3com

Quick Start Guide

802.11g 54Mbps WLAN Building to Building Bridge

Outdoor: 3CRWEASYG73

Indoor: 3CRWE920G73

1   Introduction

Thank you for choosing the 3Com Corporation 802.11g 54Mbps Wireless LAN Building to Building Bridge.

The outdoor version of 3Com 802.11g Wireless Bridge is ideal for rough outdoor environments and covering long distances, whereas the indoor version has a smaller profile to be unobtrusive and can be customized to the application with a variety of antenna selections. They can be configured as an inter-building wireless bridge with maximum 54Mbps transmission rate.

This manual will give you a short introduction to the device(s) and will help you to start the Wireless Bridge step by step quickly. To install and manage this product, you will need a working knowledge of network structures, terms and concepts, and a professional level of experience in installation procedures for network operation systems under Microsoft Windows.

In this Quick Start Guide you will find just the most basic information needed to install your Wireless Bridge, and get it up and running. For more detailed installation and configuration please consult the "3Com 802.11g 54Mbps Wireless Building to Building Bridge User's Guide".

2 Package Contents

Please ensure that the package is complete before beginning with the installation. The package should include the following components:

| 3CRWE920G73 Indoor 802.11g 54Mbps Building to Building Bridge	3CRWEASYG73 Outdoor 802.11g 54Mbps Building to Building Bridge
• 3Com 802.11g Wireless indoor Bridge • Mounting kit for wall or ceiling mount • CD-ROM containing software and documentation • Single-Port PoE Feeder. • Note: Indoor Bridge does not ship with an antenna. See www.3com.com or your reseller for antenna options.	• 3Com 802.11g Wireless Outdoor Bridge • Mounting kit for wall or mast mount • CD-ROM containing software and documentation • Single-Port PoE Feeder. • Lightning arrestor

3   Hardware Installation

Installing the 3CRWE920G73 Indoor Wireless Bridge

On a flat surface

1   **Find a surface that is clear of debris.**
2   **Set the bridge down on its four rubber feet.**

On a wall

1   **Use the mounting template as a guide to make two marks 7.40cm (2.91 inches) apart on the wall.**

    Use the vertical line on the template to ensure that the placement of the marks is plumb to the wall.

2   **Drill holes at the marks.**

    Use a 5-mm (3/16-inch) drill bit if using the provided screw anchors; use a 3-mm (1/8-inich) drill bit if using the screws only.

3   **Install the two flathead screws at the marks on the wall.**

    Leave the screw heads protruding 6-mm (1/4 inch) from the surface of the wall.

4   **Hang the bridge on the screws, using the mounting holes on the back of the bridge.**
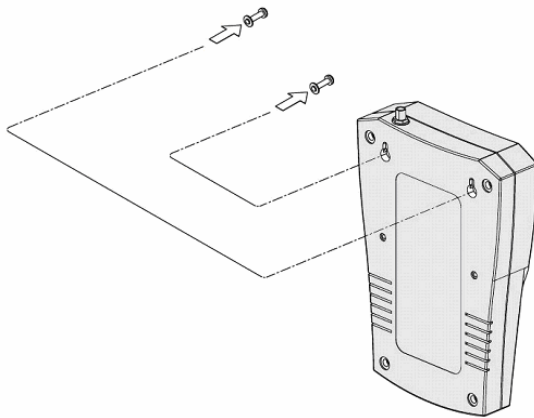

On an acoustical ceiling

1   **Attach the mounting bracket to the back of the bridge with two number 6 panhead screws.**
2   **Align the T-rail grips with the ceiling T-rail, and adjust them so that they grip the T-rails securely.**
3   **Tighten the screws on each T-rail grip.**

