



**Air Xpert™** 802.11 **AG**  
**Dualband**

Up to  
**5X**  
Faster

Up to  
**54**  
Mbps  
in A or G!

— DWL-AG650

## 802.11a/g Tri-Mode Dualband Wireless CardBus Adapter

The D-Link Air Xpert™ DWL-AG650 wireless CardBus adapter is a high-performance, versatile and necessary PC networking solution for companies that need to quickly expand or reconfigure their wireless networks as their organization grows. This tri-mode, dualband network card inserts into your notebook/laptop PC to provide you a versatile way to wirelessly connect to any one of three available wireless networks -- 802.11b and the newer, faster 802.11g and 802.11a that operate in two discrete, non-interfering frequency bands, 2.4GHz and 5GHz.

### Easiest Way to Expand

If you're a network administrator, the versatile 802.11a/b/g-compatible DWL-AG650 adapter gives you an immediate way to expand to your existing 802.11b network and protect your overall wireless network investment. By installing DWL-AG650 adapters in PCs throughout your organization your employees can access wireless Access Points and routers from their PCs. And as your company expands or reorganizes you won't have to keep pulling and plugging Ethernet cables because no matter where the workstation is relocated, it's still connected to the network.

### End-to-End Wireless Solution

When you add an 802.11a/b/g access point (D-Link Air Xpert™ DWL-7000AP) or router (D-Link Air Xpert™ DI-774), to your wireless network, you will have an end-to-end wireless solution capable of handling up to four times the user load of your current 802.11b network.

### 54Mbps Dualband High Speed

In addition to its compatibility with earlier 802.11b networks, the DWL-AG650 offers the robust speed, up to 54Mbps, of the newer 802.11g and 802.11a standards, so everyone can work faster and more efficiently. In addition to the 2.4GHz frequency band operated by 802.11b and g, the 5GHz band used by 802.11a also offers a way to quickly transfer data in a frequency range that does not experience interference or interruptions from cordless phones, microwave ovens and other devices utilizing the 2.4GHz frequency.

### WPA Enhanced Security

Wi-Fi™ Protected Access in the DWL-AG650 provides the necessary security protocols and tools, so employees can communicate with colleagues confidentially, access sensitive company information or send data that is dynamically encrypted as it's sent. Wi-Fi™ Protected Access lets you authorize and identify users based on a secret key that changes automatically at a regular interval. Used in conjunction with a RADIUS server, WPA uses TKIP (Temporal Key Integrity Protocol) to change the temporal key every 10,000 packets. This insures much greater security than the standard WEP security, which requires the keys to be changed manually.

### 802.1x Authentication

The DWL-AG650 supports 802.1x authentication for protection against network intrusion. Used in conjunction with a RADIUS server, this function provides a means to verify the identity of the client before an access to the network is granted.

### Pre-Shared Key

This function brings a lot of convenience (when used in conjunction with other 802.11g products) for users that do not incorporate a RADIUS server in their networks. Utilizing the Pre Shared Key mode of WPA, the DWL-AG650 will obtain a new security key every time it connects to the 802.11g network. You only need to input your encryption information once in the configuration menu. With the DWL-AG650, you will automatically receive a new key every time you connect, doing away with the inconvenience of manual WEP key input.

### Key Features

- 802.11a/g industry standard
- Dual 5GHz and 2.4GHz frequency bands
- Up to 54Mbps network data transfer rate on both frequency bands, 5 times faster than 802.11b
- 32-bit high-throughput CardBus interface to PC host
- Strong 64/128-bit WEP data encryption security
- Compatible with existing 802.11b wireless devices
- Advanced security with WPA, 802.1x authentication, TKIP and Pre-Shared Key function support
- Powerful integrated antennas provide 100-meter indoor, 400-meter outdoor operation range
- Easy configuration, plug-and-play installation
- Runs Windows 98 SE, 2000, ME, XP

# DWL-AG650

## Technical Specifications

## 5GHz & 2.4GHz Wireless LAN

### System Requirements

- Laptop/notebook PC with 32-bit CardBus slot
- 500MHZ processor or above
- 128MB memory or more
- CardBus controller properly installed and working in Win98 SE, ME, 2000, XP computer

### Standards

- IEEE 802.11a
- IEEE 802.11b
- IEEE 802.11g

### Bus Type

32-bit CardBus

### Media Access Control

CSMA/CA with ACK

### Data Rates

(With automatic fallback)  
54Mbps, 48Mbps, 36Mbps, 24Mbps, 18Mbps, 12Mbps, 11Mbps, 9Mbps, 6Mbps, 5.5Mbps, 2Mbps, 1Mbps

### Modulation Technology

- Orthogonal Frequency Division Multiplexing (OFDM)
- Complementary Code Keying (CCK)
- Direct Sequence Spread Spectrum (DSSS)

### Frequency Range \*

- 2.4GHz to 2.5GHz
- 5.15GHz to 5.875GHz

\* Software configurable as allowable frequency will vary from country to country in the European region.

