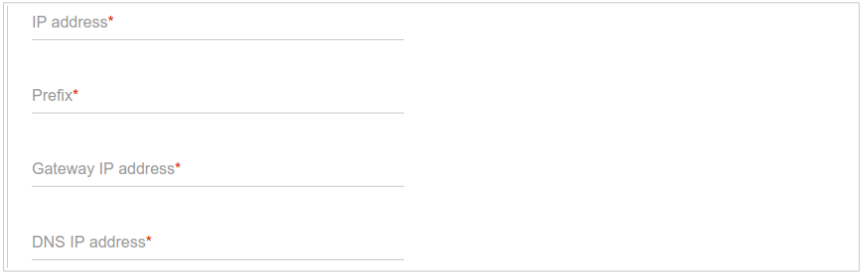
! You should configure your WAN connection in accordance with data provided by your Internet service provider (ISP). Make sure that you have obtained all necessary information prior to configuring your connection. Otherwise contact your ISP.

1. On the **Internet connection type** page, from the **Connection type** list, select the connection type used by your ISP and fill in the fields displayed on the page.

Static IPv4: Fill in the following fields: **IP address**, **Netmask**, **Gateway IP address**, and **DNS IP address**.

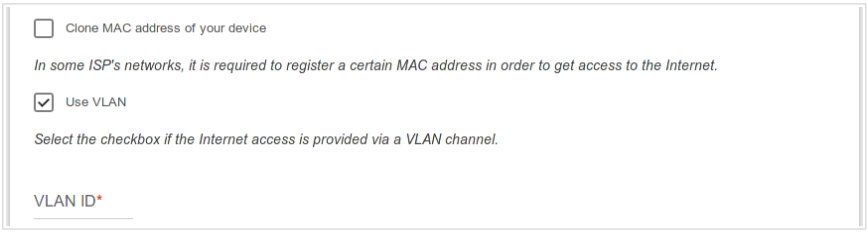


Static IPv6*:* Fill in the following fields: **IP address**, **Prefix**, **Gateway IP address**, and **DNS IP address**.



PPPoE, IPv6 PPPoE, PPPoE Dual Stack: Enter authorization data provided by your ISP (the username (login) in the **Username** field and the password in the **Password** field). Click the **Show** icon ( ) to display the entered password. If authorization is not required, select the **Without authorization** checkbox.

2. If your ISP uses MAC address binding, select the **Clone MAC address of your device** checkbox.
3. If the Internet access is provided via a VLAN channel, select the **Use VLAN** checkbox and fill in the **VLAN ID** field.



4. Click the **NEXT** button.

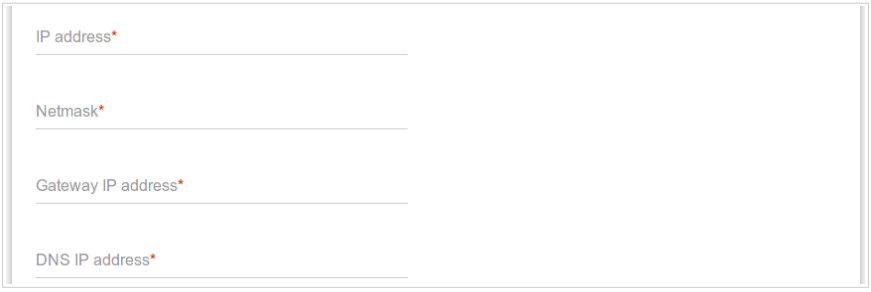
Configuring ADSL WAN Connection

This configuration step is available for the **ADSL** mode.

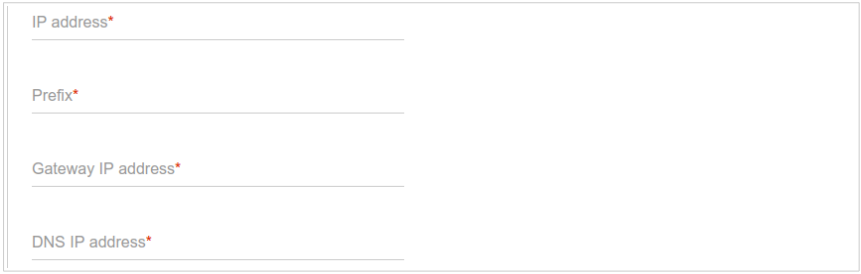
! You should configure your WAN connection in accordance with data provided by your Internet service provider (ISP). Make sure that you have obtained all necessary information prior to configuring your connection. Otherwise contact your ISP.

1. On the **Internet connection type** page, from the **Connection type** list, select the connection type used by your ISP and fill in the fields displayed on the page.

Static IPv4, IPoA: Fill in the following fields: **IP address**, **Netmask**, **Gateway IP address**, and **DNS IP address**.

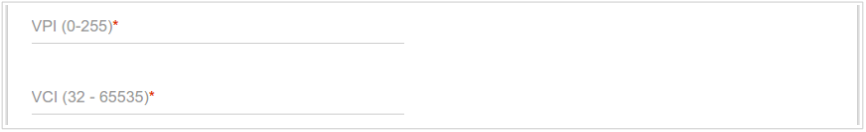


Static IPv6*:* Fill in the following fields: **IP address**, **Prefix**, **Gateway IP address**, and **DNS IP address**.