    After installation, there may be some play in the fit of the T-rail grips if the T-rails are very narrow. If necessary, add a shim to achieve a secure grip.
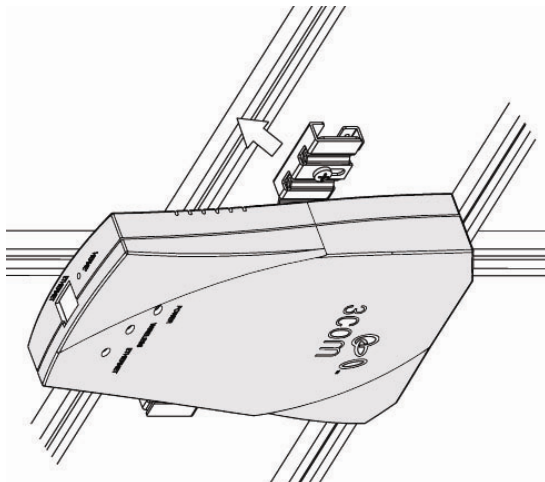
Connect the antenna

1 **Connect one end of the antenna cable to the antenna.**
2 **Connect the free end of the antenna cable to the connection on the bridge.**
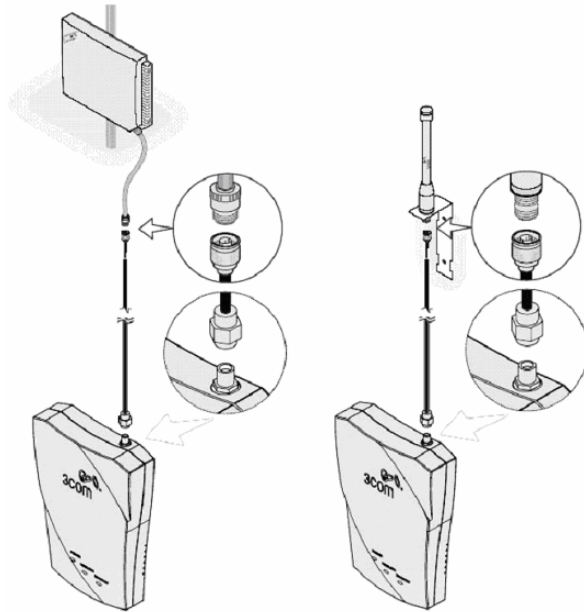
Follow the instructions that come with the antenna and follow these general guidelines:

◆ For best performance, place the antenna using the mounting hardware provided with the antenna. Outdoor placement is especially important if the building is of metal construction or has metal siding. If necessary, you can mount an antenna inside a building; however, indoor placement reduces the antenna's effective range.

◆ To ensure the physical safety of anyone near the antenna and to prevent damage to the bridge, follow the building codes for antenna installations in your area.

◆ Position the antenna so that there are minimal obstacles between it and any other antenna with which it will communicate. While maintaining a direct line of sight between antennas is not strictly necessary, such an arrangement helps to ensure a strong signal. Ensure that access is available for routing the antenna cable from the antenna to the bridge. When mounting an antenna indoors, best performance can be achieved by mounting the antenna near a window facing the opposite bridge.

◆ Make certain that the antenna and antenna mast are appropriately grounded. Proper grounding prevents injury or damage from lightning strikes.

Installing the 3CRWEASYG73 Outdoor Wireless Bridge

Mount the Unit to a Mast

Follow the instructions that come with the bridge mounting hardware and follow the general guidelines listed below.
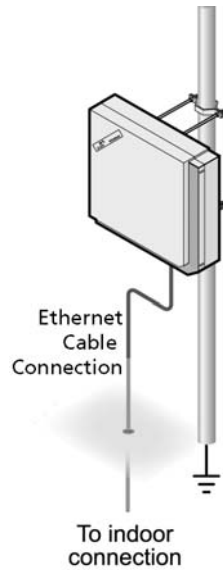
NOTE:

Mast should extend above bridge 1 meter (3 ft)

Recommended Pole Diameter = 2" – 2.5"

Maximum Pole Diameter = 3"

Bridge may be installed to freestanding or roof mounted mast

Ethernet Cable Connection

To indoor connection

◆ For best performance, place the antenna outdoors using the mounting hardware provided with the antenna. Placement is especially important if the building is of metal construction or has metal siding. If necessary, you can mount an antenna inside a building; however, indoor placement reduces the antenna's effective range.

