D-Link®
Building Networks for People

Product Highlights

HIGH POWER AND SPEED
**New dual core (880MHz), Gigabit Ethernet ports,
total wireless connection rate up to 1900Mbps[1]**

EXTREME WI-FI PERFORMANCE
MU-MIMO for best rates, 3 data streams for increased throughput

IPV6 SUPPORT
**All needed functions
for up-to-date networking**

DIR-878

AC1900 MU-MIMO Wi-Fi Gigabit Router

LAN/WAN Conversion, WAN Failover

You can use any Ethernet port of the router as LAN or WAN port. The new-generation firmware supports assigning several WAN ports, for example, in order to configure the primary and backup WAN connection of different ISPs.

Wireless Interface

Using the DIR-878 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 1900Mbps[1]).

Secure Wireless Connection

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

In addition, the device is equipped with a button for switching the Wi-Fi network off/on. If needed, for example, when you leave home, you can easily switch the router's WLAN by pressing the button, and devices connected to the LAN ports of the router will stay online.

Advanced Capabilities of Wireless Network

The Super MESH function is D-Link implementation of Mesh networks designed to quickly connect multiple devices into one transport network, for example, when it's required to provide high-quality Wi-Fi coverage without dead zones in living units of complicated planning or it's needed to create a large temporary Wi-Fi network for an outdoor event.

Multi-user MIMO technology allows to distribute the router's resources to let multiple wireless clients use the Wi-Fi network efficiently, keeping high rates for HD media streaming, lag-free gaming, and fast transfer of large files.

Transmit Beamforming technology allows to flexibly change the antennas' radiation pattern and to redistribute the signal directly to wireless devices connected to the router.

Support of guest Wi-Fi network allows you to create a separate wireless network with individual security settings and maximum rate limitation. 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.

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1   Up to 600Mbps for 2.4GHz and up to 1300Mbps for 5GHz.

Security

The wireless router DIR-878 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.

The SSH protocol support provides more secure remote configuration and management of the router due to encryption of all transmitted traffic, including passwords.

In addition, the router supports IPsec and allows to create secure VPN tunnels. Support of the IKEv2 protocol allows to provide simplified message exchange and use asymmetric authentication engine upon configuration of an IPsec tunnel.

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

Now the schedules are also implemented; they can be applied to MAC filter rules and used to reboot the router at the specified time or every specified time period.

Easy configuration and update

You can configure the settings of the wireless router DIR-878 via the user-friendly web-based interface (the interface is available in two languages – in Russian and in English).

The configuration wizard allows you to quickly switch DIR-878 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.

Also DIR-878 supports configuration and management via mobile application for Android and iPhone smartphones.

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

Processor	· MT7621A (880MHz, dual core)
RAM	· 128MB, DDR3
Flash	· 16MB, SPI
Interfaces	· 10/100/1000BASE-T WAN port · 4 10/100/1000BASE-T LAN ports
LEDs	· Power · Internet · WLAN 2.4G · WLAN 5G
Buttons	· POWER button to power on/power off · WiFi button to enable/disable wireless network · WPS button to set up wireless connection · RESET button to restore factory default settings
Antenna	· Four external non-detachable antennas (5dBi gain)
MIMO	· 3 x 3, MU-MIMO
Power connector	· Power input connector (DC)

Software

WAN connection types	· PPPoE · IPv6 PPPoE · PPPoE Dual Stack · Static IPv4 / Dynamic IPv4 · Static IPv6 / Dynamic IPv6 · PPPoE + Static IP (PPPoE Dual Access) · PPPoE + Dynamic IP (PPPoE Dual Access) · PPTP/L2TP + Static IP · PPTP/L2TP + Dynamic IP
Network functions	· Support of IEEE 802.1X for Internet connection · DHCP server/relay · Stateful/Stateless mode for IPv6 address assignment, IPv6 prefix delegation · Automatic obtainment of LAN IP address (for access point/repeater/client modes) · 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 · Multi-WAN support · Autonegotiation of speed, duplex mode, and flow control/Manual speed and duplex mode setup for each Ethernet port · Built-in UDPXY application
Firewall functions	· Network Address Translation (NAT) · Stateful Packet Inspection (SPI) · IP filter · IPv6 filter · MAC filter · URL filter · DMZ · Virtual servers · Built-in Yandex.DNS web content filtering service

