

## Product Highlights

### HIGH SPEED

Total wireless connection rate up to 750Mbps

### USB PORT

Support of USB modem for Internet connection via 4G/3G/2G network, USB storage, and printer

### IPV6 SUPPORT

All needed functions for up-to-date networking



## DIR-816

### Wireless AC750 Dual Band Router with 3G/LTE Support and USB Port

#### USB Port

The router is equipped with a USB port for connecting a USB modem, which can be used to establish connection to the Internet. In addition, to the USB port of the router you can connect a USB storage device, which will be used as a network drive, or a printer.

#### Wireless Interface

Using the DIR-816 device, you are able to quickly create a high-speed wireless network at home or in your office, which lets computers and mobile devices access the Internet virtually anywhere (within the operational range of your wireless network). Simultaneous activity of 2.4GHz band and 5GHz band allows performing a wide range of tasks. The router can operate as a base station for connecting wireless devices of the standards 802.11a, 802.11b, 802.11g, 802.11n, and 802.11ac (at the wireless connection rate up to 733Mbps<sup>1</sup>).

#### Secure Wireless Connection

The router supports multiple functions for the wireless interface: several security standards (WEP, WPA/WPA2), MAC address filtering, WPS, WMM.

#### Advanced Capabilities of Wireless Network

Support of guest Wi-Fi network allows you to create a separate wireless network with individual security settings. Devices connected to the guest network will be able to access the Internet, but will be isolated from the devices and resources of the router's LAN.

#### Security

The wireless router DIR-816 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.

In addition, the router supports IPsec and allows to create secure VPN tunnels.

Built-in Yandex.DNS service protects against malicious and fraudulent web sites and helps to block access to adult content on children's devices.

<sup>1</sup> Up to 300Mbps for 2.4GHz and up to 433Mbps for 5GHz.

### Easy configuration and update

You can configure the settings of the wireless router DIR-816 via the user-friendly web-based interface (the interface is available in several languages).

The configuration wizard allows you to quickly switch DIR-816 to one of the following modes: router (for connection to a wired or wireless ISP), access point, repeater, or client, and then configure all needed setting for operation in the selected mode in several simple steps.

You can simply update the firmware: the router itself finds approved firmware on D-Link update server and notifies when ready to install it.

Hardware	
<b>Processor</b>	· MT7620A (580MHz)
<b>RAM</b>	· 64MB, DDR2
<b>Flash</b>	· 16MB, SPI
<b>Interfaces</b>	· 10/100BASE-TX WAN port · 4 10/100BASE-TX LAN ports · USB 2.0 port
<b>LEDs</b>	· POWER · 2.4G WLAN · 5G WLAN · INTERNET · WPS
<b>Buttons</b>	· ON/OFF button to power on/power off · WPS/RESET button to set up wireless connection and to restore factory default settings
<b>Antenna</b>	· Three external non-detachable antennas (5dBi gain)
<b>MIMO</b>	· 2 x 2 (for 2.4GHz)
<b>Power connector</b>	· Power input connector (DC)

Software	
<b>WAN connection types</b>	<ul style="list-style-type: none"> <li>· LTE</li> <li>· 3G</li> <li>· PPPoE</li> <li>· IPv6 PPPoE</li> <li>· PPPoE Dual Stack</li> <li>· Static IP / Dynamic IP</li> <li>· Static IPv6 / Dynamic IPv6</li> <li>· PPPoE + Static IP / Dynamic IP</li> <li>· PPTP/L2TP + Static IP</li> <li>· PPTP/L2TP + Dynamic IP</li> </ul>
<b>Network functions</b>	<ul style="list-style-type: none"> <li>· Support of IEEE 802.1X for Internet connection</li> <li>· DHCP server/relay</li> <li>· DHCPv6 server (Stateful/Stateless), IPv6 prefix delegation</li> <li>· DNS relay</li> <li>· Support of DNSv6 AAAA records</li> <li>· Dynamic DNS</li> <li>· Static IP routing</li> <li>· Static IPv6 routing</li> <li>· IGMP Proxy</li> <li>· RIP</li> <li>· Support of UPnP IGD</li> <li>· Support of VLAN</li> <li>· WAN ping respond</li> <li>· Support of SIP ALG</li> <li>· Support of RTSP</li> <li>· WAN reservation</li> <li>· Autonegotiation of speed, duplex mode, and flow control/Manual speed and duplex mode setup for each Ethernet port</li> <li>· Built-in UDPXY application</li> <li>· XUPNPD plug-in</li> </ul>

