D-Link®

Quick Installation Guide

DIR-320NRU

Multifunction Wireless Router Supporting WiMAX, 3G GSM/CDMA with Built-in Switch

BEFORE YOU BEGIN

Delivery Package

- Wireless router DIR-320NRU
- Power adapter
- Straight-through Ethernet cable (CAT 5E)
- CD-ROM with "***User Manual***" and "***Quick Installation Guide***"
- "***Quick Installation Guide***" (brochure)

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

! **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

IP address of wireless router	`192.168.0.1`
Username (login)	`admin`
Password	`admin`
Name of wireless network (SSID)	`DIR-320NRU`

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: Windows Internet Explorer, Mozilla Firefox, or Opera.
- A NIC (Ethernet or Wi-Fi adapter) to connect to the router.
- An 802.11b, g, or n Wi-Fi adapter to create a wireless network.
- A USB modem to connect to the Internet[1].
  - A WiMAX USB modem to connect to the Internet via a WiMAX network.

  Some WiMAX operators require subscribers to activate their WiMAX USB modems prior to using them. Please, refer to connection guidelines provided by your operator when concluding the agreement or placed on its website.

  - A 3G USB modem to connect to the Internet via a 3G GSM or CDMA network.

  Your USB modem should be equipped with an active identification card (SIM or R-UIM) of your operator.

  It is recommended to disable the PIN code check on the identification card prior to connecting the USB modem to the router.

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

Supported USB Modems

GSM modems

- Huawei E150
- Huawei E1550
- Huawei E160G
- Huawei E169G
- Huawei E173
- Huawei E220
- ZTE MF626
- ZTE MF627.

CDMA modems

- Anydata ADU-500A
- Celot CT-650.

WiMAX modem

- Samsung SWC-U200 (firmware version *u200_rev1-2.7.40-CI14*).

CONNECTING TO PC (OS WINDOWS XP)

PC with Ethernet Adapter

1. Make sure that your PC is powered off.
2. Connect an Ethernet cable between any of LAN ports located on the back panel of the router and the Ethernet port of your PC.
3. To connect via a WiMAX, 3G GSM or CDMA network: connect your USB modem to the USB port[2] located on the back panel of the router.

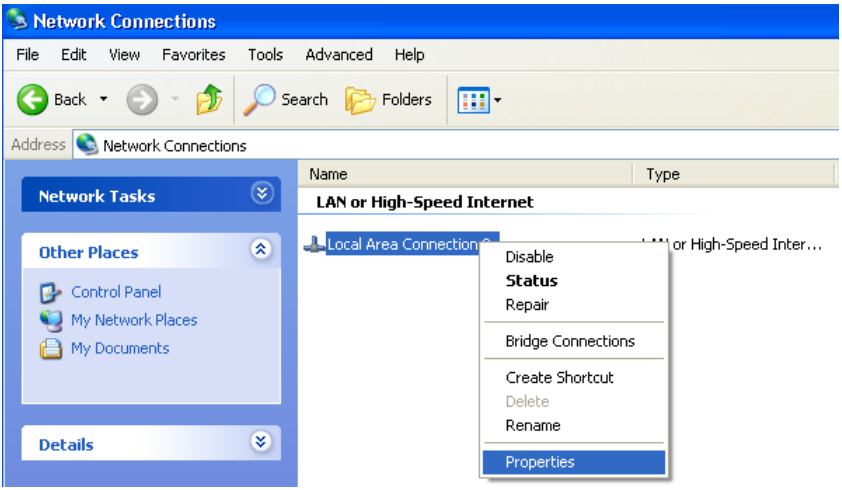
   ! If you need to connect or change a USB modem to another one when the router is powered on, power off the router, connect the modem to the USB port, and power on the router.
4. Connect the power cord to the power connector port on the back panel of the router, then plug the power adapter into an electrical outlet or power strip.
5. Turn on your PC and wait until your operating system is completely loaded.

Now you should configure your PC to obtain an IP address automatically (as DHCP client).

1. Click the **Start** button and proceed to the **Control Panel > Network and Internet Connections > Network Connections** window.

