

System Settings

Save Settings to Local Hard Drive: Use this option to save the current router configuration settings to a file on the hard disk of the computer you are using. First, click the Save button. You will then see a file dialog, where you can select a location and file name for the settings.

Load Settings from Local Hard Drive: Use this option to load previously saved router configuration settings. First, use the Browse control to find a previously save file of configuration settings. Then, click the Load button to transfer those settings to the router.

Restore to Factory Default Settings: This option will restore all configuration settings back to the settings that were in effect at the time the router was shipped from the factory. Any settings that have not been saved will be lost, including any rules that you have created. If you want to save the current router configuration settings, use the Save button above.

Reboot Device: Click to reboot the router.

The screenshot displays the D-Link DIR-655 web interface. The top navigation bar includes 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The left sidebar lists various configuration categories, with 'SYSTEM' selected. The main content area is titled 'SYSTEM SETTINGS' and contains the following sections:

- Save Settings To Local Hard Drive:** A button labeled 'Save Configuration'.
- Load Settings From Local Hard Drive:** A text input field with a 'Browse...' button, and a 'Restore Configuration from File' button with a 'Cancel' button.
- Restore To Factory Default Settings:** A button labeled 'Restore all Settings to the Factory Defaults'.
- Reboot The Device:** A button labeled 'Reboot the Device'.

On the right side, there is a 'Helpful Hints...' section with text explaining that saving configuration settings to a file allows for restoration later. A 'More...' link is also present.

Update Firmware

You can upgrade the firmware of the Router here. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to locate the firmware file to be used for the update. Please check the D-Link support site for firmware updates at <http://support.dlink.com>. You can download firmware upgrades to your hard drive from the D-Link support site.

Firmware Upgrade: Click on **Check Online Now for Latest Firmware Version** to find out if there is an updated firmware; if so, download the new firmware to your hard drive.

Browse: After you have downloaded the new firmware, click **Browse** to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

Notifications Options: Check **Automatically Check Online for Latest Firmware Version** to have the router check automatically to see if there is a new firmware upgrade.

Check **Email Notification of Newer Firmware Version** to have the router send an email when there is a new firmware available.

The screenshot displays the D-Link DIR-655 web interface. The top navigation bar includes 'DIR-655 //', 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The left sidebar lists various configuration options: ADMIN, TIME, SYSLOG, EMAIL SETTINGS, SYSTEM, FIRMWARE, DYNAMIC DNS, SYSTEM CHECK, and SCHEDULES. The main content area is titled 'FIRMWARE' and contains the following sections:

- Firmware Upgrade:** A section with a title bar and a description: 'The Firmware Upgrade section can be used to update to the latest firmware code to improve functionality and performance.' Below this is a button labeled 'Check Online Now for Latest Firmware Version' and two buttons: 'Save Settings' and 'Don't Save Settings'.
- FIRMWARE INFORMATION:** A section showing 'Current Firmware Version : 1.0', 'Latest Firmware Version : 1.0', and 'Current Firmware Date : 2006/03/22'. It includes a button labeled 'Check Online Now for Latest Firmware Version'.
- FIRMWARE UPGRADE:** A section with a red note: 'Note: Some firmware upgrades reset the configuration options to the factory defaults. Before performing an upgrade, be sure to save the current configuration from the Tools -> Admin screen.' Below the note is a text input field for the firmware file name, a 'Browse...' button, and an 'Upload' button.
- FIRMWARE UPGRADE NOTIFICATION OPTIONS:** A section with two checkboxes: 'Automatically Check Online for Latest Firmware Version' (checked) and 'Email Notification of Newer Firmware Version' (unchecked).

On the right side of the interface, there is a 'Helpful Hints...' section with text about firmware updates and a 'More...' link.

DDNS

The DDNS feature allows you to host a server (Web, FTP, Game Server, etc...) using a domain name that you have purchased (www.whateveryournameis.com) with your dynamically assigned IP address. Most broadband Internet Service Providers assign dynamic (changing) IP addresses. Using a DDNS service provider, your friends can enter in your domain name to connect to your server no matter what your IP address is.

DDNS: Dynamic Domain Name System is a method of keeping a domain name linked to a changing IP Address. Check the box to enable DDNS.

Server Address: Choose your DDNS provider from the drop down menu.

Host Name: Enter the Host Name that you registered with your DDNS service provider.

Username or Key: Enter the Username for your DDNS account.

Password or Key: Enter the Password for your DDNS account.

Timeout: Enter a time (in hours).

The screenshot shows the D-Link DIR-655 web interface. The top navigation bar includes 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The left sidebar lists various settings: ADMIN, TIME, SYSLOG, EMAIL SETTINGS, SYSTEM, FIRMWARE, DYNAMIC DNS (selected), SYSTEM CHECK, and SCHEDULES. The main content area is titled 'DYNAMIC DNS' and contains the following configuration options:

- Enable Dynamic DNS:**
- Server Address:** www.DynDNS.org (Free) (dropdown menu)
- Host Name:** [text input] (e.g.: myhost.mydomain.net)
- Username or Key:** [text input]
- Password or Key:** [text input]
- Verify Password or Key:** [text input]
- Timeout:** [text input] (hours)

Buttons for 'Save Settings' and 'Don't Save Settings' are located below the configuration fields. A 'Helpful Hints...' sidebar on the right provides additional information: 'To use this feature, you must first have a Dynamic DNS account from one of the providers in the drop down menu. More...'

System Check

Ping Test: The Ping Test is used to send Ping packets to test if a computer is on the Internet. Enter the IP Address that you wish to Ping, and click **Ping**.

Ping Results: The results of your ping attempts will be displayed here.



The screenshot displays the D-Link DIR-655 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The TOOLS tab is selected, and the PING TEST tool is active. The interface features a sidebar menu with options like ADMIN, TIME, SYSLOG, EMAIL SETTINGS, SYSTEM, FIRMWARE, DYNAMIC DNS, SYSTEM CHECK, and SCHEDULES. The main content area is divided into three sections: a header for PING TEST, a description of the tool, and a form for entering a host name or IP address with Ping and Stop buttons. A PING RESULT section is also visible. A sidebar on the right contains helpful hints and a More... link. The bottom of the page features a WIRELESS logo.

| DIR-655 | SETUP | ADVANCED | TOOLS | STATUS | SUPPORT |
|----------------|--|----------|-------|--------|---|
| ADMIN | PING TEST | | | | Helpful Hints... "Ping" checks whether a computer on the Internet is running and responding. Enter either the IP address of the target computer or enter its fully qualified domain name. More... |
| TIME | Ping Test sends "ping" packets to test a computer on the Internet. | | | | |
| SYSLOG | PING TEST Host Name or IP Address : <input type="text"/> <input type="button" value="Ping"/> <input type="button" value="Stop"/> | | | | |
| EMAIL SETTINGS | PING RESULT Enter a host name or IP address above and click 'Ping' | | | | |
| SYSTEM | WIRELESS | | | | |

Schedules

Name: Enter a name for your new schedule.

Days: Select a day, a range of days, or All Week to include every day.

Time: Check **All Day - 24hrs** or enter a start and end time for your schedule.

Save: Click **Save** to save your schedule. You must click Save Settings at the top for your schedules to go into effect.

Schedule Rules List: The list of schedules will be listed here. Click the **Edit** icon to make changes or click the **Delete** icon to remove the schedule.

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DIR-655 // SETUP ADVANCED **TOOLS** STATUS SUPPORT

SCHEDULES

The Schedule configuration option is used to manage schedule rules for various firewall and parental control features.

