

## A router for high quality wireless connectivity

### Ideal for Metropolitan Networks

- + Wireless Municipalities
- + Residential Broadband
- + Public Safety
- + Emergency System
- + Distribution Collaboration System
- + Multimedia Communication

### Network Architecture

- + Multi-radio, multi-frequency and multi-channel design
- + Intelligent Radio Management
- + Fast Convergence, Layer-3 Wireless Routing
- + Fast Hand-off Protocol
- + Fast Roaming Across IP Subnet
- + Multiple Gateways
- + Multi-Layer Security
- + Dual images for backup recovery

### Quality of Service

- + Bandwidth Management for Different Classes

### Industry Standards & Compatibility

- + Compatible to 802.11a/b/g clients
- + Carrier Class Serviceability

### Easy Management & Deployment

- + Auto RF Wireless Link Maintenance
- + Status-sensitive network management
- + Optimized for upgradeability and flexible scalability

### Overview

DWR-500 is D-Link's leading wireless mesh router that adopts several advance technologies for high quality fast outdoor large-scale wireless coverage. It integrates Layer-3 routing and IP cross-subnet roaming to provide better efficiency, flexibility and mobility, which may be limited in most wired infrastructure. The DWR-500 helps improve customers' applications and adds value to outdoor implementation through wireless connectivity, ensuring high performance anywhere, anytime, on demand, easily, efficiently, and economically.

### Wireless Mesh for Overall Intelligent City

Designed for metropolitan networking applications based on unique environmental characteristics of cities, the DWR-500 is able to provide a fast and convenient way to establish a cost-effective metropolitan network that can serve a whole city, providing it with wireless municipalities, residential broadband, public safety, emergency system, distribution collaboration system, voice or multi-media communication, and others. The DWR-500 Wireless Mesh Router can significantly improve city-wide collaboration of public and private organizations by providing timely information and communication that enhances city safety, cultural development, and overall economic development. All these will help push ahead the realization of an intelligent city of the future.

### Radio-Aware Dynamic Wireless Routing

The DWR-500 uses Dynamic Wireless Routing to offer high mobility with improved serviceability. The Dynamic Wireless Routing converges rapidly to provide resiliency against link and node outages to ensure there is no single node as orphan island. It uses radio link quality to select the best path for routing, and maximizes user throughput to reduce the delay and jitter in fast-changing wireless environment. It works well with mobile and fixed wireless mesh networks, and it out-performs its peers for a wide variety of user applications.



### Applications and Benefits

With rapid technological developments in various industries, organizations are now demanding better solutions that are more precise, reliable, and easy to setup, with intuitive administration and management. The DWR-500 meets all these demands and offers enterprises the ability to establish a lower cost of ownership, high-performance, flexible industry standard connectivity solution and management systems. With DWR-500, providing multiple Wi-Fi access points to large number of clients no longer needs costly wired backbone infrastructure or wide-area network, thus overcoming operational and boundary limits in providing greater flexibility, efficiency, and closer collaboration and management.

D-Link's DWR-500 possesses many features, capabilities and powerful functions. These include fast backup recovery using dual software images, multi-layer security for various types of applications, flexible configuration policies, and carrier class serviceability. Some applications immediately available for deployment with the DWR-500 include metropolitan wireless networks, intelligent communities, intellectual communication control, resource surveillance, and monitoring.



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Technical Specifications	
Wireless	<ul style="list-style-type: none"><li>+ Dual wireless interfaces 802.11a/b/g (configurable 802.11a or 802.11b/g), with frequency band:<ul style="list-style-type: none"><li>- 802.11a: 4900-5850 MHz</li><li>- 802.11b/g: 2400-2483.5 MHz</li></ul></li><li>+ Radio operation mode selection (Backhaul or Access or Client) on each radio</li><li>+ Transmit Output Power: 100mW (20dBm)</li><li>+ Media Access Protocol: CSMA/CA with ACK</li><li>+ Modulation: DSSS, CCK, OFDM</li><li>+ Impedance 50 ohms</li><li>+ Multiple Country code support</li><li>+ Two external Type-N Female connectors</li><li>+ CTS protection</li></ul>
Network	<ul style="list-style-type: none"><li>+ Layer-3 Wireless Routing with Dynamic Metric</li><li>+ Multiple gateways and best route towards the gateways within the mesh network</li><li>+ 802.11s mesh ID</li><li>+ Access VLAN (BSS and Ethernet) and 802.1q Tagged VLAN (Ethernet and WDS)</li><li>+ Automatic detection of neighboring routers (up to 6 WDS links per radio)</li><li>+ NAT and Static IP Address Mapping</li><li>+ DHCP Server and Relay</li><li>+ Full IEEE 802.11a/b/g client compatibility</li><li>+ Cross IP subnet roaming</li><li>+ Multiple SSID (up to 4 per radio)</li><li>+ QoS:<ul style="list-style-type: none"><li>- 802.11e</li><li>- Bandwidth control with traffic prioritization based on source address, destination address, source port, destination port and protocol*</li></ul></li><li>+ VPN Pass-Through</li></ul>
RF Management	<ul style="list-style-type: none"><li>+ Auto neighbor discovery and WDS link creation</li><li>+ WDS link quality monitoring (overall quality and data rate)</li></ul>
Security	<ul style="list-style-type: none"><li>+ Encryption of routing messages</li><li>+ MAC Address Access Control List</li><li>+ Client Station Isolation</li><li>+ ESSID suppression</li><li>+ 128/64-bit WEP key for each SSID</li><li>+ WAP and WPA2, Industry Standard 802.11i, TKIP, CCMP for user access and WDS links</li><li>+ IEEE 802.1x, PEAP, EAP-TTLS, EAP-TLS</li></ul>