PPPoE, IPv6 PPPoE, PPPoE Dual Stack, PPPoA: Enter authorization data provided by your ISP (the username (login) in the **Username** field and the password in the **Password** field). Click the **Show** icon ( ) to display the entered password. If authorization is not required, select the **Without authorization** checkbox.

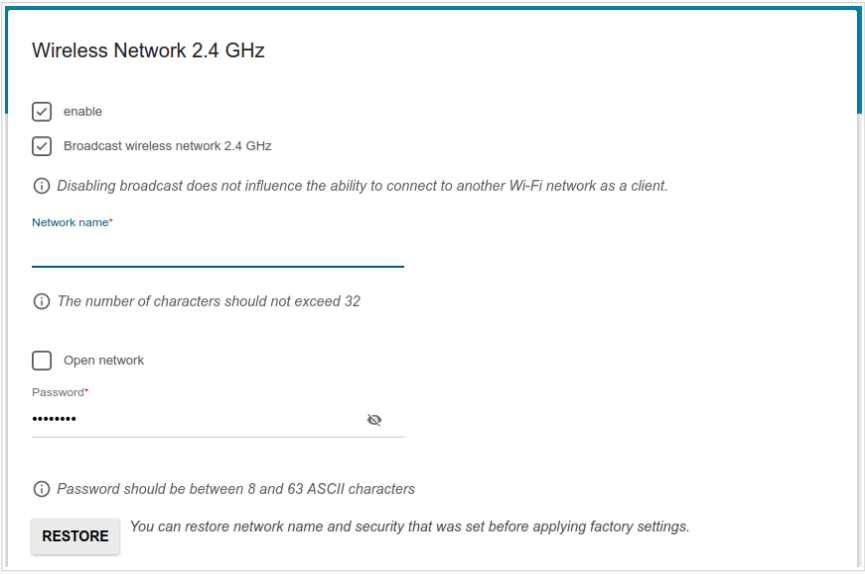
2. Specify the VPI and VCI values in the relevant fields.



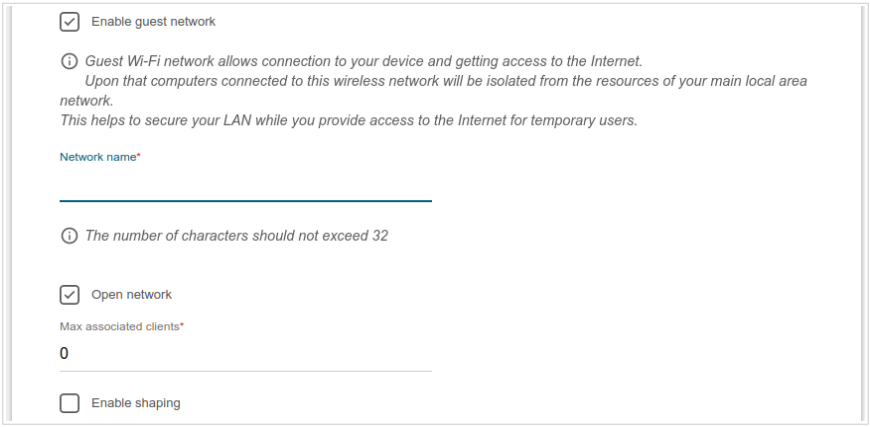
3. Click the **NEXT** button.

Configuring Wireless Network

1. On the **Wireless Network 2.4 GHz** page, in the **Network name** field, specify your own name for the wireless network in the 2.4GHz band or leave the value suggested by the router.
2. In the **Password** field, specify your own password for access to the wireless network or leave the value suggested by the router (WPS PIN of the device, see the barcode label).
3. You can restore the parameters of the wireless network specified before resetting to factory defaults. To do this, click the **RESTORE** button.



4. If you want to create an additional wireless network isolated from your LAN in the 2.4GHz band, select the **Enable guest network** checkbox.

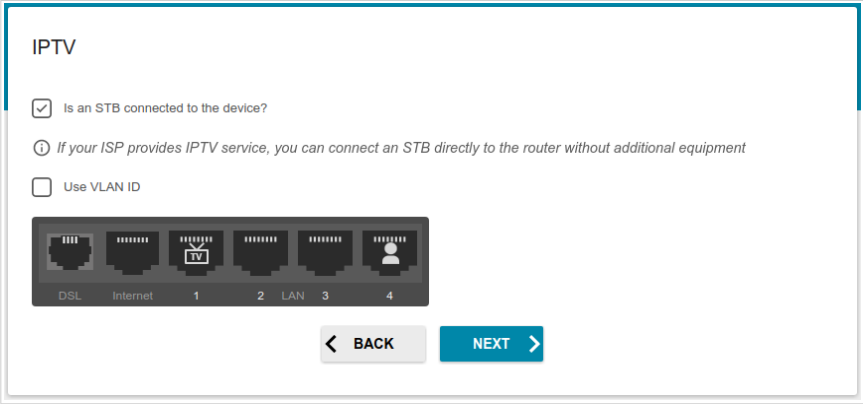


5. In the **Network name** field, specify your own name for the guest wireless network or leave the value suggested by the router.
6. If you want to create a password for access to the guest wireless network, deselect the **Open network** checkbox and fill in the **Password** field.
7. If you want to limit the bandwidth of the guest wireless network, select the **Enable shaping** checkbox and fill in the **Shaping** field.
8. Click the **NEXT** button.
9. On the **Wireless Network 5 GHz** page, specify needed settings for the wireless network in the 5GHz band and click the **NEXT** button.