Save Settings Don't Save Settings

ADD SCHEDULE RULE

Name:

Day(s): All Week Select Day(s)

Sun Mon Tue Wed Thu Fri Sat

All Day - 24 hrs:

Start Time: 0 : 0 AM (hour:minute, 12 hour time)

End Time: 0 : 0 AM (hour:minute, 12 hour time)

Save Clear

SCHEDULE RULES LIST

| Name | Day(s) | Time Frame |
|------|--------|------------|
| | | |

WIRELESS

Helpful Hints...

Schedules are used with a number of other features to define when those features are in effect.

Give each schedule a name that is meaningful to you. For example, a schedule for Monday through Friday from 3:00pm to 9:00pm, might be called "After School".

Click **Save** to add a completed schedule to the list below.

Click the **Edit** icon to change an existing schedule.

Click the **Delete** icon to permanently delete a schedule.

More...

Device Information

This page displays the current information for the DIR-655. It will display the LAN, WAN (Internet), and Wireless information.

If your Internet connection is set up for a Dynamic IP address then a **Release** button and a **Renew** button will be displayed. Use **Release** to disconnect from your ISP and use **Renew** to connect to your ISP.

If your Internet connection is set up for PPPoE, a **Connect** button and a **Disconnect** button will be displayed. Use **Disconnect** to drop the PPPoE connection and use **Connect** to establish the PPPoE connection.

General: Displays the router's time and firmware version.

WAN: Displays the MAC address and the public IP settings for the router.

LAN: Displays the MAC address and the private (local) IP settings for the router.

Wireless LAN: Displays the wireless MAC address and your wireless settings such as SSID and Channel.

LAN Computers: Displays computers and devices that are connected to the router via Ethernet and that are receiving an IP address assigned by the router (DHCP).

IGMP Multicast Memberships: Displays the Multicast Group IP Address.

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DIR-655 // SETUP ADVANCED TOOLS STATUS SUPPORT

DEVICE INFORMATION

All of your Internet and network connection details are displayed on this page. (The firmware version is also displayed here.)

GENERAL

Time: Saturday, January 31, 2004 10:56:42 AM
Firmware Version: 0.95, 2006/03/03

WAN

Connection Type: DHCP Client
Cable Status: Connected
Network Status: Established
Connection Up Time: 0 day(s), 0:26:06

MAC Address: 00:03:7F:03:43:0C
IP Address: 192.168.111.65
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.111.1
Primary DNS Server: 192.168.111.1
Secondary DNS Server: 0.0.0.0

LAN

MAC Address: 00:03:7F:03:43:0C
IP Address: 192.168.0.1
Subnet Mask: 255.255.255.0
DHCP Server: Enabled

WIRELESS LAN

Wireless Radio: On
MAC Address: 00:03:7F:03:43:0C
Network Name (SSID): 888
Channel: 11
Security Type: None

LAN COMPUTERS

| IP Address | Name (if any) | MAC |
|---------------|---------------|-------------------|
| 192.168.0.102 | 88888 | 00:50:56:98:8F:03 |

IGMP MULTICAST MEMBERSHIPS

Multicast Group Address
239.255.255.250
(224.0.0.0)

WIRELESS

Log

The router automatically logs (records) events of possible interest in its internal memory. If there isn't enough internal memory for all events, logs of older events are deleted but logs of the latest events are retained. The Logs option allows you to view the router logs. You can define what types of events you want to view and the level of the events to view. This router also has external Syslog Server support so you can send the log files to a computer on your network that is running a Syslog utility.

What to View: You can select the types of messages that you want to display from the log. Firewall & Security, System, and Router Status messages can be selected.

View Levels: There are three levels of message importance: Informational, Warning, and Critical. Select the levels that you want displayed in the log.

Apply Log Settings: Will filter the log results so that only the selected options appear.

Refresh: Updates the log details on the screen so it displays any recent activity.

Clear: Clears all of the log contents.

Email Now: This option will send a copy of the router log to the email address configured in the Tools > Email screen.

Save Log: This option will save the router to a log file on your computer.

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DIR-655 // SETUP ADVANCED TOOLS STATUS SUPPORT

DEVICE INFO: LOGS STATISTICS INTERNET SESSIONS WIRELESS WIRELESS SESSIONS

LOGS

System Logs

Use this option to view the router logs. You can define what types of events you want to view and the event levels to view. This router also has external syslog server support so you can send the log files to a computer on your network that is running a syslog utility.

LOG OPTIONS

What to View: Firewall & Security System Router Status

View Levels: Critical Warning Informational

Apply Log Settings Now

LOG DETAILS

Refresh Clear Email Now Save Log

[INFO] Sat Jan 31 11:54:25 2004 Log viewed by IP address 192.168.0.156
 [INFO] Sat Jan 31 11:22:36 2004 Allowed configuration authentication by IP address 192.168.0.156
 [INFO] Sat Jan 31 11:22:23 2004 Latest firmware version 1.0 is available
 [INFO] Sat Jan 31 11:22:23 2004 Firmware upgrade server support.dlink.com is at IP address 64.7.210.130
 [INFO] Sat Jan 31 11:22:23 2004 Starting WAN Services
 [INFO] Sat Jan 31 11:22:23 2004 Estimated rate of link is 996 kbps
 [INFO] Sat Jan 31 11:21:59 2004 Lease 192.168.0.156 renewed by client 0011092A9411
 [INFO] Sat Jan 31 11:21:59 2004 Assigned new lease 192.168.0.156 to client 0011092A9411
 [WARN] Sat Jan 31 11:21:59 2004 Lease expired 192.168.0.156 - was reassigned because a client specifically requested this address
 [INFO] Sat Jan 31 11:21:53 2004 Initialization complete, starting DHCP server
 [INFO] Sat Jan 31 11:21:51 2004 Estimating speed of WAN interface
 [INFO] Sat Jan 31 11:21:51 2004 WAN interface is up. Connection to Internet established with IP Address 192.168.111.65 and default gateway 192.168.111.1
 [INFO] Sat Jan 31 11:21:51 2004 Obtained IP Address using DHCP. IP address is 192.168.111.65
 [INFO] Sat Jan 31 11:21:51 2004 DHCP Server Parameter 15 was added to the parameter database
 [INFO] Sat Jan 31 11:21:50 2004 DHCP Server Parameter 19 was added to the parameter database
 [INFO] Sat Jan 31 11:21:50 2004 DHCP Server Parameter 3 was added to the parameter database
 [INFO] Sat Jan 31 11:21:50 2004 DHCP Server Parameter 1 was added to the parameter database
 [INFO] Sat Jan 31 11:21:48 2004 Bringing up WAN using DHCP
 [INFO] Sat Jan 31 11:21:48 2004 WAN interface cable has been connected.
 [INFO] Sat Jan 31 11:21:46 2004 DHCP Server Parameter 6 was added to the parameter database
 [INFO] Sat Jan 31 11:21:46 2004 LAN interface is up
 [INFO] Sat Jan 31 11:21:46 2004 LAN Ethernet Carrier Detected
 [INFO] Sat Jan 31 11:21:46 2004 Device initialized
 [INFO] Sat Jan 31 11:21:46 2004 Wireless Link is up
 [INFO] Sat Jan 31 11:21:46 2004 Stored configuration to non-volatile memory
 [INFO] Sat Jan 31 11:21:45 2004 No Internet access policy is in effect: Unrestricted Internet access allowed to everyone
 [INFO] Thu Jan 01 00:00:00 1970 Loaded configuration from non-volatile memory

WIRELESS

Helpful Hints...
 Check the log frequently to detect unauthorized network usage.
 You can also have the log mailed to you periodically. Refer to Tools > Email.

Stats

The screen below displays the Traffic Statistics. Here you can view the amount of packets that pass through the DIR-655 on both the Internet and the LAN ports. The traffic counter will reset if the device is rebooted.