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Management	<ul style="list-style-type: none"><li>+ SNMP v1/v2c/v3</li><li>+ Web GUI, SSH (client/server), Telnet (client/server) and Console</li><li>+ Comprehensive CLI interface</li><li>+ Router monitoring and statistics collection</li><li>+ Debug functions with different levels</li><li>+ Dual software images</li><li>+ Remote diagnostic and software upgrade</li><li>+ Auto Recovery</li></ul>
Environmental Specifications	<ul style="list-style-type: none"><li>+ Operating temperature range: -40°C to 55°C</li><li>+ Storage temperature range: - 40°C to 80°C</li><li>+ Humidity(non-condensing): 10% to 90%</li><li>+ Weather rating: IP66 weather-tight</li><li>+ Wind survivability: &gt; 165 mph</li><li>+ Shock &amp; Vibration: ETSI 300-19-2-4 spec T41.E class 4M3</li><li>+ Transportation: ISTA 2A</li></ul>
Hardware	<ul style="list-style-type: none"><li>+ 1xFast Ethernet 10/100Base-T</li><li>+ Power input: full range 110~240VAC 50/60Hz</li><li>+ Power consumption: 5W typical and 30W maximum</li><li>+ Dimension (without mounting brackets or antennas): 260mm x 240mm x 105mm</li><li>+ Weight: 4kg max., without mounting brackets</li></ul>
Protection Circuits	<ul style="list-style-type: none"><li>+ Antenna Protection: &lt; 0.5uJ for 6kV/3kA</li><li>+ Electrical Protection:<ul style="list-style-type: none"><li>- ANSI/IEEE C62.41, UL 1449-2 ed., 10kA @ 8/20 uS Waveform, 36kA per phase</li><li>- EN61000-4-5 Level 4 AC Surge Immunity</li></ul></li><li>+ EN61000-4-4 Level 4 EMC Field Immunity</li></ul>
Certifications	<ul style="list-style-type: none"><li>+ FCC, CE, UL, and RoHS</li></ul>

\* This feature will be available in future firmware release.



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Ordering Information	
Part Number	Description
	Model Name : DWR-500
IWR500C.....A1 IWR500A.....A1 IWR500B.....A1 IWR500E.....A1 IWR500J.....A1 IWR500K.....A1 IWR500N.....A1	<p>Outdoor Wireless Mesh Router with 1 auto-sensing 10/100 BaseT Ethernet with typical AC power consumption at 5W and maximum at 30W. Power input of 120/240 VAC 50/60Hz, mounting brackets, solar shield and 5m power cable</p> <p><b>Note:</b> Product does not come with the following items.</p> <ul style="list-style-type: none"> <li>• Ethernet cables</li> <li>• Antenna</li> <li>• Feeder</li> <li>• Splitter</li> <li>• Coupler</li> <li>• Console cable</li> <li>• Power cables of longer lengths</li> </ul> <p>These need to be ordered separately based on the requirements of the project.</p> <p>Power Cord Standards:</p> <ul style="list-style-type: none"> <li>• A - US</li> <li>• B - British</li> <li>• C - China</li> <li>• E - Europe</li> <li>• J - Japan</li> <li>• K - Korea</li> <li>• N – Australia</li> </ul>
<b>9 Pin Ethernet Cables</b>	
IWREC05.....A1	DWR-EC05. 5 meter Ethernet Cable
IWREC10.....A1	DWR-EC10. 10 meter Ethernet Cable
IWREC20.....A1	DWR-EC20. 20 meter Ethernet Cable
IWREC30.....A1	DWR-EC30. 30 meter Ethernet Cable
<b>5 Pin Console Cable</b>	
IWRCC02.....A1	DWR-CC02. 2 meters Console Cable
IWRCC05.....A1	DWR-CC05. 5 meters Console Cable
IWRCC10.....A1	DWR-CC10. 10 meters Console Cable
<b>Feeder</b>	
<b>Antenna Cabling Kit N-male to N-male.</b>	
ANT24C105N...A1	ANT24-C105N. 5 meter 1/2" Feeder Cable
ANT24C110N...A1	ANT24-C110N. 10 meter 1/2" Feeder Cable
ANT24C305N...A1	ANT24-C305N. 5 meter 3/8" Feeder Cable
ANT24C310N...A1	ANT24-C310N. 10 meter 3/8" Feeder Cable
ANT24C701N...A1	ANT24-C701N. 1 meter 7D Feeder Cable
ANT24C702N...A1	ANT24-C702N. 2 meter 7D Feeder Cable
ANT24C703N...A1	ANT24-C703N. 3 meter 7D Feeder Cable
ANT24C704N...A1	ANT24-C704N. 4 meter 7D Feeder Cable
ANT24C801N...A1	ANT24-C801N. 1 meter 8D Feeder Cable
ANT24C802N...A1	ANT24-C802N. 2 meter 8D Feeder Cable
ANT24C803N...A1	ANT24-C803N. 3 meter 8D Feeder Cable
ANT24C804N...A1	ANT24-C804N. 4 meter 8D Feeder Cable



