Networking Basics Naming your Computer

To name your computer, please follow these directions: In Windows XP:

- Click **Start** (in the lower left corner of the screen)
- Right-click on My Computer
- Select Properties and click



Select the Computer Name Tab in the System Properties window.

You may enter a **Computer Description** if you wish; this field is optional.

To rename the computer and join a domain, Click Change.

System Properties



Networking Basics *Naming your Computer*

In this window enter the	Computer Name Changes
Computer name	You can change the name and the membership of this computer. Changes may affect access to network resources.
Select Workgroup and enter the name of the Workgroup	<u>C</u> omputer name: Office
 All computers on your network must have the same Workgroup name. 	Full computer name: Office <u>M</u> ore
Click OK	Member of Domain:

Checking the IP Address in <u>Windows XP</u>

The wireless adapter-equipped computers in your network must be in the same IP Address range (see Getting Started in this manual for a definition of IP Address Range.) To check on the IP Address of the adapter, please do the following:

Right-click on	Disable	Restances in
the <i>Local Area</i>	Status	
in the task bar	Repair	
	View Available Wireless Networks	
	Open Network Connections	
Click on Status		3:05 PM

Networking Basics Checking the IP Address in <u>Windows XP</u>

This window will appear.	Y Wireless Network Connecti	ion 7 Status 🛛 🕐 🔀
Click the Support tab	General Support Internet Protocol (TCP/IP) Address Type: IP Address: Subnet Mask: Default Gateway:	Assigned by DHCP 192.168.0.114 255.255.255.0 192.168.0.1 Details
Click Close	Regair	<u>_</u> lose

Assigning a Static IP Address in Windows XP/2000

Note: Residential Gateways/Broadband Routers will automatically assign IP Addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable Gateway/Router you will not need to assign Static IP Addresses.

If you are not using a DHCP capable Gateway/Router, or you need to assign a Static IP Address, please follow these instructions:

ļ	Go to Start Double-click on Control Panel	Tour Windows XP Paint Files and Settings Transfer Wizard	Control Panel Control Panel Printers and Faxes Help and Support Search
			Log Off U Turn Off Computer
		🛃 start	
			49

Networking Basics Assigning a Static IP Address in <u>Windows XP/2000</u>

Double-click on Network Connections



Double-click on Properties





Networking Basics Assigning a Static IP Address in <u>Windows XP/2000</u>

- Click on Internet Protocol (TCP/IP)
- Click Properties
- Input your IP address and subnet mask. (The IP Addresses on your network must be within the same range. For example, if one computer has an IP Address of 192.168.0.2, the other computers should have IP Addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.)

Input your DNS server addresses. (Note: If you are entering a DNS server, you must enter the IP Address of the Default Gateway.)

The DNS server information will be supplied by your ISP (Internet Service Provider.)



Internet Protocol (TCP/IP) Pro	operties 🛛 🛛 🔀
General	
You can get IP settings assigned a this capability. Otherwise, you need the appropriate IP settings.	automatically if your network supports d to ask your network administrator for
Obtain an IP address automa	tically
IP address:	192.168.0.51
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	
O Obtain DNS server address a	utomatically
Use the following DNS server	r addresses:
Preferred DNS server:	
Alternate DNS server:	
·	Advanced



Networking Basics Assigning a Static IP Address with <u>Macintosh OSX</u>

- Go to the Apple Menu and select System Preferences
- Click on Network

- Select Built-in Ethernet in the Show pull-down menu
- Select Manually in the Configure pull-down menu



00		Netwo	rk	C
how All	Displays Sour	Network Startup Disk		
		Location: Automatic		
Show:	PCI Ethernet S	ilot C1 🕴	1	-
	(Manually	oxies	_
	Configure	✓ Using DHCP Using BootP	P Router	
	IP Address:	192.168.10.7 (Provided by DHCP Server)		
	Subnet Mask:	255.255.255.0		
	Router:	192.168.10.1	Search Domains (Optional)	
C	OHCP Client ID:	(Optional)		
Eth	ernet Address:	00:50:ba:b0:00:05	Example: apple.com, earthlink.net	
	ernet Address.	00.30.04.00.00.03		