TRAFFIC STATISTICS

Network Traffic Stats
Traffic Statistics display Receive and transmit packets passing through your router.
Refresh Statistics Clear Statistics

LAN STATISTICS

| | |
|------------------------|------------------------|
| Sent : 36459 | Received : 22978 |
| TX Packets Dropped : 0 | RX Packets Dropped : 0 |
| Collisions : 0 | Errors : 0 |

WAN STATISTICS

| | |
|------------------------|------------------------|
| Sent : 19191 | Received : 31493 |
| TX Packets Dropped : 0 | RX Packets Dropped : 0 |
| Collisions : 0 | Errors : 0 |

WIRELESS STATISTICS

| | |
|------------------------|------------------|
| Sent : 10330 | Received : 25649 |
| TX Packets Dropped : 0 | Errors : 0 |

Active Sessions

ACTIVE SESSIONS

This page displays the full details of active sessions to your router.

ACTIVE SESSIONS

| Internal | Protocol | External | NAT | Priority | State | Dir | Time Out |
|--------------------|----------|------------------|------|----------|-------|-----|----------|
| 192.168.111.39:68 | UDP | 192.168.111.1:67 | 68 | 137 | - | Out | 156 |
| 192.168.0.156:1053 | TCP | 207.46.0.97:1863 | 1053 | 255 | EST | Out | 7798 |
| 192.168.111.39:68 | UDP | *,*,*,*:* | 68 | 128 | - | - | - |

Wireless

The wireless client table displays a list of current connected wireless clients. This table also displays the connection time and MAC address of the connected wireless clients.

The screenshot shows the D-Link DIR-655 web interface. The top navigation bar includes 'DIR-655', 'SETUP', 'ADVANCED', 'TOOLS', 'STATUS', and 'SUPPORT'. The left sidebar lists 'DEVICE INFO', 'LOGS', 'STATISTICS', 'INTERNET SESSIONS', 'WIRELESS', and 'WISH SESSIONS'. The main content area is titled 'WIRELESS' and contains the following information:

Associated Wireless Client List

Use this option to view the wireless clients that are connected to your wireless router.

NUMBER OF WIRELESS CLIENTS : 1

| MAC Address | IP Address | Mode | Rate | Signal(%) |
|-------------------|---------------|------|------|-----------|
| 00:03:2F:11:23:28 | 192.168.0.127 | 11g | 54 | 100 |

On the right side, there is a 'Helpful Hints...' section with the text: 'This is a list of all wireless clients that are currently connected to your wireless router.' and a 'More...' link.

WISH

The WISH details page displays full details of wireless clients that are connected when WISH is enabled.

The screenshot shows the D-Link DIR-655 web interface with the 'WISH SESSIONS' page selected. The top navigation bar and left sidebar are the same as in the previous screenshot. The main content area is titled 'WISH SESSIONS' and contains the following information:

WISH SESSIONS

The WISH Sessions page displays full details of active local wireless sessions through your router when WISH has been enabled. A WISH session is a conversation between a program or application on a wirelessly connected LAN-side computer and another computer, however connected.

| Originator | Target | Protocol | State | Priority | Time Out |
|------------|--------|----------|-------|----------|----------|
|------------|--------|----------|-------|----------|----------|

On the right side, there is a 'Helpful Hints...' section with the text: 'This is a list of all active conversations involving wireless clients in the local network.' and a 'More...' link.

Support

The screenshot displays the D-Link DIR-655 web interface. At the top, the D-Link logo is visible. Below it, a navigation bar contains tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The SUPPORT tab is currently selected. On the left side, a vertical menu lists various sections: MENU, SETUP, ADVANCED, TOOLS, STATUS, and GLOSSARY. The main content area is titled 'SUPPORT MENU' and contains several sub-sections, each with a list of links:

- SUPPORT MENU**
 - [Setup](#)
 - [Advanced](#)
 - [Tools](#)
 - [Status](#)
 - [Glossary](#)
- SETUP HELP**
 - [Internet Connection](#)
 - [WAN](#)
 - [Wireless](#)
 - [Network Settings](#)
- ADVANCED HELP**
 - [Virtual Server](#)
 - [Port Forwarding](#)
 - [Application Rules](#)
 - [QOS ENGINE](#)
 - [Routing](#)
 - [Access Control](#)
 - [Web Filter](#)
 - [MAC Address Filter](#)
 - [Firewall](#)
 - [Inbound Filter](#)
 - [Advanced Wireless](#)
- TOOLS HELP**
 - [Admin](#)
 - [Time](#)
 - [Syslog](#)
 - [Email Settings](#)
 - [System](#)
 - [Firmware](#)
 - [Dynamic DNS](#)
 - [Windows Connect Now](#)
 - [System Check](#)
 - [Schedules](#)
 - [Sentinel Services](#)
- STATUS HELP**
 - [Device Info](#)
 - [Wireless](#)
 - [Routing](#)
 - [Logs](#)
 - [Statistics](#)
 - [Active Sessions](#)

At the bottom of the interface, the word 'WIRELESS' is displayed in a dark bar.

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DIR-655 offers the following types of security:

- WPA2 (Wi-Fi Protected Access 2)
- WPA (Wi-Fi Protected Access)
- WEP (Wired Equivalent Privacy)
- WPA2-PSK (Pre-Shared Key)
- WPA-PSK (Pre-Shared Key)

What is WEP?

WEP stands for *Wired Equivalent Privacy*. It is based on the IEEE 802.11 standard and uses the RC4 encryption algorithm. WEP provides security by encrypting data over your wireless network so that it is protected as it is transmitted from one wireless device to another.

To gain access to a WEP network, you must know the key. The key is a string of characters that you create. When using WEP, you must determine the level of encryption. The type of encryption determines the key length. 128-bit encryption requires a longer key than 64-bit encryption. Keys are defined by entering in a string in HEX (hexadecimal - using characters 0-9, A-F) or ASCII (American Standard Code for Information Interchange – alphanumeric characters) format. ASCII format is provided so you can enter a string that is easier to remember. The ASCII string is converted to HEX for use over the network. Four keys can be defined so that you can change keys easily.

What is WPA?

WPA, or Wi-Fi Protected Access, is a Wi-Fi standard that was designed to improve the security features of WEP (Wired Equivalent Privacy).

The 2 major improvements over WEP:

- Improved data encryption through the Temporal Key Integrity Protocol (TKIP). TKIP scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys haven't been tampered with. WPA2 is based on 802.11i and uses Advanced Encryption Standard (AES) instead of TKIP.
- User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). WEP regulates access to a wireless network based on a computer's hardware-specific MAC address, which is relatively simple to be sniffed out and stolen. EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.

WPA-PSK/WPA2-PSK uses a passphrase or key to authenticate your wireless connection. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. This key must be the exact same key entered on your wireless router or access point.

WPA/WPA2 incorporates user authentication through the Extensible Authentication Protocol (EAP). EAP is built on a more secure public key encryption system to ensure that only authorized network users can access the network.

Wireless Security Setup Wizard

To run the security wizard, click on Setup at the top and then click **Launch Wireless Security Setup Wizard**.



Click **Next** to continue.



Enter the SSID (Service Set Identifier). The SSID is the name of your wireless network. Create a name using up to 32 characters. The SSID is case-sensitive.

STEP 1: NAME YOUR WIRELESS NETWORK

Your wireless network needs a name so it can be easily recognized by wireless clients. For security purposes, it is highly recommended to change the pre-configured network name of [dlink].

Wireless Network Name (SSID):

Select the level of security for your wireless network:

- Best - WPA2 Authentication
- Better - WPA Authentication
- Good - WEP Encryption
- None - No security

Click **Next** to continue.