<b>Software</b>	
<b>Firewall functions</b>	<ul style="list-style-type: none"> <li>· Network Address Translation (NAT)</li> <li>· Stateful Packet Inspection (SPI)</li> <li>· IP filter</li> <li>· IPv6 filter</li> <li>· MAC filter</li> <li>· URL filter</li> <li>· DMZ</li> <li>· Prevention of ARP and DDoS attacks</li> <li>· Virtual servers</li> <li>· Built-in Yandex.DNS web content filtering service</li> </ul>
<b>VPN</b>	<ul style="list-style-type: none"> <li>· IPSec/PPTP/L2TP/PPPoE pass-through</li> <li>· IPSec tunnels</li> </ul>
<b>USB interface functions</b>	<ul style="list-style-type: none"> <li>· USB modem Auto connection to available type of supported network (4G/3G/2G) Auto configuration of connection upon plugging in USB modem Enabling/disabling PIN code check, changing PIN code<sup>2</sup></li> <li>· USB storage File browser Print server Access to storage via accounts Built-in Samba server Built-in FTP server Built-in DLNA server Built-in Transmission torrent client; uploading/downloading files from/to USB storage</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>· Local and remote access to settings through TELNET/WEB (HTTP/HTTPS)</li> <li>· Bilingual web-based interface for configuration and management (Russian/English)</li> <li>· Notification on connection problems and auto redirect to settings</li> <li>· Firmware update via web-based interface</li> <li>· Automatic notification on new firmware version</li> <li>· Saving/restoring configuration to/from file</li> <li>· Support of logging to remote host/connected USB storage</li> <li>· Automatic synchronization of system time with NTP server and manual time/date setup</li> <li>· Ping function</li> <li>· Traceroute utility</li> <li>· TR-069 client</li> <li>· SNMP manager</li> </ul>

<b>Wireless Module Parameters</b>	
<b>Standards</b>	<ul style="list-style-type: none"> <li>· IEEE 802.11a/n/ac</li> <li>· IEEE 802.11b/g/n</li> </ul>
<b>Frequency range</b>	<ul style="list-style-type: none"> <li>· 2400 ~ 2483.5MHz</li> <li>· 5150 ~ 5350MHz</li> <li>· 5650 ~ 5725MHz</li> </ul>
<b>Wireless connection security</b>	<ul style="list-style-type: none"> <li>· WEP</li> <li>· WPA/WPA2 (Personal/Enterprise)</li> <li>· MAC filter</li> <li>· WPS (PBC/PIN)</li> </ul>
<b>Advanced functions</b>	<ul style="list-style-type: none"> <li>· Support of client mode</li> <li>· WMM (Wi-Fi QoS)</li> <li>· Information on connected Wi-Fi clients</li> <li>· Advanced settings</li> <li>· Guest Wi-Fi / support of MBSSID</li> <li>· Periodic scan of channels, automatic switch to least loaded channel</li> </ul>
<b>Wireless connection rate</b>	<ul style="list-style-type: none"> <li>· IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, and 54Mbps</li> <li>· IEEE 802.11b: 1, 2, 5.5, and 11Mbps</li> <li>· IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, and 54Mbps</li> <li>· IEEE 802.11n (2.4GHz/5GHz): from 6.5 to 300Mbps (from MCS0 to MCS15)</li> <li>· IEEE 802.11ac (5GHz): from 6.5 to 433Mbps (from MCS0 to MSC9)</li> </ul>
<b>Transmitter output power</b>  <i>The maximum value of the transmitter output power depends upon the radio frequency regulations applied in your country</i>	<ul style="list-style-type: none"> <li>· 802.11a (typical at room temperature 25 °C) 15dBm at 6, 9, 12, 18, 24, 36, 48, 54Mbps</li> <li>· 802.11b (typical at room temperature 25 °C) 15dBm at 1, 2, 5.5, 11Mbps</li> <li>· 802.11g (typical at room temperature 25 °C) 15dBm at 6, 9, 12, 18, 24, 36, 48, 54Mbps</li> <li>· 802.11n (typical at room temperature 25 °C) 2.4GHz, HT20/HT40 15dBm at MCS0~15 5GHz, HT20/HT40 15dBm at MCS0~15</li> <li>· 802.11ac (typical at room temperature 25 °C) VHT20 15dBm at MCS0~7 14.5dBm at MCS8 VHT40 15dBm at MCS0~7 14.5dBm at MCS8~9 VHT80 15dBm at MCS0~7 14.5dBm at MCS8~9</li> </ul>