Input the Static IP Address, the Subnet Mask and the Router IP Address in the appropriate fields

Click Apply Now

		Location: Automa	atic 🔹
show;	PCI Ethernet S	lot C1	•
		TCP/IP PPPoE	AppleTalk Proxies
	Configure:	Manually	Ŧ
			Domain Name Servers (Optional)
	IP Address:	192.168.0.19	I
	Subnet Mask:	255.255.255.0	
	Router:	192.168.10.1	Search Domains (Optional)
			Example: apple.com, earthlink.net
Eth	ernet Address:	00:50:ba:b0:00:05	

Networking Basics Selecting a Dynamic IP Address with <u>Macintosh OSX</u>

- Go to the Apple Menu and select System Preferences
- Click on Network



- Select Built-in Ethernet in the Show pull-down menu
- Select Using DHCP in the Configure pull-down menu

Location: A	utomatic
w: Built-in Ethernet	
Manually	oxies
Configure V Using DHCP Using BootP	Automatic vame Servers (Optional)
IP Address: (Provided by DHC Subnet Mask: 255.255.255.	:P Server) O
Router: 192.168.0.1	Search Domains (Optional)
DHCP Client ID: (Optional)	
Ethernet Address:	Example: apple.com, earthlink.net

- Click Apply Now
- The IP Address, Subnet mask, and the Router's IP Address will appear in a few seconds

		Location: Automa	tic 🔹
ow:	Built-in Ether	net	•
		TCP/IP PPPoE	AppleTalk Proxies
	Configure:	Using DHCP	
			Domain Name Servers (Optional)
	IP Address:	192.168.0.160 (Provided by DHCP Serve	0
	Subnet Mask:	255.255.255.0	
	Router:	192.168.0.1	Search Domains (Optional)
c	HCP Client ID:		
Eth	ernet Address	(Optional) 00:06:96:79:de:5a	Example: apple.com, earthlink.net

Networking Basics *Checking the Wireless Connection by <u>Pinging in Windows XP and</u> <u>2000</u>*

Go to Start > Run > type **cmd**. A window similar to this one will appear. Type ping xxx.xxx.xxx. xxx. where xxx is the IP Address of the Wireless Router or Access Point. A good wireless connection will show four replies from the Wireless Router or Acess Point, as shown.

F:\WINDOWS\System32\cmd.exe		- 🗆 X
Microsoft Windows XP [Version 5.1.2600] (C) Copyright 1985-2001 Microsoft Corp.		-
F:\Documents and Settings\lab3>ping 192.168.0.50		
Pinging 192.168.0.50 with 32 bytes of data:		
Reply from 192.168.0.50: bytes=32 time<1ms TTL=64 Reply from 192.168.0.50: bytes=32 time<1ms TTL=64		
Reply from 192.168.0.50: bytes=32 time<1ms TTL=64 Reply from 192.168.0.50: bytes=32 time<1ms TTL=64		
Ping statistics for 192.168.0.50: Packets: Sent = 4, Received = 4, Lost = 0 (0% Approximate round trip times in milli-seconds: Minimum = Oms, Maximum = Oms, Average = Oms	loss),	
F:\Documents and Settings\lab3>_		
		-

Checking the Wireless Connection by <u>Pinging in Windows Me</u> and <u>98</u>

Go to Start > Run > type **command**. A window similar to this will appear. Type ping xxx.xxx. xxx.xxx where xxx is the IP Address of the Wireless Router or Access Point. A good wireless connection will show four replies from the wireless router or access point, as shown.



This Chapter provides solutions to problems that can occur during the installation and operation of the DI-524 Wireless Broadband Router. We cover various aspects of the network setup, including the network adapters. Please read the following if you are having problems.