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<b>Splitter</b>	
IWRA2S02.....A1	DWR-A2S02. 2.4Ghz, 2 way Splitter
IWRA2S03.....A1	DWR-A3S02. 2.4Ghz, 3 way Splitter
IWRA5S02.....A1	DWR-A2S05. 5.8GHz, 2 way Splitter
<b>Coupler</b>	
IWRA2C05.....A1	DWR-A2C05. 2.4GHz, 5dBi
IWRA2C10.....A1	DWR-A2C10. 2.4GHz, 10 dBi
<b>3 Pin Power Cable</b>	
IWRPC10A.....A1	DWR-PC10/A. 10 meter US Power Cord
IWRPC20A.....A1	DWR-PC20/A. 20 meter US Power Cord
IWRPC30A.....A1	DWR-PC30/A. 30 meter US Power Cord
IWRPC10B.....A1	DWR-PC10/B. 10 meter UK Power Cord
IWRPC20B.....A1	DWR-PC20/B. 20 meter UK Power Cord
IWRPC30B.....A1	DWR-PC30/B. 30 meter UK Power Cord
IWRPC10C.....A1	DWR-PC10/C. 10 meter CN Power Cord
IWRPC20C.....A1	DWR-PC20/C. 20 meter CN Power Cord
IWRPC30C.....A1	DWR-PC30/C. 30 meter CN Power Cord
IWRPC10E.....A1	DWR-PC10/E. 10 meter EUR Power Cord
IWRPC20E.....A1	DWR-PC20/E. 20 meter EUR Power Cord
IWRPC30E.....A1	DWR-PC30/E. 30 meter EUR Power Cord
IWRPC10J.....A1	DWR-PC10/J. 10 meter JAPAN Power Cord
IWRPC20J.....A1	DWR-PC20/J. 20 meter JAPAN Power Cord
IWRPC30J.....A1	DWR-PC30/J. 30 meter JAPAN Power Cord
IWRPC10K.....A1	DWR-PC10/K. 10 meter Korea Power Cord
IWRPC20K.....A1	DWR-PC20/K. 20 meter Korea Power Cord
IWRPC30K.....A1	DWR-PC30/K. 30 meter Korea Power Cord
IWRPC10N.....A1	DWR-PC10/N. 10 meter AUS Power Cord
IWRPC20N.....A1	DWR-PC20/N. 20 meter AUS Power Cord
IWRPC30N.....A1	DWR-PC30/N. 30 meter AUS Power Cord
<b>Existing D-Link Antenna model name</b>	
<b>Recommended Models. Select based on environment and project requirements.</b>	
To connect the D-Link antenna to DWR-500, N-male feeder cables are provided for your purchase.	
ANT24-0500	2.4Ghz, 5dBi Omni Directional Antenna
ANT24-0800	2.4Ghz, 8dBi Omni Directional Antenna
ANT24-0801	2.4Ghz, 8.5dBi Directional Antenna
ANT24-1201	2.4Ghz, 12dBi Directional Antenna
ANT24-1400	2.4Ghz, 14dBi Directional Antenna
ANT24-1500	2.4Ghz, 15dBi Omni-Directional Antenna
ANT24-1800	2.4Ghz, 18dBi Directional Antenna
ANT24-1801	2.4Ghz, 18dBi Directional Antenna
ANT24-2100	2.4Ghz, 21dBi Directional Antenna
ANT70-0800	2.4/5Ghz, 8dBi Omni-Directional Antenna
ANT70-0801	2.4/5Ghz, 8dBi Omni-Directional Antenna
ANT70-1000	2.4Ghz,8dBi/5GHz, 10dBi, Directional Antenna
ANT70-1800	2.4Ghz,14dBi/5GHz, 18dBi, Directional Antenna