**Wireless Module Parameters**

**Receiver sensitivity**

- 802.11a (typical at PER < 10% (1000-byte PDUs) at room temperature 25 °C)
  - 93dBm at 6Mbps
  - 92dBm at 9Mbps
  - 91dBm at 12Mbps
  - 90dBm at 18Mbps
  - 86dBm at 24Mbps
  - 84dBm at 36Mbps
  - 79dBm at 48Mbps
  - 77dBm at 54Mbps
  
- 802.11b (typical at PER = 8% (1000-byte PDUs) at room temperature 25 °C)
  - 98dBm at 1Mbps
  - 95dBm at 2Mbps
  - 93dBm at 5.5Mbps
  - 90dBm at 11Mbps
  
- 802.11g (typical at PER = 10% (1000-byte PDUs) at room temperature 25 °C)
  - 91dBm at 6Mbps
  - 90dBm at 9Mbps
  - 88dBm at 12Mbps
  - 86dBm at 18Mbps
  - 84dBm at 24Mbps
  - 81dBm at 36Mbps
  - 76dBm at 48Mbps
  - 74dBm at 54Mbps
  
- 802.11n (typical at PER = 10% (1000-byte PDUs))
  - 2.4GHz, HT20
    - 90dBm at MCS0
    - 89dBm at MCS1
    - 87dBm at MCS2
    - 84dBm at MCS3
    - 81dBm at MCS4
    - 77dBm at MCS5
    - 75dBm at MCS6
    - 74dBm at MCS7
  - 2.4GHz, HT40
    - 88dBm at MCS0
    - 86dBm at MCS1
    - 84dBm at MCS2
    - 81dBm at MCS3
    - 77dBm at MCS4
    - 74dBm at MCS5
    - 72dBm at MCS6
    - 70dBm at MCS7
  - 5GHz, HT20
    - 92dBm at MCS0
    - 91dBm at MCS1
    - 90dBm at MCS2
    - 86dBm at MCS3
    - 84dBm at MCS4
    - 78dBm at MCS5
    - 77dBm at MCS6
    - 75dBm at MCS7
  - 5GHz, HT40
    - 90dBm at MCS0
    - 89dBm at MCS1
    - 87dBm at MCS2
    - 84dBm at MCS3
    - 79dBm at MCS4
    - 76dBm at MCS5
    - 75dBm at MCS6
    - 73dBm at MCS7
  
- 802.11ac (typical at PER = 10% (1000-byte PDUs))
  - HT20
    - 92dBm at MCS0
    - 91dBm at MCS1
    - 90dBm at MCS2
    - 86dBm at MCS3
    - 84dBm at MCS4
    - 79dBm at MCS5