Configuring LAN Ports for IPTV/VoIP

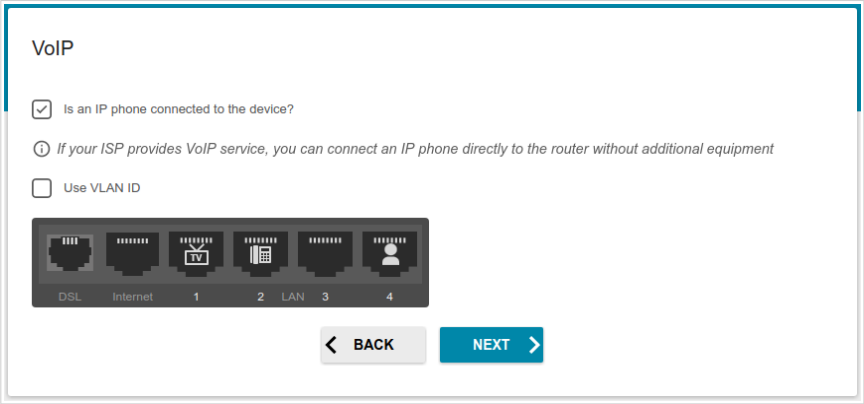
This configuration step is available for the **ADSL**, **VDSL**, **Ethernet (WAN)**, **Ethernet (LAN)**, and **Wi-Fi** modes.

1. On the **IPTV** page, select the **Is an STB connected to the device** checkbox.



2. Select a free LAN port for connecting your set-top box.
3. *For the **VDSL**, **Ethernet (WAN)**, **Ethernet (LAN)**, **Wi-Fi** modes*: If the IPTV service is provided via a VLAN channel, select the **Use VLAN ID** checkbox and fill in the **VLAN ID** field.
4. *For the **ADSL** mode*: Specify the VPI and VCI values in the relevant fields.
5. Click the **NEXT** button.

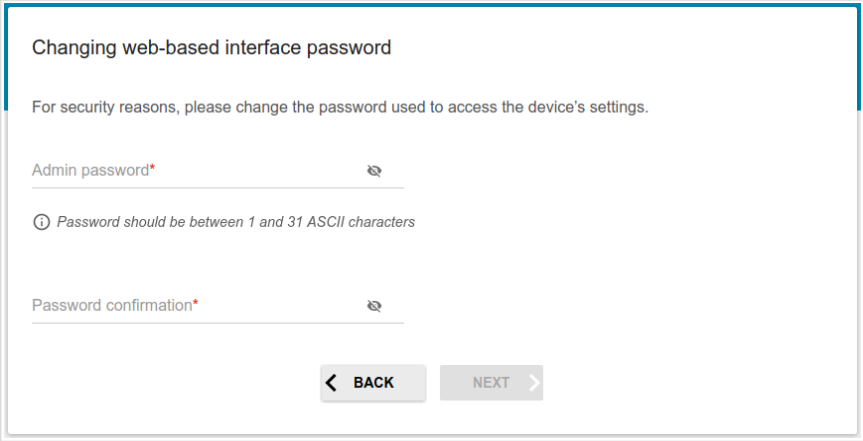
6. On the **VoIP** page, select the **Is an IP phone connected to the device** checkbox.



7. Select a free LAN port for connecting your IP phone.
8. *For the **VDSL**, **Ethernet (WAN)**, **Ethernet (LAN)**, **Wi-Fi** modes*: If the VoIP service is provided via a VLAN channel, select the **Use VLAN ID** checkbox and fill in the **VLAN ID** field.
9. *For the **ADSL** mode*: Specify the VPI and VCI values in the relevant fields.
10. Click the **NEXT** button.

Changing Web-based Interface Password

On this page you should change the default administrator password. To do this, enter a new password in the **Admin password** and **Password confirmation** fields. You may set any password except `admin`. Use digits, Latin letters (uppercase and/or lowercase), and other characters available in the US keyboard layout.[2]



! Remember or write down the new password for the administrator account. In case of losing the new password, you can access the settings of the router only after restoring the factory default settings via the hardware **RESET** button. This procedure wipes out all settings that you have configured for your router.

Click the **NEXT** button.

On the next page, check all the settings you have just specified.

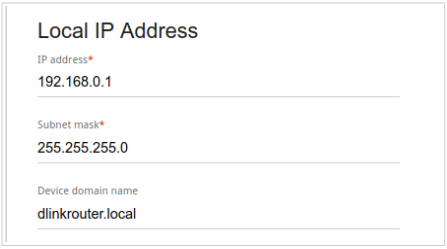
Also you can save a text file with parameters set by the Wizard to your PC. To do this, click the **SAVE CONFIGURATION FILE** button and follow the dialog box appeared.