Software

VPN	· IPsec/PPTP/L2TP/PPPoE pass-through
	· PPTP/L2TP tunnels
	· IPsec tunnels
	  Transport/Tunnel mode
	  IKEv1/IKEv2 support
	  DES encryption
	  NAT Traversal
	  Support of DPD (Keep-alive for VPN tunnels)

Management	· Local and remote access to settings through SSH/TELNET/WEB (HTTP/HTTPS) · Bilingual web-based interface for configuration and management (Russian/English) · Support of D-Link Assistant application for Android and iPhone 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 · Automatic synchronization of system time with NTP server and manual time/date setup · Ping utility · Traceroute utility · TR-069 client · Schedules for MAC filters rules and automatic reboot

Wireless Module Parameters

Standards	· IEEE 802.11a/n/ac · IEEE 802.11b/g/n
Frequency range	· 2400 ~ 2483.5MHz · 5150 ~ 5350MHz · 5650 ~ 5725MHz
Wireless connection security	· WEP · WPA/WPA2 (Personal/Enterprise) · MAC filter · WPS (PBC/PIN)
Advanced functions	· Super Mesh function · Support of client mode · 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 · Support of 802.11ac (5GHz) and 802.11n (2.4GHz) TX Beamforming · Autonegotiation of channel bandwidth in accordance with environment conditions (20/40 Coexistence)
Wireless connection rate[2]	· 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): 6.5–450Mbps (MCS0–MCS23) to 600Mbps (QAM256) · IEEE 802.11n (5GHz): from 6.5 to 450Mbps (from MCS0 to MCS23) · IEEE 802.11ac (5GHz): from 6.5 to 1300Mbps (from MCS0 to MSC9)

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2   Maximum wireless signal rate is derived from IEEE standard 802.11ac and 802.11n specifications. In order to get the rate of 600Mbps in the 2.4GHz band, a Wi-Fi client should support MIMO 3x3 and QAM256 modulation scheme. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.

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 (typical at room temperature 25 °C)
	     15dBm at 6, 54Mbps
	
	· 802.11b (typical at room temperature 25 °C)
	     15dBm at 1, 11Mbps
	
	· 802.11g (typical at room temperature 25 °C)
	     15dBm at 6, 54Mbps
	
	· 802.11n (typical at room temperature 25 °C)
	     2.4GHz
	     15dBm at MCS0, 7
	     5GHz
	     15dBm at MCS0, 7
	
	· 802.11ac (typical at room temperature 25 °C)
	     15dBm at MCS0, 9

Receiver sensitivity	· 802.11a
	     -96dBm at 6Mbps
	     -78dBm at 54Mbps
	
	· 802.11b
	     -96dBm at 1Mbps
	     -90dBm at 11Mbps
	
	· 802.11g
	     -95dBm at 6Mbps
	     -76dBm at 54Mbps
	
	· 802.11n
	     2.4GHz, HT20
	     -95dBm at MCS0
	     -76dBm at MCS7
	     2.4GHz, HT40
	     -92dBm at MCS0
	     -72dBm at MCS7
	     5GHz, HT20
	     -95dBm at MCS0
	     -76dBm at MCS7
	     5GHz, HT40
	     -93dBm at MCS0
	     -73dBm at MCS7
	
	· 802.11ac
	     VHT20
	     -96dBm at MCS0
	     -73dBm at MCS8
	     VHT40
	     -92dBm at MCS0
	     -68dBm at MCS9
	     VHT80
	     -88dBm at MCS0
	     -64dBm at MCS9

Modulation schemes	· 802.11a: BPSK, QPSK, 16QAM, 64QAM with OFDM · 802.11b: DQPSK, DBPSK, DSSS, CCK · 802.11g: BPSK, QPSK, 16QAM, 64QAM with OFDM · 802.11n: BPSK, QPSK, 16QAM, 64QAM, 256QAM with OFDM · 802.11ac: BPSK, QPSK, 16QAM, 64QAM, up to 256QAM with OFDM

Physical Parameters	
Dimensions (L x W x H)	· 259 x 184 x 46 mm (10.8 x 7.24 x 1.81 in)
Weight	· 565 g (1.25 lb)

Operating Environment

Operating Environment	
Power	· Output: 12V DC, 1.5A
Temperature	· Operating: from 0 to 40 °C · Storage: from -20 to 65 °C
Humidity	· Operating: from 10% to 90% (non-condensing) · Storage: from 5% to 95% (non-condensing)

Delivery Package

Delivery Package
· Router DIR-878 · Power adapter DC 12V/1.5A · Ethernet cable · "Quick Installation Guide" (brochure)

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