Wireless Module Parameters	
	<ul style="list-style-type: none"> <li>-77dBm at MCS6</li> <li>-76dBm at MCS7</li> <li>-71dBm at MCS8</li> <li>HT40</li> <li>-90dBm at MCS0</li> <li>-89dBm at MCS1</li> <li>-87dBm at MCS2</li> <li>-84dBm at MCS3</li> <li>-81dBm at MCS4</li> <li>-76dBm at MCS5</li> <li>-74dBm at MCS6</li> <li>-73dBm at MCS7</li> <li>-68dBm at MCS8</li> <li>-66dBm at MCS9</li> <li>HT80</li> <li>-85dBm at MCS0</li> <li>-84dBm at MCS1</li> <li>-83dBm at MCS2</li> <li>-80dBm at MCS3</li> <li>-76dBm at MCS4</li> <li>-72dBm at MCS5</li> <li>-70dBm at MCS6</li> <li>-68dBm at MCS7</li> <li>-63dBm at MCS8</li> <li>-61dBm at MCS9</li> </ul>
<b>Modulation schemes</b>	<ul style="list-style-type: none"> <li>· 802.11a: BPSK, QPSK, 16QAM, 64QAM with OFDM</li> <li>· 802.11b: DQPSK, DBPSK, DSSS, CCK</li> <li>· 802.11g: BPSK, QPSK, 16QAM, 64QAM with OFDM</li> <li>· 802.11n: BPSK, QPSK, 16QAM, 64QAM with OFDM</li> <li>· 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM with OFDM</li> </ul>

Physical Parameters	
<b>Dimensions (L x W x H)</b>	· 192 x 108 x 30 mm (7.56 x 4.25 x 1.18 in)
<b>Weight</b>	· 245 g (0.54 lb)

Operating Environment	
<b>Power</b>	· Output: 12V DC, 1A
<b>Temperature</b>	<ul style="list-style-type: none"> <li>· Operating: from 0 to 40 °C</li> <li>· Storage: from -20 to 65 °C</li> </ul>
<b>Humidity</b>	<ul style="list-style-type: none"> <li>· Operating: from 10% to 90% (non-condensing)</li> <li>· Storage: from 5% to 95% (non-condensing)</li> </ul>

Delivery Package	
	<ul style="list-style-type: none"> <li>· Router DIR-816</li> <li>· Power adapter DC 12V/1A</li> <li>· Ethernet cable</li> <li>· "Quick Installation Guide" (brochure)</li> </ul>

Supported USB modems <sup>3</sup>	
<b>GSM</b>	<ul style="list-style-type: none"> <li>· Alcatel X500</li> <li>· D-Link DWM-152C1</li> <li>· D-Link DWM-156A6</li> <li>· D-Link DWM-156A7</li> <li>· D-Link DWM 156A8</li> <li>· D-Link DWM-156C1</li> <li>· D-Link DWM-157B1</li> <li>· D-Link DWM-157B1 (Velcom)</li> <li>· D-Link DWM-158D1</li> <li>· D-Link DWR-710</li> <li>· Huawei E150</li> <li>· Huawei E1550</li> <li>· Huawei E156G</li> <li>· Huawei E160G</li> <li>· Huawei E169G</li> <li>· Huawei E171</li> <li>· Huawei E173 (Megafon)</li> <li>· Huawei E220</li> <li>· Huawei E3131 (MTS 420S)</li> <li>· Huawei E352 (Megafon)</li> <li>· Prolink PHS600</li> <li>· Prolink PHS901</li> <li>· ZTE MF112</li> <li>· ZTE MF192</li> <li>· ZTE MF626</li> <li>· ZTE MF627</li> <li>· ZTE MF652</li> <li>· ZTE MF667</li> <li>· ZTE MF668</li> <li>· ZTE MF752</li> </ul>
<b>LTE</b>	<ul style="list-style-type: none"> <li>· Huawei E3131</li> <li>· Huawei E3272</li> <li>· Huawei E3351</li> <li>· Huawei E3372</li> <li>· Huawei E367</li> <li>· Huawei E392</li> <li>· Megafon M100-1</li> <li>· Megafon M100-2</li> <li>· Megafon M100-3</li> <li>· Megafon M100-4</li> <li>· Megafon M150-1</li> <li>· Megafon M150-2</li> <li>· Quanta 1K6E (Beeline 1K6E)</li> <li>· MTS 824F</li> <li>· MTS 827F</li> <li>· Yota LU-150</li> <li>· Yota WLTUBA-107</li> <li>· ZTE MF823</li> <li>· ZTE MF827</li> </ul>
<b>Smartphones in USB tethering mode</b>	<ul style="list-style-type: none"> <li>· Some models of Android smartphones</li> </ul>

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<sup>3</sup> The manufacturer does not guarantee proper operation of the router with every modification of the firmware of USB modems.