Note: It is recommended that you use an Ethernet connection to configure the DI-524 Wireless Broadband Router.

1.The computer used to configure the DI-524 cannot access the Configuration menu.

- Check that the Ethernet LED on the DI-524 is ON. If the LED is not ON, check that the cable for the Ethernet connection is securely inserted.
- Check that the Ethernet Adapter is working properly. Please see item 3 (Check that the drivers for the network adapters are installed properly) in this Troubleshooting section to check that the drivers are loaded properly.
- Check that the IP Address is in the same range and subnet as the DI-524. Please see Checking the IP Address in Windows XP in the Networking Basics section of this manual.

Note: The IP Address of the DI-524 is 192.168.0.1. All the computers on the network must have a unique IP Address in the same range, e.g., 192.168.0.x. Any computers that have identical IP Addresses will not be visible on the network. They must all have the same subnet mask, e.g., 255.255.255.0

Do a Ping test to make sure that the DI-524 is responding. Go to Start>Run>Type Command>Type ping 192.168.0.1. A successful ping will show four replies.

Auto C: WINDOWS VDESKTOP>cd C: WINDOWS VDESKTOP>cd C: WINDOWS VDESKTOP>cd C: VINDOWS VDESKTOP>cd C: VINDOWS VDESKTOP>cd C: VINDOWS VDESKTOP>cd C: VINDOWS VDESKTOP>cd C: VINDOWS VDESKTOP>cd Reply from 192.168.0.1: bytes 32 time(10m TTL=64 Reply from 192.168.0.1: bytes=32	🕌 MS-DOS Prompt
C:\VINDOWS\DESKTOP>cd C:\VINDOWS\DESKTOP>cd C:\VINDOWS\cd C:\VINDOWS\cd C:\VINDOWS\cd C:\VINDOWS\cd Pinging 192.168.0.1 with 32 bytes of data: Reply from 192.168.0.1: bytes-32 time(10m TIL=64 Reply from 192.168.0.1: bytes-32 time(10m TIL=64 Reply from 192.168.0.1: bytes-32 time(10m TIL=64 Reply from 192.168.0.1: bytes-32 time(10m TIL=64 Ping statistics for 192.168.0.1: Ping statistics for 192.168.0.1: Ping statistics for 192.168.0.1: Approximate round trip times in milli-seconds: Minimum = 0ms, Maximum = 0ms, Average = 0ms C:\V_	Auto 💽 🛄 🛍 🛃 🔐 🚰 🗛
C:WINDOWS>cd C:\pping 192.168.0.1 Finging 192.168.0.1 with J2 bytes of data: Reply from 192.168.0.1: bytes=32 time(10ms TIL=64 Reply from 192.168.0.1: bytes=32 time(10ms TIL=64 Reply from 192.168.0.1: bytes=32 time(10ms TIL=64 Ping statistics for 192.168.0.1: Pachets Sent = 4, Received = 4, Lost = 0 (8% loss), Paparate roome. Applicate in mill=seconds: Minimum = 0ms, Maximum = 0ms, Average = 0ms G:\>_	C:\WINDOWS\DESKTOP>cd
C: $\ping 192.168.0.1$ Finging 192.168.0.1 with 32 bytes of data: Reply from 192.168.0.1: bytes=32 time(10ms TII=64 Reply from 192.168.0.1: bytes=32 time(10ms TII=64 Reply from 192.168.0.1: bytes=32 time(10ms TII=64 Fing statistics for 192.168.0.1: Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), Approximate round crip times in milli=seconds: Tininum = 0ms, Maximum = 0ms, Average = 0ms G: $\pinetermodellements = 0ms$	C:\WINDOWS>cd
<pre>Pinging 192.168.0.1 with 32 bytes of data: Reply from 192.168.0.1: bytes=32 time(10m: TIL=64 Reply from 192.168.0.1: bytes=32 time(10m: TIL=64 Reply from 192.168.0.1: bytes=32 time(10m: TIL=64 Ping statistics for 192.168.0.1: Packets: Sent = 4. Received = 4, Lost = 0 (0% Loss), Approxinate round trip times in milli-seconds: Hinimum = 0ms, Maximum = 0ms, Rverage = 0ms C:>>_</pre>	C:>>ping 192.168.0.1
Reply from 192.168.8.1: bytes=32 time(10m: TII-64 Reply from 192.168.8.1: bytes=32 time(10m: TII-64 Reply from 192.168.8.1: bytes=32 time(10m: TII-64 Reply from 192.168.8.1: bytes=32 time(10m: TII-64 Ping statistics for 192.168.0.1: Packets: Sent = 4. Received = 4, Lost = 0 (0% loss), Approximate round frip times in milli-seconds: Minimum = 0ms, Maximum = 0ms, Average = 0ms C:>>_	Pinging 192.168.0.1 with 32 bytes of data:
<pre>Ping statistics for 192.168.0.1:</pre>	Reply from 192.168.0.1: bytes=32 time<10ms ITL=64 Reply from 192.168.0.1: bytes=32 time<10ms ITL=64 Reply from 192.168.0.1: bytes=32 time<10ms ITL=64 Reply from 192.168.0.1: bytes=32 time<10ms ITL=64
c:\>_	Ping statistics for 192,168,0.1: Packets: Sent = 4, A Beceived = 4, Lost = 0 (0% loss), Approximate round trip times in milliseconds: Minimum = Mms, Maximum = 0 ms, Average = 0ms
	C:\>_