STEP 2: SECURE YOUR WIRELESS NETWORK

In order to protect your network from hackers and unauthorized users, it is highly recommended you choose one of the following wireless network security settings.

There are three levels of wireless security -Good Security, Better Security, AND Best Security. The level you choose depends on the security features your wireless adapters support.

BEST Select this option if your wireless adapters SUPPORT WPA2

BETTER Select this option if your wireless adapters SUPPORT WPA

GOOD Select this option if your wireless adapters DO NOT SUPPORT WPA

NONE Select this option if you do not want to activate any security features

For information on which security features your wireless adapters support, please refer to the adapters' documentation.

Note: All D-Link wireless adapters currently support WPA.

If you selected Best or Better, enter a password between 8-63 characters.

If you selected Good, enter 13 characters or 26 Hex digits.

Click **Next** to continue.

STEP 3: SET YOUR WIRELESS SECURITY PASSWORD

You have selected your security level - you will need to set a wireless security password.

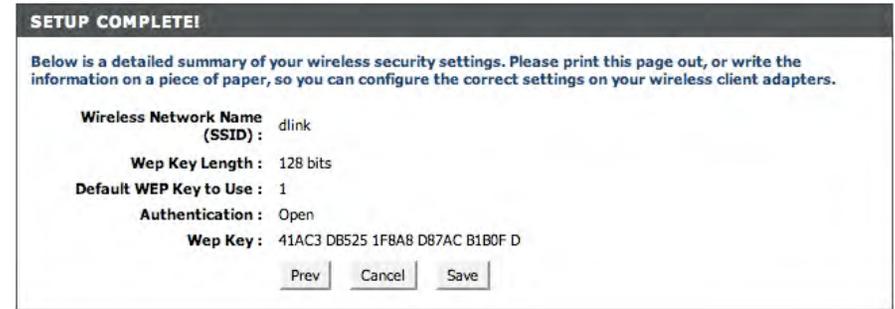
Wireless Security Password:

(8 to 63 characters)

Note: You will need to enter the same password as keyed in this step into your wireless clients in order to enable proper wireless communication.

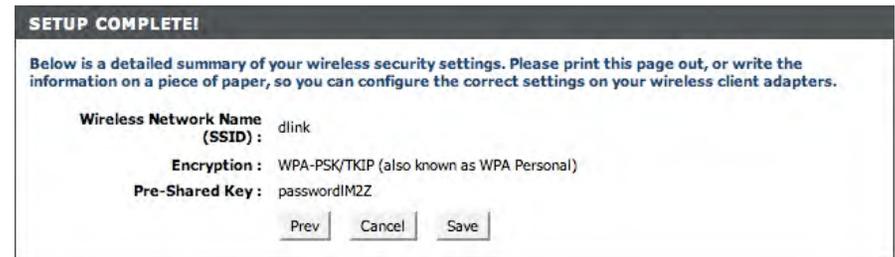
If you selected Good, the following screen will show you your WEP key to enter on your wireless clients.

Click **Save** to finish the Security Wizard.



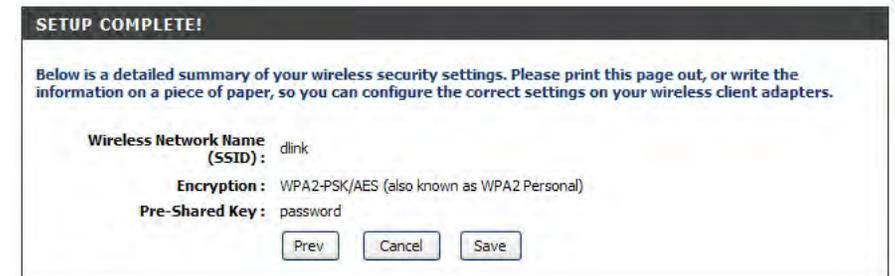
If you selected Better, the following screen will show you your Pre-Shared Key to enter on your wireless clients.

Click **Save** to finish the Security Wizard.



If you selected Best, the following screen will show you your Pre-Shared Key to enter on your wireless clients.

Click **Save** to finish the Security Wizard.



If you selected WPA-Enterprise, the RADIUS information will be displayed. Click **Save** to finish the Security Wizard.

Configure WEP

It is recommended to enable encryption on your wireless router before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1). Click on **Setup** and then click **Wireless Settings** on the left side.
2. Next to *Security Mode*, select **WEP**.
3. Next to *WEP Key Length*, select the level of encryption (64 or 128-bit).
Hex - (recommended) Letters A-F and numbers 0-9 are valid.
4. Next to *WEP Key 1*, enter a WEP key that you create. Make sure you enter this key exactly on all your wireless devices. You may enter up to 4 different keys.
5. Next to *Authentication*, select **Shared Key**.
6. Click **Save Settings** to save your settings. If you are configuring the router with a wireless adapter, you will lose connectivity until you enable WEP on your adapter and enter the same WEP key as you did on the router.

WIRELESS SECURITY MODE

To protect your privacy you can configure wireless security features. This device supports three wireless security modes including: WEP, WPA-Personal, and WPA-Enterprise. WEP is the original wireless encryption standard. WPA provides a higher level of security. WPA-Personal does not require an authentication server. The WPA-Enterprise option requires an external RADIUS server.

Security Mode:

WEP

If you choose the WEP security option this device will ONLY operate in Legacy Wireless mode (802.11B/G). This means you will NOT get 11N performance due to the fact that WEP is not supported by the Draft 11N specification.

WEP is the wireless encryption standard. To use it you must enter the same key(s) into the router and the wireless stations. For 64 bit keys you must enter 10 hex digits into each key box. For 128 bit keys you must enter 26 hex digits into each key box. A hex digit is either a number from 0 to 9 or a letter from A to F. For the most secure use of WEP set the authentication type to "Shared Key" when WEP is enabled.

You may also enter any text string into a WEP key box, in which case it will be converted into a hexadecimal key using the ASCII values of the characters. A maximum of 5 text characters can be entered for 64 bit keys, and a maximum of 13 characters for 128 bit keys.

WEP Key Length: (length applies to all keys)

WEP Key 1:

WEP Key 2:

WEP Key 3:

WEP Key 4:

Default WEP Key:

Authentication:

Configure WPA-Personal (PSK)

It is recommended to enable encryption on your wireless router before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1). Click on **Setup** and then click **Wireless Settings** on the left side.
2. Next to *Security Mode*, select **WPA-Personal**.
3. Next to *WPA Mode*, select **Auto**, **WPA2 Only**, or **WPA Only**. Use **Auto** if you have wireless clients using both WPA and WPA2.
4. Next to *Group Key Update Interval*, enter the amount of time before the group key used for broadcast and multicast data is changed (3600 is default).
5. Next to *Pre-Shared Key*, enter a key (passphrase). The key is entered as a pass-phrase in ASCII format at both ends of the wireless connection. The pass-phrase must be between 8-63 characters.
6. Click **Save Settings** to save your settings. If you are configuring the router with a wireless adapter, you will lose connectivity until you enable WPA-PSK on your adapter and enter the same passphrase as you did on the router.

WIRELESS SECURITY MODE

To protect your privacy you can configure wireless security features. This device supports three wireless security modes including: WEP, WPA-Personal, and WPA-Enterprise. WEP is the original wireless encryption standard. WPA provides a higher level of security. WPA-Personal does not require an authentication server. The WPA-Enterprise option requires an external RADIUS server.