To finish the Wizard, click the **APPLY** button. The router will apply settings, reboot, if needed, and check the Internet connection if the Wizard has configured a WAN connection.

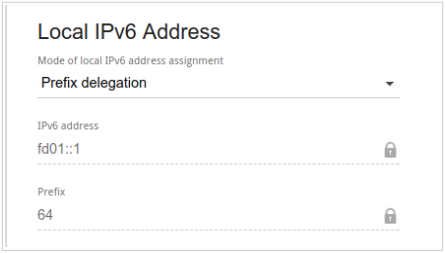
2 0-9, A-Z, a-z, space, !"#$%&'()*+,-./:;<=>?@[\]^_`{|}~.

Configuring Local Area Network

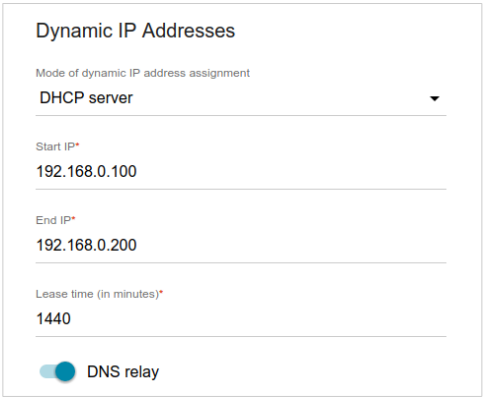
1. Go to the **Connections Setup / LAN** page.
2. If needed, change the IPv4 address of the router's LAN interface and the mask of the local subnet. To do this, click the **IPv4** tab and specify needed values in the **IP address** and **Subnet mask** fields in the **Local IP Address** section.



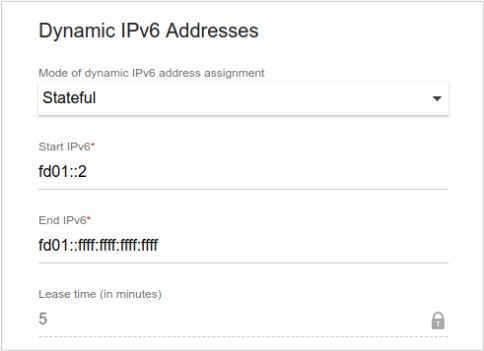
3. If needed, specify your own IPv6 address of the router's LAN interface. To do this, click the **IPv6** tab and select the **Static** value from the **Mode of local IPv6 address assignment** drop-down list in the **Local IPv6 Address** section. Then specify the needed value in the **IPv6 address** field.



4. **IPv4 address assignment**. By default, the built-in DHCP server of the router assigns IPv4 addresses to the devices of the LAN. If you want to manually assign IPv4 addresses, disable the DHCP server (click the **IPv4** tab and select the **Disable** value from the **Mode of dynamic IP address assignment** drop-down list in the **Dynamic IP Addresses** section).



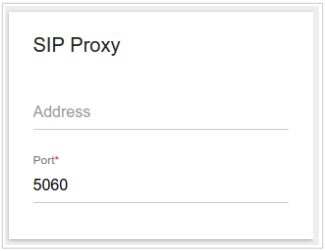
5. **IPv6 address assignment**. By default, the devices of the LAN automatically assign IPv6 addresses to themselves (the **Stateless** value is selected from the **Mode of dynamic IPv6 address assignment** drop-down list in the **Dynamic IPv6 Addresses** section on the **IPv6** tab). If the devices of the LAN do not support IPv6 address autoconfiguration, enable the built-in DHCPv6 server of the router (select the **Stateful** value from the **Mode of dynamic IPv6 address assignment** drop-down list). If you want to manually assign IPv6 addresses to devices of the LAN, select the **Disable** value from the **Mode of dynamic IPv6 address assignment** drop-down list.



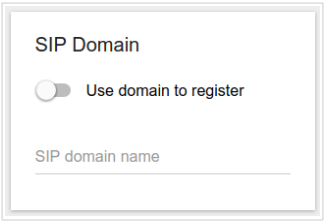
6. After specifying the needed parameters on the **Connections Setup / LAN** page, click the **APPLY** button.

Configuring VoIP via SIP

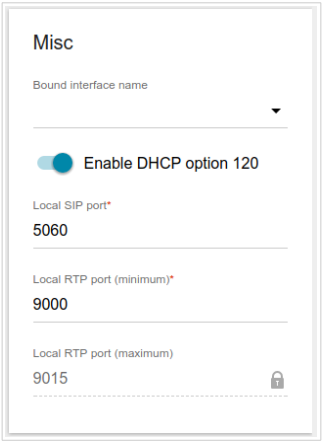
1. Go to the **VoIP / Basic Settings** page.
2. In the **SIP Proxy** section, fill in the **Address** field.



3. If your provider uses a SIP domain, in the **SIP Domain** section, fill in the **SIP domain name** field and, if needed, move the **Use domain to register** switch to the right (contact your ISP to clarify if the setting is required).