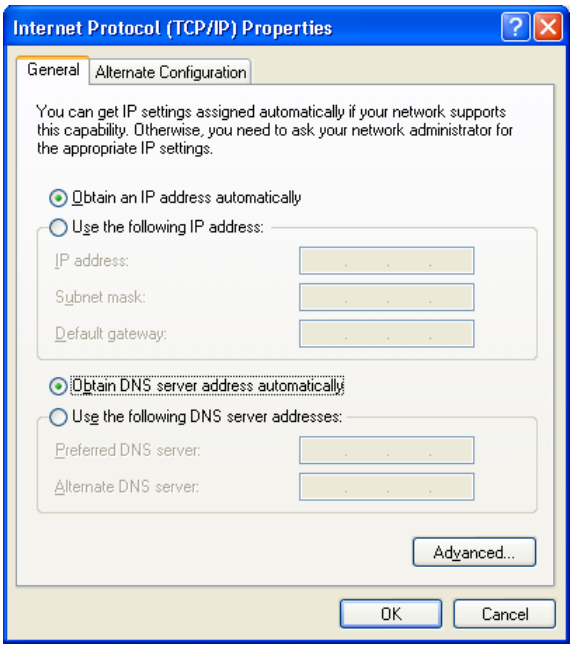
2 It is recommended to a USB extension cable to connect a USB modem to the router.

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



3. In the **Local Area Connection Properties** window, on the **General** tab, in the **This connection uses the following items** section, select the **Internet Protocol (TCP/IP)** line. Click the **Properties** button.

4. Select the **Obtain an IP address automatically** radio button. Click the **OK** button.



Click the **OK** button. Now your computer is configured to obtain an IP address automatically.

PC with Wi-Fi Adapter

1. To connect via a WiMAX, 3G GSM or CDMA network: connect your USB modem to the USB port[3] located on the back panel of the router.

! If you need to connect or change a USB modem to another one when the router is powered on, power off the router, connect the modem to the USB port, and power on the router.

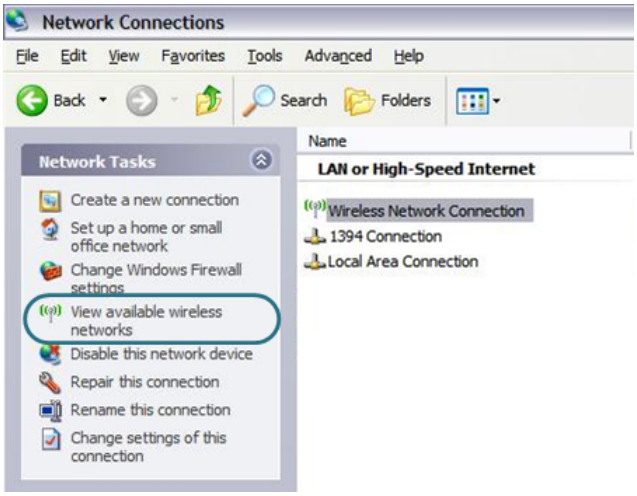
2. Connect the power cord to the power connector port on the back panel of the router, then plug the power adapter into an electrical outlet or power strip.

3 It is recommended to a USB extension cable to connect a USB modem to the router.

3. Turn on your PC and wait until your operating system is completely loaded.
4. Turn on your Wi-Fi adapter. 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.

Now you should configure your Wi-Fi adapter.

1. Click the **Start** button and proceed to the **Control Panel > Network and Internet Connections > Network Connections** window.
2. Select the icon of the wireless connection and make sure that your Wi-Fi adapter is on.



3. Search for available wireless networks.
4. In the opened **Wireless Network Connection** window, select the needed wireless network (**DIR-320NRU**) and click the **Connect** button.

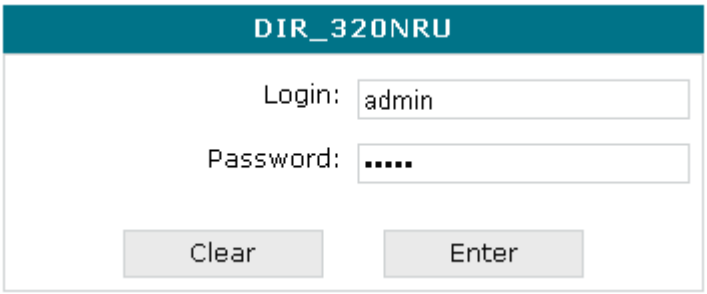
After that the **Wireless Network Connection Status** window appears.

CONFIGURING ROUTER

Connecting to Web-based Interface

1. Start a web browser.
2. In the address bar of the web browser, enter the IP address of the router (by default, the following IP address is specified: **192.168.0.1**). Press the **Enter** key.