### Transmit Output Power

15 dBm +/- 2dBm

### Receiver Sensitivity

- 54Mbps OFDM, 10% PER, -73dBm
- 48Mbps OFDM, 10% PER, -76dBm
- 36Mbps OFDM, 10% PER, -82dBm
- 24Mbps OFDM, 10% PER, -85dBm
- 18Mbps OFDM, 10% PER, -88dBm
- 12Mbps OFDM, 10% PER, -89dBm
- 11Mbps CCK, 8% PER, -91dBm
- 9Mbps OFDM, 10% PER, -90dBm
- 6Mbps OFDM, 10% PER, -91dBm
- 5.5Mbps CCK, 8% PER, -92dBm
- 2Mbps QPSK, 8% PER, -93dBm
- 1Mbps BPSK, 8% PER, -94dBm

### Antennas

Diversity switching dual internal antennas

### Operation Range

- Indoors: up to 100 meters (328 feet)\*
- Outdoors: up to 400 meters (1,312 feet)\*

\* Environmental factors may adversely affect range

### Security

- 64/128-WEP data encryption
- 802.1x authentication
- WPA(Wi-Fi Protected Access): 802.1x, Pre Share Key, WEP, TKIP, AES\*

\* AES support in software will be released in future upgrade

### Diagnostic LEDs

- Link
- Activity

### Physical & Environmental

#### Power Consumption

- Power save mode: 70mW
- Transmit mode: 1650mW
- Standby mode: 1250mW

#### Dimensions

114.3 (L) x 54 (W) x 8.7 (H) mm (4.64 x 2.13 x 0.34 inches)

#### Weight

55 grams (0.12 lb.)

### Operating Temperature

0° to 55 °C

### Storage Temperature

-10° to 60 °C

### Humidity

95% maximum (non-condensing)

### EMI Certification

- FCC Class B
- CE Class B
- C-Tick

### O.S. Support

Windows 98 SE, ME, 2000, XP



ACN 052 202 838



## Ordering Information

**DWL-AG650** 802.11a/g Wireless LAN CardBus Adapter

Please specify your order as follows:

|                     |  |
|---------------------|--|
| <b>DWL-AG650/EU</b> | For UK, Ireland, Denmark, Germany, Iceland, Finland, Netherlands, Norway, Sweden, Poland, Slovenia, Luxembourg, South Africa |
| <b>DWL-AG650/FR</b> | For France   |
| <b>DWL-AG650/CN</b> | For China (China packaging)  |
| <b>DWL-AG650/AU</b> | For Australia  |
| <b>DWL-AG650/CA</b> | For Canada   |
| <b>DWL-AG650/SG</b> | For Singapore  |
| <b>DWL-AG650/T</b>  | For Taiwan   |
| <b>DWL-AG650/LA</b> | For Latin America  |
| <b>DWL-AG650/ME</b> | For the Middle East  |

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| <b>Canada</b>       | TEL: 1-905-8295033    | FAX: 1-905-8295095    |
| <b>Europe</b>       | TEL: 44-20-8731-5555  | FAX: 44-20-8731-5511  |
| <b>Germany</b>      | TEL: 49-6196-77990    | FAX: 49-6196-7799300  |
| <b>France</b>       | TEL: 33-1-30238688    | FAX: 33-1-30238689    |
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| <b>Italy</b>        | TEL: 39-2-2900-0676   | FAX: 39-2-2900-1723   |
| <b>Iberia</b>       | TEL: 34-93-4090770    | FAX: 34-93-4910795    |
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| <b>Israel</b>       | TEL: 972-9-9715700    | FAX: 972-9-971-5601   |
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| <b>Taiwan</b>       | TEL: 886-2-2910-2626  | FAX: 886-2-2910-1515  |
| <b>D-Link Corp.</b> | TEL: 886-2-2916-1600  | FAX: 886-2-2914-6299  |



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