Security Mode :

WPA

Use **WPA** or **WPA2** mode to achieve a balance of strong security and best compatibility. This mode uses WPA for legacy clients while maintaining higher security with stations that are WPA2 capable. Also the strongest cipher that the client supports will be used. For best security, use **WPA2 Only** mode. This mode uses AES (CCMP) cipher and legacy stations are not allowed access with WPA security. For maximum compatibility, use **WPA Only**. This mode uses TKIP cipher. Some gaming and legacy devices work only in this mode.

To achieve better wireless performance use **WPA2 Only** security mode (or in other words AES cipher).

WPA Mode :

Group Key Update Interval : (seconds)

PRE-SHARED KEY

Pre-Shared Key :

Configure WPA-Enterprise (RADIUS)

It is recommended to enable encryption on your wireless router before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1). Click on **Setup** and then click **Wireless Settings** on the left side.
2. Next to *Security Mode*, select **WPA-Enterprise**.
3. Next to *WPA Mode*, select **Auto**, **WPA2 Only**, or **WPA Only**. Use **Auto** if you have wireless clients using both WPA and WPA2.
4. Next to *Group Key Update Interval*, enter the amount of time before the group key used for broadcast and multicast data is changed (3600 is default).
5. Next to *Authentication Timeout*, enter the amount of time before a client is required to re-authenticate (60 minutes is default).
6. Next to *RADIUS Server IP Address* enter the IP Address of your RADIUS server.
7. Next to *RADIUS Server Port*, enter the port you are using with your RADIUS server. 1812 is the default port.
8. Next to *RADIUS Server Shared Secret*, enter the security key.

WIRELESS SECURITY MODE

To protect your privacy you can configure wireless security features. This device supports three wireless security modes including: WEP, WPA-Personal, and WPA-Enterprise. WEP is the original wireless encryption standard. WPA provides a higher level of security. WPA-Personal does not require an authentication server. The WPA-Enterprise option requires an external RADIUS server.

Security Mode:

WPA

Use **WPA** or **WPA2** mode to achieve a balance of strong security and best compatibility. This mode uses WPA for legacy clients while maintaining higher security with stations that are WPA2 capable. Also the strongest cipher that the client supports will be used. For best security, use **WPA2 Only** mode. This mode uses AES (CCMP) cipher and legacy stations are not allowed access with WPA security. For maximum compatibility, use **WPA Only**. This mode uses TKIP cipher. Some gaming and legacy devices work only in this mode.

To achieve better wireless performance use **WPA2 Only** security mode (or in other words AES cipher).

WPA Mode:

Group Key Update Interval: (seconds)

EAP (802.1X)

When WPA enterprise is enabled, the router uses EAP (802.1x) to authenticate clients via a remote RADIUS server.

Authentication Timeout: (minutes)

RADIUS server IP Address:

RADIUS server Port:

RADIUS server Shared Secret:

MAC Address Authentication:

9. If the *MAC Address Authentication* box is selected then the user will need to connect from the same computer whenever logging into the wireless network.

10. Click **Advanced** to enter settings for a secondary RADIUS Server.

11. Click **Apply Settings** to save your settings.

EAP (802.1X)

When WPA enterprise is enabled, the router uses EAP (802.1x) to authenticate clients via a remote RADIUS server.

Authentication Timeout : (minutes)

RADIUS server IP Address :

RADIUS server Port :

RADIUS server Shared Secret :

MAC Address Authentication :

Optional backup RADIUS server:

Second RADIUS server IP Address :

Second RADIUS server Port :

Second RADIUS server Shared Secret :

Second MAC Address Authentication :

Connect to a Wireless Network Using Windows® XP

Windows® XP users may use the built-in wireless utility (Zero Configuration Utility). The following instructions are for Service Pack 2 users. If you are using another company's utility or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows® XP utility as seen below.

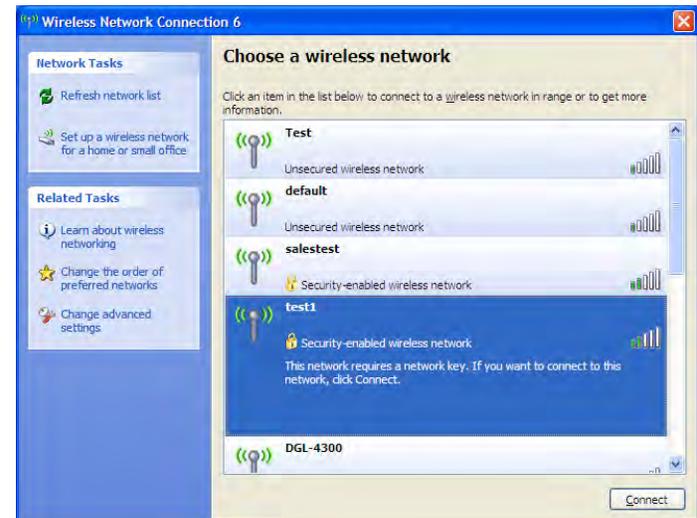
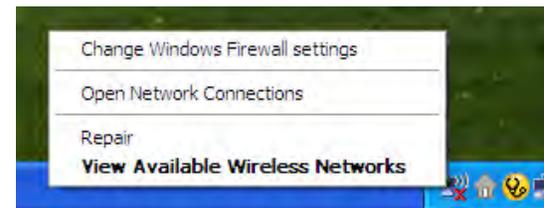
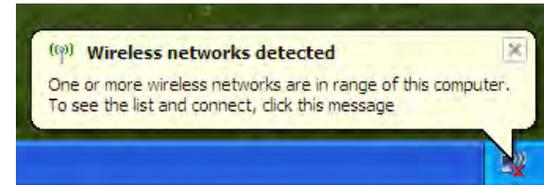
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **View Available Wireless Networks**.

The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.

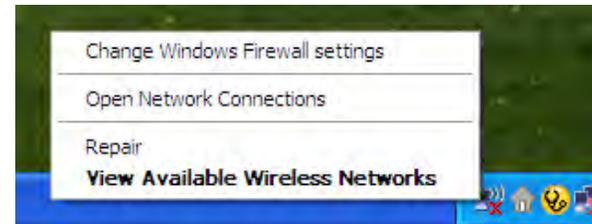
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



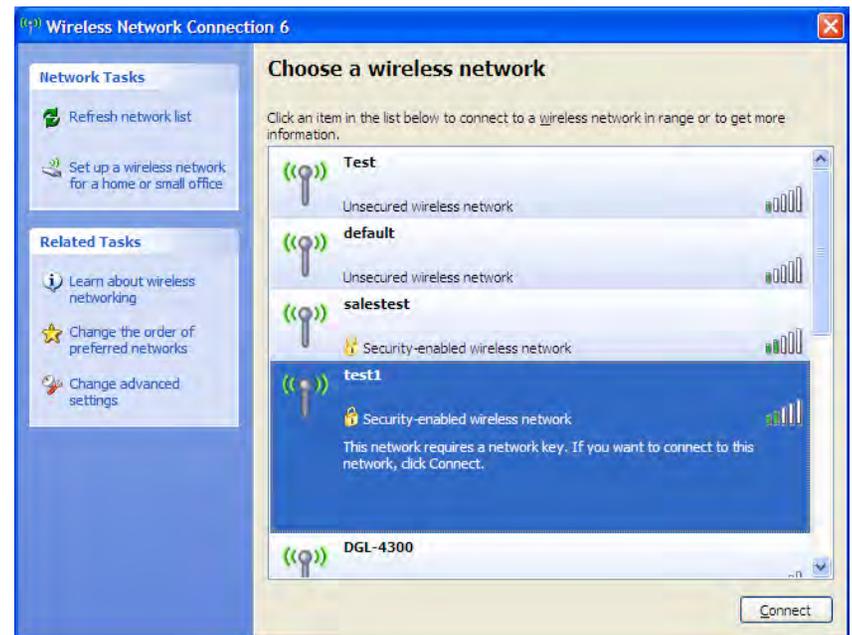
Configure WEP

It is recommended to enable WEP on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WEP key being used.