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** button.



! 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.

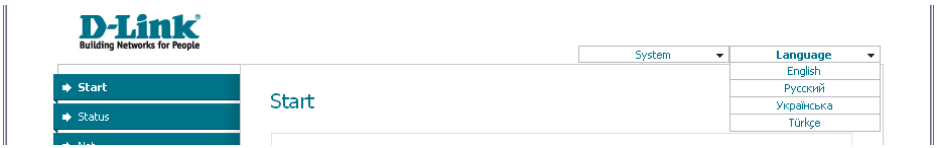
Right after the first access to the web-based interface you are forwarded to the page for changing the administrator password specified by default.

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

! Remember or write down the new password for the administrator account. In case of losing the new password, you can access the web-based interface 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.

After successful registration the system statistics page opens. The page displays general information on the router and its software.

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.



Configuring Connection to the Internet

! 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.

WiMAX WAN Connection

1. If your operator specified an identifier for the WiMAX network, proceed to the **WiMAX / Information** page, enter the required value in the **SSID** field and click the **Connect** button.
2. Go to the **Net / Connections** page and click the **Add** button.
3. In the **Physical layer** section, select the **USB-WIMAX** value from the **Physical interface** drop-down list.
4. In the **General settings** section, specify a name for your connection (any name for easier identification) in the **Name** field and select the **IPoE** value from the **Connection Type** drop-down list.
5. ***For Static IP connection***: fill in the **IP Address**, **Netmask**, **Gateway IP Address**, and **Primary DNS server** fields.
6. ***For Dynamic IP connection***: select the **Obtain an IP address automatically** and **Obtain DNS server addresses automatically** checkboxes.
7. Click the **Save** button.
8. On the **Net / Connections** page, select the choice of the **Default gateway** radio button corresponding to the new WiMAX WAN connection.

3G WAN Connection

If the PIN code check is enabled for the SIM card inserted into your USB modem, then prior to creating a 3G WAN connection, proceed to the **USB modem** menu and enter the PIN code on the page displayed.

1. Go to the **Net / Connections** page and click the **Add** button.
2. In the **General settings** section, specify a name for your connection (any name for easier identification) in the **Name** field and select the **3G** value from the **Connection Type** drop-down list.
3. In the **Physical layer** section, select the **USB** value from the **Physical interface** drop-down list.
4. In the **PPP Settings** section, enter authorization data provided by your operator (the username (login) in the **PPP Username** field and the password in the **Password** and **Password confirmation** fields), or select the **Without authorization** checkbox if authorization is not required.
5. In the **APN** field, enter the access point name, and in the **Dial number** field, enter the number dialed to connect to the authorization server of the operator.
6. Click the **Save** button.
7. On the **Net / Connections** page, select the choice of the **Default gateway** radio button corresponding to the new 3G WAN connection.

PPPoE or IPoE WAN Connection

1. Go to the **Net / Connections** page and select the **WAN** connection.
2. In the **General settings** section, select a needed value from the **Connection Type** drop-down list.
3. In the **Physical layer** section, select the value corresponding to the INTERNET port of the router (**port 5**) from the **Physical interface** drop-down list.
4. If your ISP uses MAC address binding, enter the address registered by your ISP upon concluding the agreement in the **MAC** field.
5. ***For Static IP connection (IPoE)***: fill in the **IP Address**, **Netmask**, **Gateway IP Address**, and **Primary DNS server** fields.
6. ***For Dynamic IP connection (IPoE)***: select the **Obtain an IP address automatically** and **Obtain DNS server addresses automatically** checkboxes.
7. ***For PPPoE connection***: enter authorization data provided by your ISP (the username (login) in the **PPP Username** field and the password in the **Password** and **Password confirmation** fields), or select the **Without authorization** checkbox if authorization is not required.
8. If needed, fill in other fields on the page in accordance with data provided by the ISP.
9. Click the **Save** button.