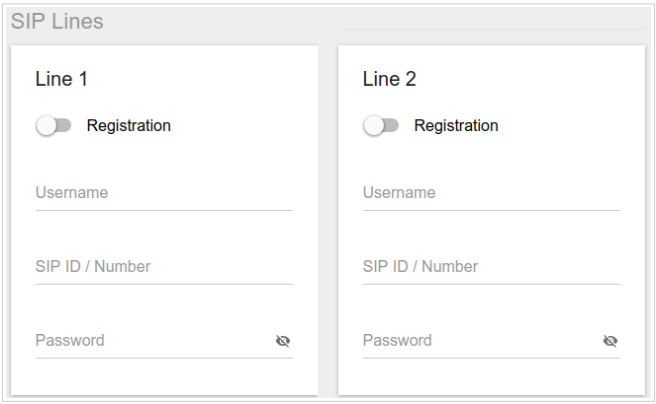


4. In the **Misc** section, from the **Bound interface name** drop-down list, select the interface which will be used by VoIP.



5. If your provider does not require automatic obtainment of the SIP proxy server address, move the **Enable DHCP option 120** switch to the left.

6. In the section corresponding to the port to which the analog phone is connected, move the **Registration** switch to the right, fill in the **SIP ID / Number** field, enter the username in the **Username** field (as a rule, the username and the phone number are the same), and fill in the **Password** field.

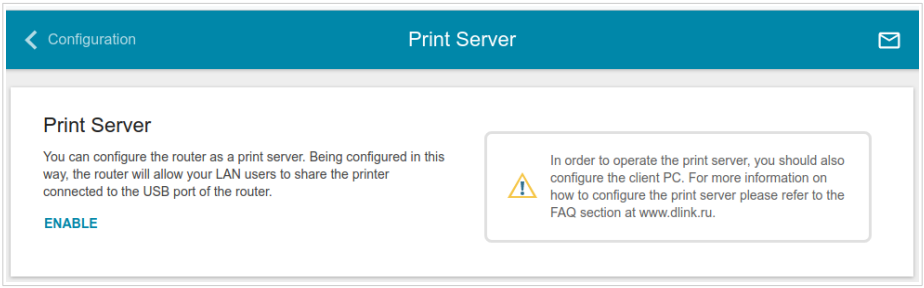


7. If needed, fill in other fields on the page in accordance with data provided by the ISP.

8. Click the **APPLY** button ( ).

Configuring Network Printer

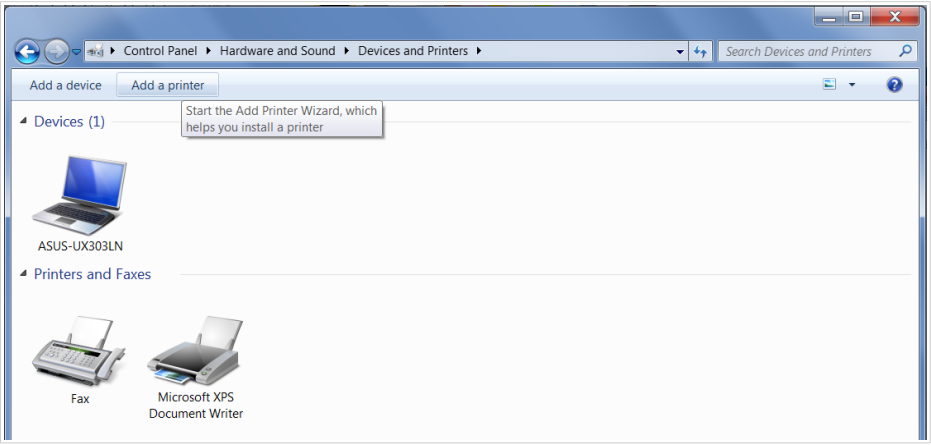
1. Make sure that a driver for your printer which will be used as a network printer is installed on your PC.[3]
2. To connect the printer to the router, power off both devices. Connect the printer to the USB port of the router, power on the printer, then power on the router.
3. Then access the web-based interface, go to the **Print Server** page and click the **ENABLE** button.



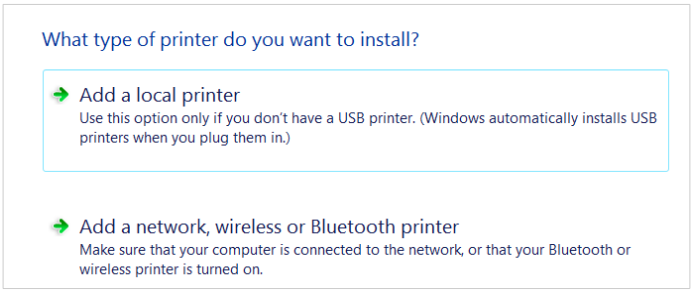
4. Click the **Start** button and go to the **Control Panel** window.
5. Select the **Hardware and Sound** section. (If the Control Panel has the category view (the **Category** value is selected from the **View by** drop-down list in the top right corner of the window), choose the **View devices and printers** line.)

3 Some home printers can work incorrectly as network printers. Contact the technical support of your printer's manufacturer to clarify if your printer supports this function.