1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.



2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. The **Wireless Network Connection** box will appear. Enter the same WEP key that is on your router and click **Connect**.

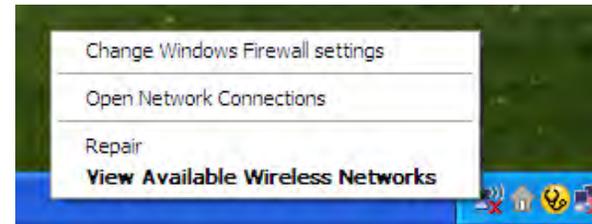
It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the WEP settings are correct. The WEP key must be exactly the same as on the wireless router.



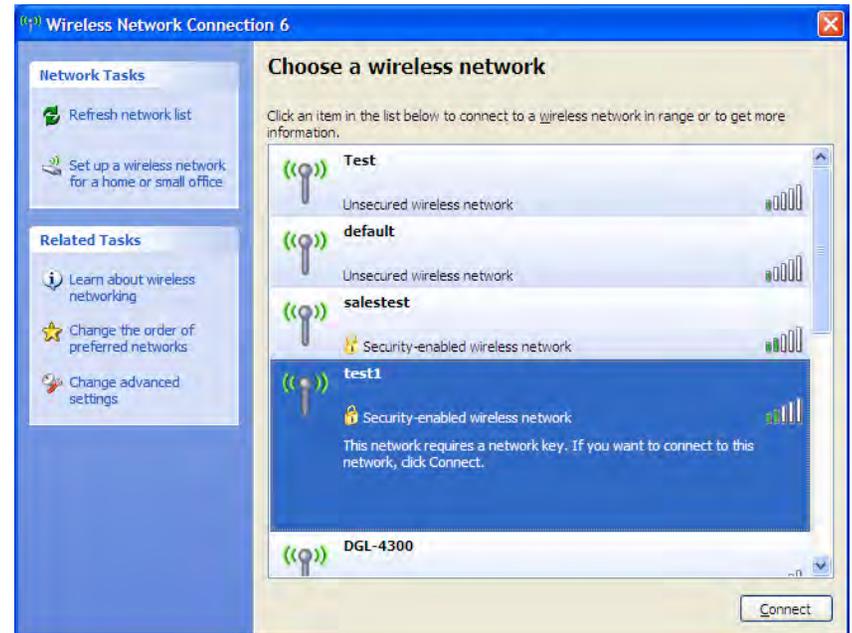
Configure WPA-PSK

It is recommended to enable WEP on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WEP key being used.

1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.

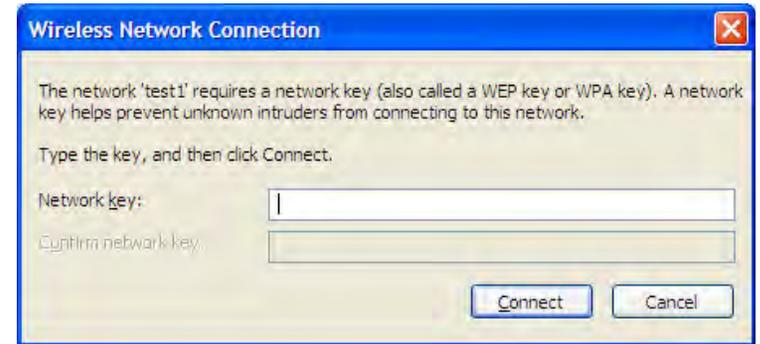


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. The **Wireless Network Connection** box will appear. Enter the WPA-PSK passphrase and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the WPA-PSK settings are correct. The WPA-PSK passphrase must be exactly the same as on the wireless router.



Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DIR-655. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

1. Why can't I access the web-based configuration utility?

When entering the IP address of the D-Link router (192.168.0.1 for example), you are not connecting to a website on the Internet or have to be connected to the Internet. The device has the utility built-in to a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

- Make sure you have an updated Java-enabled web browser. We recommend the following:
 - Internet Explorer 6.0 or higher
 - Netscape 8 or higher
 - Mozilla 1.7.12 (5.0) or higher
 - Opera 8.5 or higher
 - Safari 1.2 or higher (with Java 1.3.1 or higher)
 - Camino 0.8.4 or higher
 - Firefox 1.5 or higher
- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.
- Disable any internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

- Configure your Internet settings:
 - Go to **Start > Settings > Control Panel**. Double-click the **Internet Options** icon. From the **Security** tab, click the button to restore the settings to their defaults.
 - Click the **Connection** tab and set the dial-up option to Never Dial a Connection. Click the LAN Settings button. Make sure nothing is checked. Click **OK**.
 - Go to the **Advanced** tab and click the button to restore these settings to their defaults. Click **OK** three times.
 - Close your web browser (if open) and open it.
- Access the web management. Open your web browser and enter the IP address of your D-Link router in the address bar. This should open the login page for your the web management.
- If you still cannot access the configuration, unplug the power to the router for 10 seconds and plug back in. Wait about 30 seconds and try accessing the configuration. If you have multiple computers, try connecting using a different computer.

2. What can I do if I forgot my password?

If you forgot your password, you must reset your router. Unfortunately this process will change all your settings back to the factory defaults.

To reset the router, locate the reset button (hole) on the rear panel of the unit. With the router powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the router will go through its reboot process. Wait about 30 seconds to access the router. The default IP address is 192.168.0.1. When logging in, the username is **admin** and leave the password box empty.

3. Why can't I connect to certain sites or send and receive emails when connecting through my router?

If you are having a problem sending or receiving email, or connecting to secure sites such as eBay, banking sites, and Hotmail, we suggest lowering the MTU in increments of ten (Ex. 1492, 1482, 1472, etc).

Note: AOL DSL+ users must use MTU of 1400.

To find the proper MTU Size, you'll have to do a special ping of the destination you're trying to go to. A destination could be another computer, or a URL.

- Click on **Start** and then click **Run**.
- Windows® 95, 98, and Me users type in **command** (Windows® NT, 2000, and XP users type in **cmd**) and press **Enter** (or click **OK**).
- Once the window opens, you'll need to do a special ping. Use the following syntax:

ping [url] [-f] [-l] [MTU value]

Example: **ping yahoo.com -f -l 1472**

```
C:\>ping yahoo.com -f -l 1482
Pinging yahoo.com [66.94.234.13] with 1482 bytes of data:
Packet needs to be fragmented but DF set.

Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping yahoo.com -f -l 1472
Pinging yahoo.com [66.94.234.13] with 1472 bytes of data:
Reply from 66.94.234.13: bytes=1472 time=93ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=109ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=125ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=203ms TTL=52

Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 93ms, Maximum = 203ms, Average = 132ms

C:\>
```

You should start at 1472 and work your way down by 10 each time. Once you get a reply, go up by 2 until you get a fragmented packet. Take that value and add 28 to the value to account for the various TCP/IP headers. For example, lets say that 1452 was the proper value, the actual MTU size would be 1480, which is the optimum for the network we're working with (1452+28=1480).

Once you find your MTU, you can now configure your router with the proper MTU size.

To change the MTU rate on your router follow the steps below:

- Open your browser, enter the IP address of your router (192.168.0.1) and click **OK**.
- Enter your username (admin) and password (blank by default). Click **OK** to enter the web configuration page for the device.
- Click on **Setup** and then click **Manual Configure**.
- To change the MTU enter the number in the MTU field and click **Save Settings** to save your settings.
- Test your email. If changing the MTU does not resolve the problem, continue changing the MTU in increments of ten.