PPTP or L2TP WAN Connection

1. Go to the **Net / Connections** page and select the **WAN** connection.
2. In the **General settings** section, select the **IPoE** value from the **Connection Type** drop-down list.
3. In the **Physical layer** section, select the value corresponding to the INTERNET port of the router (**port 5**) from the **Physical interface** drop-down list.
4. If your ISP uses MAC address binding, enter the address registered by your ISP upon concluding the agreement in the **MAC** field.
5. ***For Static IP connection***: fill in the **IP Address**, **Netmask**, **Gateway IP Address**, and **Primary DNS server** fields.
6. ***For Dynamic IP connection***: select the **Obtain an IP address automatically** and **Obtain DNS server addresses automatically** checkboxes.
7. Click the **Save** button.
8. On the **Net / Connections** page, click the **Add** button.
9. In the **General settings** section, specify a name for your connection (any name for easier identification) in the **Name** field and select a needed value (**PPTP** or **L2TP**) from the **Connection Type** drop-down list.
10. In the **Physical layer** section, select the **WAN** value from the **Physical interface** drop-down list.
11. Fill in other fields on the page in accordance with data provided by the ISP.
12. Click the **Save** button.
13. On the **Net / Connections** page, select the choice of the **Default gateway** radio button corresponding to the new PPTP or L2TP WAN connection.

Example of Connection via VLANs

If your ISP provides:

- access to the Internet via the VLAN with the tag (VLAN ID) **2**, the **PPPoE** connection type, the login **user**, and the password **user_password**,
- access to IPTV service via the VLAN with the tag (VLAN ID) **10**,

and your set-top box is connected to the LAN port 2, then follow the next steps to configure the router.

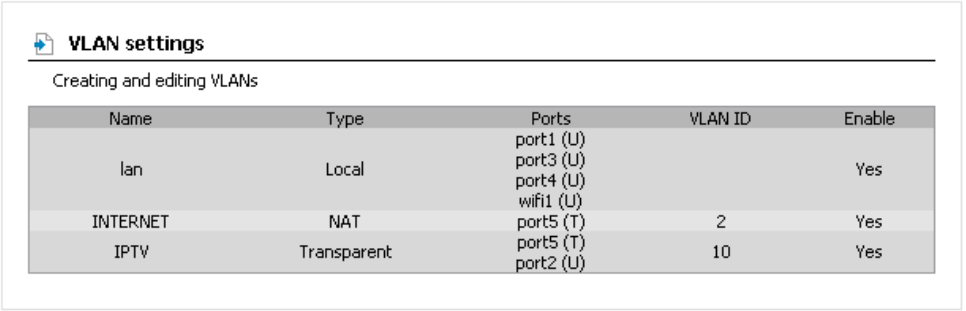
1. Go to the **Net / Connections** page, select the **WAN** connection and click the **Delete** button on the opened page.
2. Go to the **Advanced / VLAN** page.
3. Select the **lan** group.
4. Select the line **port 2** in the table at the bottom of the page and click the **Delete port** button.
5. Click the **Save changes** button.
6. Select the **wan** group.
7. In the **Name** filed, enter a name for the group (**INTERNET**).
8. From the **Type** drop-down list, select the **NAT** value.
9. From the **Port** drop-down list, select the value **port 5** (corresponds to the INTERNET port of the router).
10. From the **Tag** drop-down list, select the **tagged** value.
11. In the **VLAN ID** field, enter **2**.
12. Click the **Save changes** button.

You have created the group of ports for connection to the Internet.

13. Click the **Add** button.
14. In the **Name** field, enter a name for the new group (**IPTV**).
15. From the **Type** drop-down list, select the **Transparent** value.
16. From the **Port** drop-down list, select the value **port 2**.

17. From the **Tag** drop-down list, select the **untagged** value.
18. From the **Port** drop-down list, select the value **port 5.**
19. From the **Tag** drop-down list, select the **tagged** value.
20. In the **VLAN ID** field, enter `10`.
21. Click the **Save changes** button.

You have created the group of ports for IPTV service.


VLAN settings

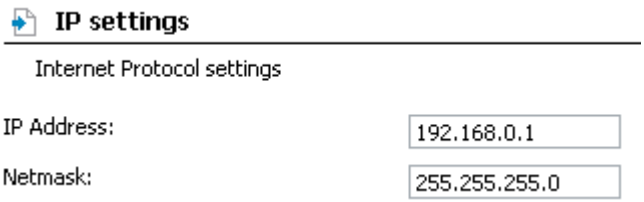
Creating and editing VLANs

Name	Type	Ports	VLAN ID	Enable
lan	Local	port1 (U) port3 (U) port4 (U) wifi1 (U)		Yes
INTERNET	NAT	port5 (T)	2	Yes
IPTV	Transparent	port5 (T) port2 (U)	10	Yes