Note: If you have changed the default IP Address, make sure to ping the correct IP Address assigned to the DI-524.

2. The wireless client cannot access the Internet in the

Infrastructure mode.

Make sure the wireless client is associated and joined with the correct Access Point. To check this connection: **Right-click** on the **Local Area Connection icon** in the taskbar> select **View Available Wireless Networks**. The **Connect to Wireless Network** screen will appear. Please make sure you have selected the

correct available network, as shown in the illustrations below.

	Connect to Wireless Network
Disable Status Repair	The following network(s) are available. To access a network, select it from the list, and then click Connect. Available networks:
View Available Wireless Networks Open Network Connections	i alan i dan dan dan

Check that the IP Address assigned to the wireless adapter is within the same IP Address range as the access point and gateway. (Since the DI-524 has an IP Address of 192.168.0.1, wireless adapters must have an IP Address in the same range, e.g., 192.168.0.x. Each device must have a unique IP Address; no two devices may have the same IP Address. The subnet mask must be the same for all the computers on the network.) To check the IP Address assigned to the wireless adapter, double-click on the Local Area Connection icon in the taskbar > select the Support tab and the IP Address will be displayed. (Please refer to Checking the IP Address in the Networking Basics section of this manual.)

If it is necessary to assign a **Static IP Address** to the wireless adapter, please refer to the appropriate section in **Networking Basics**. If you are entering a **DNS Server address** you must also enter the **Default Gateway Address**. (*Remember that if you have a DHCP-capable router, you will not need to assign a Static IP Address. See Networking*

Basics: Assigning a Static IP Address.)

3. Check that the drivers for the network adapters are installed properly.

You may be using different network adapters than those illustrated here, but this procedure will remain the same, regardless of the type of network adapters you are using.



Double-click on Network Adapters

- Right-click on D-Link AirPlus DWL-G650 Wireless Cardbus Adapter (In this example we use the DWL-G650; you may be using other network adapters, but the procedure will remain the same.)
- Select Properties to check that the drivers are installed properly
- Look under Device Status to check that the device is working properly



D-Link A	irPlus DWL-G65	0 Wireless Cardbus Adapter	? 🔀
General Advanced Driver Resources			
D-Link AirPlus DWL-G650 Wireless Cardbus Adapter			
	Device type:	Network adapters	
	Manufacturer:	D-Link	
	Location:	PCI bus 129, device 0, function 0	
This device is working properly. If you are having problems with this device, click Troubleshoot to start the troubleshooter.			
		Troubleshoot	
Device usage:			
Use th	iis device (enable)		~
		ОК	ancel

Click OK

4. What variables may cause my wireless products to lose reception?

D-Link products let you access your network from virtually anywhere you want. However, the positioning of the products within your environment will affect the wireless range. Please refer to **Installation Considerations** in the **Wireless Basics** section of this manual for further information about the most advantageous placement of your D-Link wireless products.