Wireless Basics

D-Link wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or public access wireless networks. Strictly adhering to the IEEE standard, the D-Link wireless family of products will allow you to securely access the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking delivers.

A wireless local area network (WLAN) is a cellular computer network that transmits and receives data with radio signals instead of wires. Wireless LANs are used increasingly in both home and office environments, and public areas such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure have proven to be beneficial for many users.

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A Wireless Router is a device used to provide this link.

What is Wireless?

Wireless or Wi-Fi technology is another way of connecting your computer to the network without using wires. Wi-Fi uses radio frequency to connect wirelessly, so you have the freedom to connect computers anywhere in your home or office network.

Why D-Link Wireless?

D-Link is the worldwide leader and award winning designer, developer, and manufacturer of networking products. D-Link delivers the performance you need at a price you can afford. D-Link has all the products you need to build your network.

How does wireless work?

Wireless works similar to how cordless phone work, through radio signals to transmit data from one point A to point B. But wireless technology has restrictions as to how you can access the network. You must be within the wireless network range area to be able to connect your computer. There are two different types of wireless networks Wireless Local Area Network (WLAN), and Wireless Personal Area Network (WPAN).

Wireless Local Area Network (WLAN)

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point as seen in the picture, the signal can travel up to 300 feet. With an outdoor access point the signal can reach out up to 30 miles to serve places like manufacturing plants, industrial locations, college and high school campuses, airports, golf courses, and many other outdoor venues.

Wireless Personal Area Network (WPAN)

Bluetooth is the industry standard wireless technology used for WPAN. Bluetooth devices in WPAN operate in a range up to 30 feet away.

Compared to WLAN the speed and wireless operation range are both less than WLAN, but in return it doesn't use nearly as much power which makes it ideal for personal devices, such as mobile phones, PDAs, headphones, laptops, speakers, and other devices that operate on batteries.

Who uses wireless?

Wireless technology has become so popular in recent years that almost everyone is using it, whether it's for home, office, business, D-Link has a wireless solution for it.

Home

- Gives everyone at home broadband access
- Surf the web, check email, instant message, and etc
- Gets rid of the cables around the house
- Simple and easy to use

Small Office and Home Office

- Stay on top of everything at home as you would at office
- Remotely access your office network from home
- Share Internet connection and printer with multiple computers
- No need to dedicate office space

Where is wireless used?

Wireless technology is expanding everywhere not just at home or office. People like the freedom of mobility and it's becoming so popular that more and more public facilities now provide wireless access to attract people. The wireless connection in public places is usually called "hotspots".

Using a D-Link Cardbus Adapter with your laptop, you can access the hotspot to connect to Internet from remote locations like: Airports, Hotels, Coffee Shops, Libraries, Restaurants, and Convention Centers.

Wireless network is easy to setup, but if you're installing it for the first time it could be quite a task not knowing where to start. That's why we've put together a few setup steps and tips to help you through the process of setting up a wireless network.

Tips

Here are a few things to keep in mind, when you install a wireless network.

Centralize your router or Access Point

Make sure you place the router/access point in a centralized location within your network for the best performance. Try to place the router/access point as high as possible in the room, so the signal gets dispersed throughout your home. If you have a two-story home, you may need a repeater to boost the signal to extend the range.

Eliminate Interference

Place home appliances such as cordless telephones, microwaves, and televisions as far away as possible from the router/access point. This would significantly reduce any interference that the appliances might cause since they operate on same frequency.

Security

Don't let your next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on the WPA or WEP security feature on the router. Refer to product manual for detail information on how to set it up.

Wireless Modes

There are basically two modes of networking:

- **Infrastructure** – All wireless clients will connect to an access point or wireless router.
- **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more DIR-655 wireless network Cardbus adapters.

An Infrastructure network contains an Access Point or wireless router. All the wireless devices, or clients, will connect to the wireless router or access point.

An Ad-Hoc network contains only clients, such as laptops with wireless cardbus adapters. All the adapters must be in Ad-Hoc mode to communicate.

Networking Basics

Check your IP address

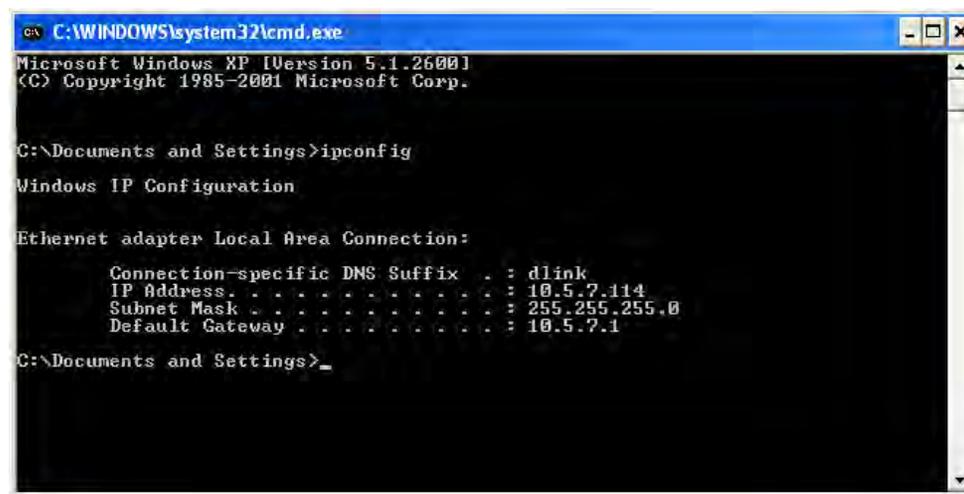
After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

Click on **Start > Run**. In the run box type **cmd** and click **OK**.

At the prompt, type **ipconfig** and press **Enter**.

This will display the IP address, subnet mask, and the default gateway of your adapter.

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : dlink
    IP Address . . . . . : 10.5.7.114
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.5.7.1