◆ To ensure the physical safety of anyone near the antenna and to prevent damage to the bridge, follow the building codes for antenna installations in your area. This is another good reason to make sure that only a professional performs the installation.

◆ Keep in mind that in order to comply with FCC radio-frequency radiation exposure guidelines, a minimum body to antenna distance of 2 meters (6 feet) must be maintained while operating this device.

◆ Ensure that access is available for routing the Ethernet cable from the bridge to the Ethernet connection inside.

◆ Make certain that the antenna mast is appropriately grounded. Proper grounding can prevent injury or damage from lightning strikes.

◆ After installing the bridge, the highest allowable power level is automatically set when country selection is configured. Adhering to this configuration ensures compliance with national laws.

Align and Polarize the Units

For optimal performance, position the antenna so that there are minimal obstacles between it and any other antenna with which it will communicate. While maintaining a direct line of sight between antennas is not strictly necessary, such a configuration helps to ensure a strong signal. As mentioned earlier, this is not always possible in long distance configurations.

Any two bridge units that are to communicate with each other must be set for the same polarization, either horizontally or vertically. If cross-polarization occurs, the link with either work poorly or not at all. Please refer to the "Polarization" section of the User Guide for further details. The following illustration shows proper alignment, orientation and polarization for optimal performance.

Bridges should be identically polarized, either horizontally or vertically.
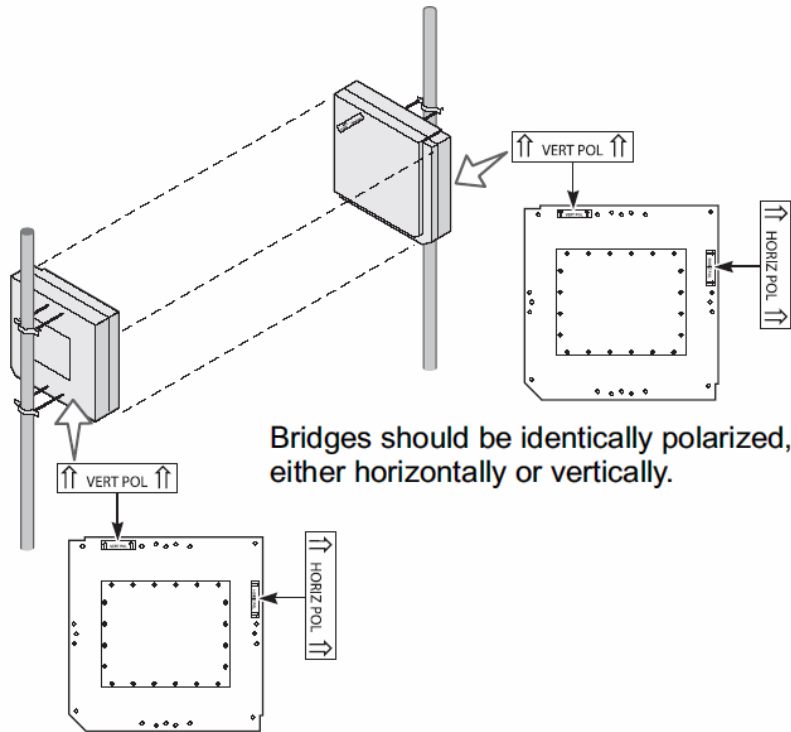
Antenna Specification

The following antennas and cables are available from 3Com Corporation:

Antennas

3CWE591 - 6/8dBi Dual-Band Omni directional Antenna	3CWE598 - 8/10dBi Dual-Band Panel Antenna	3CWE495 13 dBi Sector-Panel Directional