5. Why does my wireless connection keep dropping?

- Antenna Orientation- Try different antenna orientations for the DI-524. Try to keep the antenna at least 6 inches away from the wall or other objects.
- If you are using 2.4GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, and lights, your wireless connection will degrade dramatically or drop altogether. Try changing the Channel on your Router, Access Point and Wireless adapter to a different Channel to avoid interference.
- Keep your product away (at least 3-6 feet) from electrical devices that generate RF noise, like microwaves, Monitors, electric motors, etc.

6. Why can't I get a wireless connection?

If you have enabled Encryption on the DI-524, you must also enable encryption on all wireless clients in order to establish a wireless connection.

- For 802.11b, the Encryption settings are: 64, 128, or 256 bit. Make sure that the encryption bit level is the same on the Router and the Wireless Client.
- Make sure that the SSID on the Router and the Wireless Client are exactly the same. If they are not, wireless connection will not be established.
- Move the DI-524 and the wireless client into the same room and then test the wireless connection.
- Disable all security settings. (WEP, MAC Address Control)

6. Why can't I get a wireless connection? (continued)

- Turn off your DI-524 and the client. Turn the DI-524 back on again, and then turn on the client.
- Make sure that all devices are set to **Infrastructure** mode.
- Check that the LED indicators are indicating normal activity. If not, check that the AC power and Ethernet cables are firmly connected.
- Check that the IP Address, subnet mask, gateway and DNS settings are correctly entered for the network.
- If you are using 2.4GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, and lights, your wireless connection will degrade dramatically or drop altogether. Try changing the Channel on your DI-524, and on all the devices in your network to avoid interference.
- Keep your product away (at least 3-6 feet) from electrical devices that generate RF noise, like microwaves, Monitors, electric motors, etc.

7. I forgot my encryption key.

Reset the DI-524 to its factory default settings and restore the other devices on your network to their default settings. You may do this by pressing the Reset button on the back of the unit. You will lose the current configuration settings.

8. Resetting the DI-524 to Factory Default Settings

After you have tried other methods for troubleshooting your network, you may choose to **Reset** the DI-524 to the factory default settings. Remember that D-Link *Air*Pro products network together, out of the box, at the factory default settings.



To hard-reset the DI-524 to Factory Default Settings, please do the following:

Locate the Reset button on the back of the DI-524

Use a paper clip to press the **Reset** button

- Hold for about 10 seconds and then release
- After the DI-524 reboots (this may take a few minutes) it will be reset to the factory **Default** settings

Technical Specifications

Standards

- IEEE 802.11g
- IEEE 802.11b
- IEEE 802.3
- IEEE 802.3u

VPN Pass Through/ Multi-Sessions

- PPTP
- L2TP
- IPSec

Device Management

- Web-Based- Internet Explorer v6 or later; Netscape Navigator v7 or later; or other Java-enabled browsers
- DHCP Server and Client

Advanced Firewall Features

- NAT with VPN Passthrough (Network Address Translation)
- MAC Filtering
- IP Filtering
- URL Filtering
- Domain Blocking
- Scheduling

Wireless Operating Range

- Indoors up to 328 feet (100 meters)
- Outdoors up to 984 feet (300 meters)

Operating Temperature

■ 32°F to 131°F (0°C to 55°C)

Humidity:

95% maximum (non-condensing)

Safety and Emissions:

FCC, CE

Wireless Frequency Range:

2.4GHz to 2.462GHz