C:\Documents and Settings>_
```

If you are connecting to a wireless network at a hotspot (e.g. hotel, coffee shop, airport), please contact an employee or administrator to verify their wireless network settings.

Statically Assign an IP address

If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

Step 1

Windows® XP - Click on **Start > Control Panel > Network Connections**.

Windows® 2000 - From the desktop, right-click **My Network Places > Properties**.

Step 2

Right-click on the **Local Area Connection** which represents your D-Link network adapter and select **Properties**.

Step 3

Highlight **Internet Protocol (TCP/IP)** and click **Properties**.

Step 4

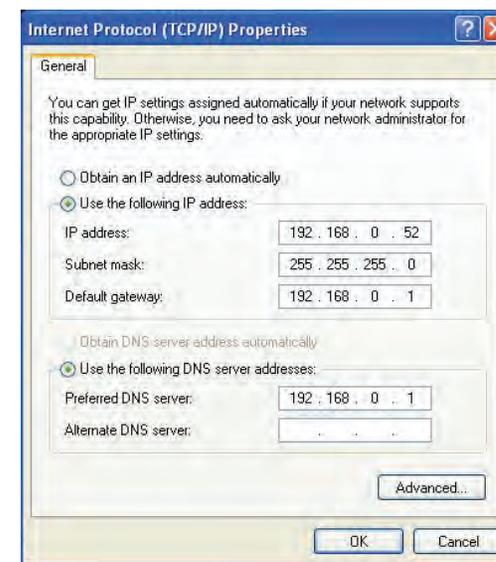
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

Example: If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network. Set Default Gateway the same as the LAN IP address of your router (192.168.0.1).

Set Primary DNS the same as the LAN IP address of your router (192.168.0.1). The Secondary DNS is not needed or you may enter a DNS server from your ISP.

Step 5

Click **OK** twice to save your settings.



Technical Specifications

Standards

- IEEE 802.11n (draft)
- IEEE 802.11g
- IEEE 802.11b
- IEEE 802.3
- IEEE 802.3u

Security

- WPA-Personal
- WPA2-Personal
- WPA-Enterprise
- WPA2-Enterprise
- 64/128-bit WEP

Wireless Signal Rates*

- 108Mbps
- 54Mbps
- 36Mbps
- 18Mbps
- 11Mbps
- 6Mbps
- 2Mbps
- 48Mbps
- 24Mbps
- 12Mbps
- 9Mbps
- 5.5Mbps
- 1Mbps

MSC (0-15)

- 130Mbps (270)
- 104Mbps (216)
- 66Mbps (135)
- 52Mbps (108)
- 26Mbps (54)
- 12Mbps (27)
- 117Mbps (243)
- 78Mbps (162)
- 58.5Mbps (121.5)
- 39Mbps (81)
- 19.5Mbps (40.5)
- 6.5Mbps (13.5)

Frequency Range

2.400~2.4835GHz

Transmitter Output Power

15dBm \pm 2dB

External Antenna Type

Three (3) detachable reverse SMA Antennas

LEDs

- Power
- WLAN
- Internet
- LAN (10/100)
- Status
- USB

Operating Temperature

32°F to 131°F (0°C to 55°C)

Humidity

95% maximum (non-condensing)

Safety & Emissions

- FCC
- CE

Dimensions

- L = 7.6 inches
- W = 4.6 inches
- H = 1.2inches

Warranty

1 Year

* Maximum wireless signal rate derived from IEEE Standard 802.11g and Draft 802.11n specifications. 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.

Contacting Technical Support

U.S. and Canadian customers can contact D-Link technical support through our web site or by phone.

Before you contact technical support, please have the following ready:

- Model number of the product (e.g. DIR-655)
- Hardware Revision (located on the label on the bottom of the router (e.g. rev A1))
- Serial Number (s/n number located on the label on the bottom of the router).

You can find software updates and user documentation on the D-Link website as well as frequently asked questions and answers to technical issues.

For customers within the United States:

Phone Support:

(877) 453-5465

24 hours a day, seven days a week.

Internet Support:

<http://support.dlink.com>

For customers within Canada:

Phone Support:

(800) 361-5265

Monday to Friday 7:30am to 9:00pm EST

Internet Support:

<http://support.dlink.ca>

Warranty

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. (“D-Link”) provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, or addresses with an APO or FPO.

Limited Warranty:

D-Link warrants that the hardware portion of the D-Link product described below (“Hardware”) will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below (“Warranty Period”), except as otherwise stated herein.

- Hardware (excluding power supplies and fans): One (1) year
- Power supplies and fans: One (1) year
- Spare parts and spare kits: Ninety (90) days

The customer’s sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement hardware need not be new or have an identical make, model or part. D-Link may, at its option, replace the defective Hardware or any part thereof with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware or part thereof that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty:

D-Link warrants that the software portion of the product (“Software”) will substantially conform to D-Link’s then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days (“Software Warranty Period”), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer’s sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link’s functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by DLink in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty:

The Limited Warranty provided hereunder for Hardware and Software portions of D-Link’s products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold “As-Is” without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim:

The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow DLink to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization (“RMA”) number by completing the RMA form and entering the assigned Case ID Number at <https://rma.dlink.com/>.

- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. DLink will only replace the defective portion of the product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery (“COD”) is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer. D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link’s reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered:

The Limited Warranty provided herein by D-Link does not cover:

Products that, in D-Link’s judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product.

While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

Disclaimer of Other Warranties:

EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED “AS-IS” WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.

IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Limitation of Liability:

TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NONCONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY.

Governing Law:

This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This Limited Warranty provides specific legal rights and you may also have other rights which vary from state to state.

Trademarks:

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CE Mark Warning:

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

EN 60 950-1: 2001 +A11: 2004

Safety of Information Technology Equipment

EN 50385: 2002

Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public

EN 300 328 V1.7.1 (2006-10)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 489-1 V1.6.1 (2005-09)

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

EN 301 489-17 V1.2.1 (2002-08)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

CE05600!

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|----------------------------------|--|
| cs Český [Czech] | <i>[Jméno výrobce]</i> tímto prohlašuje, že tento <i>[typ zařízení]</i> je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES. |
| da Dansk [Danish] | Undertegnede <i>[fabrikantens navn]</i> erklærer herved, at følgende udstyr <i>[udstyrets typebetegnelse]</i> overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF. |
| de Deutsch [German] | Hiermit erkläre <i>[Name des Herstellers]</i> , dass sich das Gerät <i>[Gerätetyp]</i> in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet. |
| et Eesti [Estonian] | Käesolevaga kinnitab <i>[tootja nimi = name of manufacturer]</i> seadme <i>[seadme tüüp = type of equipment]</i> vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele. |
| en English | Hereby, <i>[name of manufacturer]</i> , declares that this <i>[type of equipment]</i> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. |
| es Español [Spanish] | Por medio de la presente <i>[nombre del fabricante]</i> declara que el <i>[clase de equipo]</i> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE. |
| el Ελληνική [Greek] | ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ <i>[name of manufacturer]</i> ΔΗΛΩΝΕΙ ΟΤΙ <i>[type of equipment]</i> ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ. |
| fr Français [French] | Par la présente <i>[nom du fabricant]</i> déclare que l'appareil <i>[type d'appareil]</i> est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE. |
| it Italiano [Italian] | Con la presente <i>[nome del costruttore]</i> dichiara che questo <i>[tipo di apparecchio]</i> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE. |
| Latviski [Latvian] | Ar šo <i>[name of manufacturer / izgatavotāja nosaukums]</i> deklarē, ka <i>[type of equipment / iekārtas tips]</i> atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem. |
| Lietuvių [Lithuanian] | Šiuo <i>[manufacturer name]</i> deklaruoją, kad šis <i>[equipment type]</i> atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas. |
| nl Nederlands [Dutch] | Hierbij verklaart <i>[naam van de fabrikant]</i> dat het toestel <i>[type van toestel]</i> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG. |
| mt Malti [Maltese] | Hawnhekk, <i>[isem tal-manifattur]</i> , jiddikjara li dan <i>[il-mudel tal-prodott]</i> jikkonforma mal-htigijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Direttiva 1999/5/EC. |
| hu Magyar [Hungarian] | Alulírott, <i>[gyártó neve]</i> nyilatkozom, hogy a <i>[... típus]</i> megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak. |
| pl Polski [Polish] | Niniejszym <i>[nazwa producenta]</i> oświadczam, że <i>[nazwa wyrobu]</i> jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC. |
| pt Português [Portuguese] | <i>[Nome do fabricante]</i> declara que este <i>[tipo de equipamento]</i> está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE. |
| sl Slovensko [Slovenian] | <i>[Ime proizvajalca]</i> izjavlja, da je ta <i>[tip opreme]</i> v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES. |
| Slovensky [Slovak] | <i>[Meno výrobcu]</i> týmto vyhlasuje, že <i>[typ zariadenia]</i> spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES. |
| fi Suomi [Finnish] | <i>[Valmistaja = manufacturer]</i> vakuuttaa täten että <i>[type of equipment = laitteen tyyppimerkintä]</i> tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen. |
| sv Svenska [Swedish] | Härmed intygar <i>[företag]</i> att denna <i>[utrustningstyp]</i> står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG. |

FCC Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTICE:**FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

Industry Canada Notice:

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This device has been designed to operate with an antenna having a maximum gain of 2 dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

Registration



Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.

Version 1.1
October 19, 2006