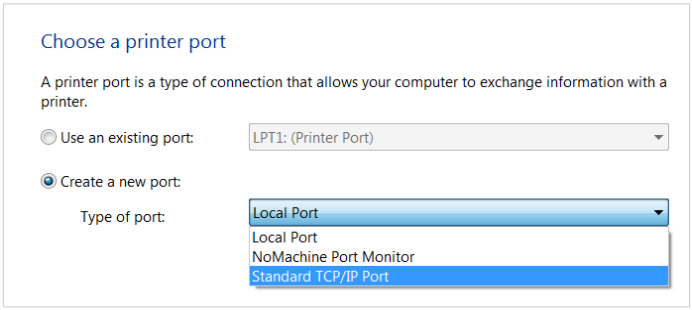
6. In the opened window, click the **Add a printer** button.



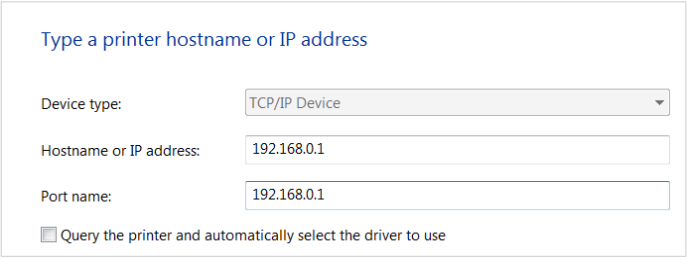
7. Select the **Add a local printer** value and click the **Next** button.



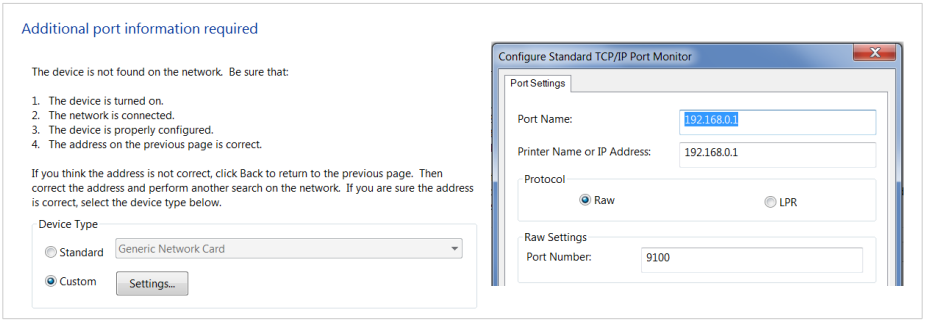
8. Select the **Create a new port** choice of the radio button and then select the **Standard TCP/IP Port** value from the **Type of port** drop-down list. Click the **Next** button.



9. Enter the IP address of the router in the **Hostname or IP address** field (by default, `192.168.0.1`). Deselect the **Query the printer and automatically select the driver to use** checkbox and, if needed, change the name of the port in the **Port name** field. Click the **Next** button.

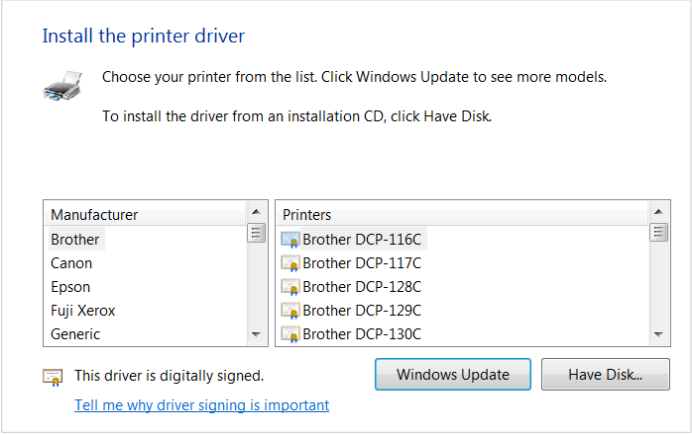


10. Wait for about 20-30 seconds. In the opened **Additional port information required** window, select the **Custom** choice of the radio button, click the **Settings** button, and make sure that the **RAW** choice of the radio button is selected in the **Protocol** section and the **9100** value is specified in the **Raw Settings** section. Click the **OK** button.

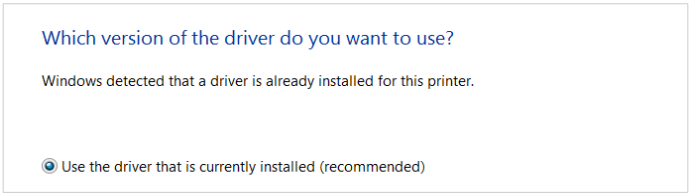


11. Then in the **Additional port information required** window, select the **Standard** choice of the radio button and click the **Next** button.

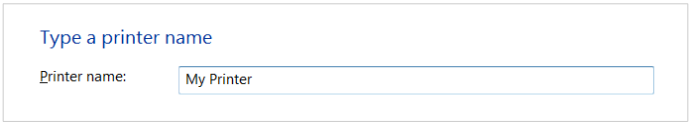
12. Select your printer and click the **Next** button.



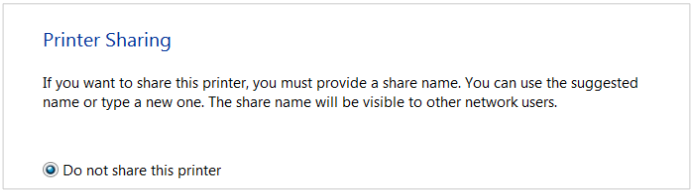
13. Select the **Use the driver that is currently installed** choice of the radio button and click the **Next** button.