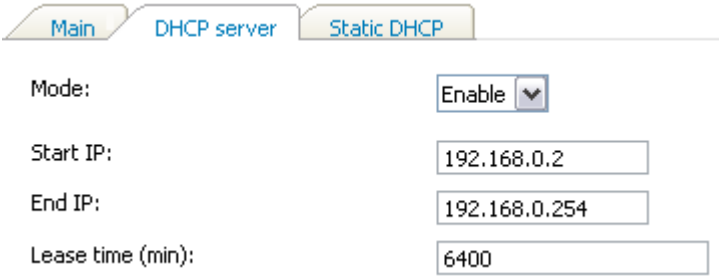
22. Click the **Save&Reboot** line in the top-page menu displayed when the mouse pointer is over the **System** caption.
23. Log into the web-based interface and go to the **Net / Connections** tab.
24. Click the **Add** button.
25. On the opened page, select the **PPPoE** value from the **Connection Type** drop-down list.
26. From the **Physical interface** drop-down list, select the value **Port 5.2**.
27. In the **PPP Username** filed, enter `user`.
28. Deselect the **Without authorization** checkbox.
29. In the **Password** and **Password confirmation** fields, enter `user_password`.
30. Click the **Save** button.

Configuring Local Area Network

1. Go to the **Net / Connections** page and select the **LAN** connection. If needed, change the IP address and subnet mask for the LAN interface of the router in the **IP Address** and **Netmask** fields of the **IP settings** section. Then click the **Save** button.



2. By default, the DHCP server of the router is enabled. On the **DHCP server** tab you can change the parameters of the DHCP server. If you want to manually assign IP addresses to devices of your LAN, disable the DHCP server (select the **Disable** value from the **Mode** drop-down list).



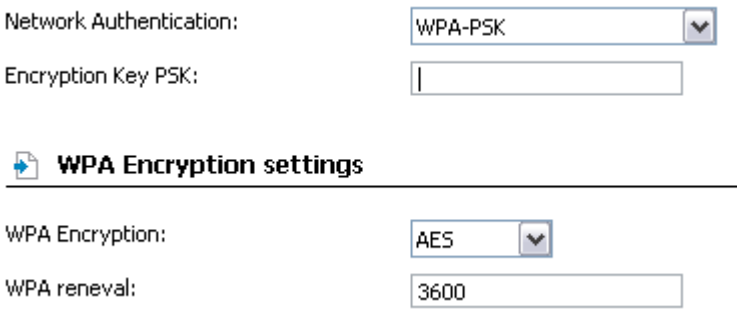
3. After specifying the DHCP server settings, click the **Save** button.

Configuring Wireless Network

By default, the wireless network of the router is open (it requires no password to access it). To avoid unauthorized access to your wireless local area network, change the default settings of the router.

Example of Wireless Settings

1. Go to the **Wi-Fi / Security settings** page.
2. Select the **WPA-PSK** value from the **Network Authentication** drop-down list.



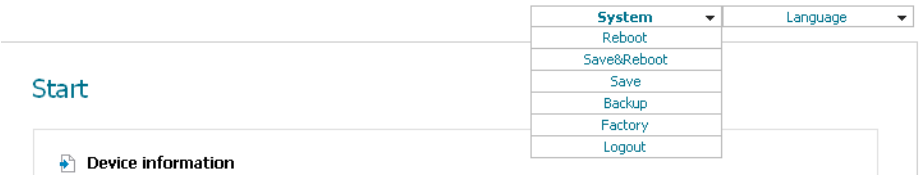
3. Enter a key (a password that will be used to access your wireless network) in the **Encryption Key PSK** field. Use digits and Latin characters.
4. Select the **AES** value from the **WPA Encryption** drop-down list.
5. Click the **Change** button.

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

Saving Settings to Non-volatile Memory

In order to avoid losing the new settings upon hardware reboot (accidental or intentional power-off of the device), it is recommended to save the settings to the non-volatile memory of the router.

Click the **Save&Reboot** line in the top-page menu displayed when the mouse pointer is over the **System** caption.



Wait until the router is rebooted. Now you can use it to access the Internet or access the web-based interface of the router to configure additional parameters (for detailed description of every page of the web-based interface, see the "***User Manual***" document).

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/corporate/worldwideoffices/