14. Enter a name of the printer (you can specify any name) in the **Printer name** field and click the **Next** button.



15. In the **Printer Sharing** window, select the **Do not share this printer** choice of the radio button and click the **Next** button.



16. If you need to print a test page, click the **Print a test page** button. To finish the printer installation, click the **Finish** button.

SPECIFICATIONS*

Hardware	
Processor	· RTL8685PB (1GHz)
RAM	· 128MB, DDR2, built in processor
Flash	· 128 MБ, Serial NAND
Built-in modem	· BroadMobi BM806U-E1
Interfaces	· Slot for SIM card (mini-SIM) · 10/100/1000BASE-T WAN port · 4 10/100/1000BASE-T LAN ports · 1 RJ-11 DSL port · 2 RJ-11 FXS ports · USB 2.0 port
LEDs	· POWER · INTERNET · WAN · LAN · 5GHz · 2.4GHz · VOICE · DSL · SMS · 3G/LTE · SIGNAL STRENGTH
Buttons	· POWER switch to power on/power off · RESET button to restore factory default settings · WPS button to set up wireless connection · WIFI ON/OFF button to enable/disable wireless network
Antenna	· Two detachable LTE/3G antennas (3dBi gain) · Two internal Wi-Fi antennas for 2.4GHz band (4dBi gain) · Two internal Wi-Fi antennas for 5GHz band (4dBi gain)
MIMO	· 2 x 2
Power connector	· Power input connector (DC)

* The device features are subject to change without notice. For the latest versions of the firmware and relevant documentation, visit www.dlink.ru.

Software	
WAN connection types	· LTE · PPPoE / IPv6 PPPoE / PPPoE Dual Stack / PPPoA · Static IP / Dynamic IP / IPoA · Static IPv6 / Dynamic IPv6 · PPPoE + Static IP (PPPoE Dual Access) · PPPoE + Dynamic IP (PPPoE Dual Access) · PPTP/L2TP + Static IP · PPTP/L2TP + Dynamic IP · Bridge
Network functions	· Support of IEEE 802.1X for Internet connection · DHCP server/relay · Stateful/Stateless mode for IPv6 address assignment, IPv6 prefix delegation · DNS relay · Dynamic DNS · Static IP routing · Static IPv6 routing · IGMP Proxy · RIP · Support of UPnP IGD · Support of VLAN · WAN ping respond · Support of SIP ALG · Support of RTSP · WAN failover · LAN/WAN conversion
Firewall functions	· Network Address Translation (NAT) · Stateful Packet Inspection (SPI) · IP filter · IPv6 filter · MAC filter · URL filter · DMZ · Prevention of ARP and DDoS attacks · Virtual servers · Built-in Yandex.DNS web content filtering service
VPN	· IPsec/PPTP/L2TP/PPPoE pass-through · IPsec tunnels
QoS	· Interface grouping · VLAN priority (802.1p)
USB interface functions	· USB storage File browser Print server Access to storage via accounts Built-in Samba/FTP/DLNA server Built-in Transmission torrent client; uploading/downloading files from/to USB storage

Software	
Management	· Local and remote access to settings through TELNET/WEB (HTTP/HTTPS) · Bilingual web-based interface for configuration and management (Russian/English) · Support of mobile application for Android smartphones · Notification on connection problems and auto redirect to settings · Firmware update via web-based interface · Automatic notification on new firmware version · Saving/restoring configuration to/from file · Support of logging to remote host/connected USB storage · Automatic synchronization of system time with NTP server and manual time/date setup · Ping utility · Traceroute utility · TR-069 client

LTE Module Parameters	
LTE connection rate[4]	· Downlink: up to 150Mbps · Uplink: up to 50Mbps
Supported frequencies[5]	· Power Class 3 · LTE B1/2/3/5/7/8/20/38/40 · UMTS B1/2/3/5/8 (2100/1900/1800/850/900MHz) · GSM/GPRS 850/900/1800/1900MHz
Functions	· Auto connection to available type of supported network (4G/3G/2G) · Auto configuration of connection upon plugging in SIM card · Enabling/disabling PIN code check, changing PIN code · Sending/receiving/reading/removing SMS messages · Support of USSD requests (*For DWR-980 with the built-in modem FW version M1.4.4_E1.0.3_A1.1.8. See the data on the modem FW version in the web-based interface of the router, on the "LTE Modem" page.*)

4 Data rates are theoretical. Data transfer rate depends on network capacity and signal strength.
5 Supported frequency bands are dependent on regional variants.

DSL Parameters	
VDSL/ADSL Standards	· VDSL2: ITU G.993.2, support of 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a, 35b · ADSL: Multi-mode, 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
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

Wireless Module Parameters	
Standards	· IEEE 802.11a/n/ac · IEEE 802.11b/g/n
Frequency range	· 2400 ~ 2483.5MHz · 5150 ~ 5250MHz · 5725 ~ 5850MHz
Wireless connection security	· WEP · WPA/WPA2 (Personal/Enterprise) · MAC filter · WPS (PBC/PIN)
Advanced functions	· WMM (Wi-Fi QoS) · Information on connected Wi-Fi clients · Advanced settings · Guest Wi-Fi / support of MBSSID · Limitation of wireless network rate · Periodic scan of channels, automatic switch to least loaded channel · Autonegotiation of channel bandwidth in accordance with environment conditions (20/40 Coexistence)
Wireless connection rate	· IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, and 54Mbps · IEEE 802.11b: 1, 2, 5.5, and 11Mbps · IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, and 54Mbps · IEEE 802.11n (2.4GHz/5GHz): from 6.5 to 300Mbps (from MCS0 to MCS15) · IEEE 802.11ac (5GHz): from 6.5 to 867Mbps (from MCS0 to MSC9)

Wireless Module Parameters	
Transmitter output power *The maximum value of the transmitter output power depends upon the radio frequency regulations applied in your country*	· 802.11a 16dBm at 6Mbps · 802.11b 15dBm at 1Mbps · 802.11g 15dBm at 6Mbps · 802.11n 14dBm at MCS0 · 802.11ac 14dBm at MCS0
Receiver sensitivity	· 802.11a -82dBm at 6Mbps · 802.11b -80dBm at 1Mbps · 802.11g -82dBm at 6Mbps · 802.11n -82dBm at MCS0 · 802.11ac -76dBm at MCS0
Modulation schemes	· 802.11a: BPSK, QPSK, 16 QAM, 64 QAM with OFDM · 802.11b: DQPSK, DBPSK, DSSS, and CCK · 802.11g: BPSK, QPSK, 16QAM, 64 QAM with OFDM · 802.11n: BPSK, QPSK, 16 QAM, 64 QAM with OFDM · 802.11ac: BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM with OFDM

Phone	
General SIP Features	· Individual account per port · Invite with Challenge · Register by IP address or domain name of SIP server · Backup proxy support · Support of DHCP option 120 · RFC3986 SIP URI format support · Outbound proxy support · STUN client · NAT public IP address · NAT keep-alive · Session timer (re-invite/update) · Call types: voice/modem/fax · User programmable Dial Plan · Manual peer table (for P2P calls) · E.164 Numbering, ENUM support

Phone	
Call Features	· Direct IP-to-IP call without SIP proxy (P2P) · Call hold/retrieve · Call awaiting · Forwarding (unconditional, busy, no answer) · Do Not Disturb · Anonymous call blocking · Speed/abbreviated dialing · PIN code before dialing · Phone book · Hotline · Vertical service codes · CLIR · Intercom (internal calls without SIP server) · Filtering SIP packets by IP address/domain name Filtering by IP address (white/black list) · Alarm clock · Logging and recording calls · Sending text messages to VoIP gateways/IP phones
Voice Features	· Codecs: G.711 a/μ-law, G.729A, G.726, G.722, G.723.1, GSMFR, ILBC, SPEEX · DTMF detection and generation · In-band DTMF, out-of-band DTMF (RFC2833, SIP-INFO) · Comfort Noise Generation (CNG) · Voice Activity Detection (VAD) · Dynamic Jitter Buffer · Echo Cancellation (LEC/NLP) · Call progress tone generation (FXS) · DTMF/PULSE dial support · Caller ID detection and generation · T.30 FAX bypass to G.711, T.38 Real Time FAX Relay, V.152 · Adjustable Flash Time · Advanced call transfer · Volume control (speaker/microphone)

Physical Parameters	
Dimensions (L x W x H)	· 220 x 67 x 195 mm (8.7 x 2.6 x 7.7 in)
Weight	· 465 g (1 lb)

Operating Environment	
Power	· Output: 12V DC, 2.5A
Temperature	· Operating: from 5 to 40 °C · Storage: from -20 to 70 °C
Humidity	· Operating: from 10% to 90% (non-condensing) · Storage: from 5% to 95% (non-condensing)

SAFETY RULES AND CONDITIONS

Please carefully read this section before installation and connection of the device. Make sure that the power adapter and cables are not damaged. The device should be used only as intended in accordance with the documents.

The device is intended for use in dry, clean, dust-free, and well ventilated areas with normal humidity away from strong heat sources. Do not use the device outdoors or in the areas with high humidity. Do not place foreign objects on the device. Do not obstruct the ventilation openings of the device. The environmental temperature near the device and the temperature inside the device's cover should be within the range from 0 °C to +40 °C.

Only use the power adapter supplied with the device. Do not plug in the adapter, if its case or cable are damaged. Plug the adapter only into working electrical outlets with parameters indicated on the adapter.

Do not open the cover of the device! Unplug the device before dusting and cleaning. Use a damp cloth to clean the device. Do not use liquid/aerosol cleaners or magnetic/static cleaning devices. Prevent moisture getting into the device or the power adapter.

The service life of the device is 2 years.

TECHNICAL SUPPORT

You can find software updates and user documentation on our website.

D-Link provides its customers with free support within the product's warranty period.

Customers can contact the technical support group by phone or by e-mail/Internet.

FOR TELEPHONE NUMBERS AND ADDRESSES OF D-LINK OFFICES WORLDWIDE VISIT

http://www.dlink.com