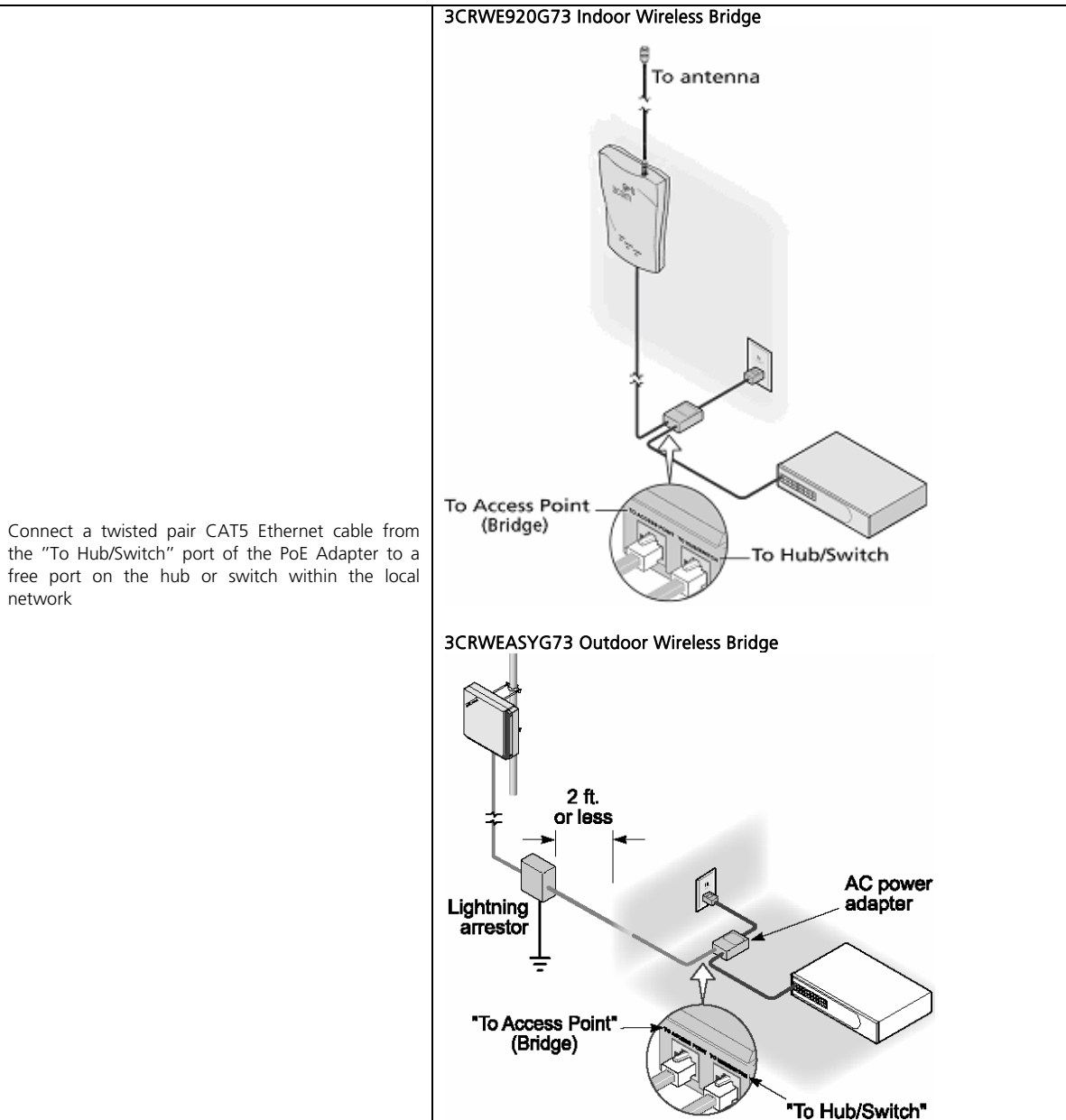| 3CWE596 - 18/20dBi Dual-Band Panel Antenna	**Ultra Low Loss Coaxial Antenna Cables:**
	3CWE580 (6 foot) 3CWE581 (20 foot) 3CWE582 (50 foot)

i   **NOTE:** Because of power level restrictions, use of the 3CWE495 13dBi and 3CWE596 18dBi antennas is not allowed in some countries.

The highest allowable power level is set automatically when you configure antenna selection after installing the bridge.

To comply with power restrictions, identical antennas using 6-foot cable must be separated by at lease the minimum distances shown below:

	Minimum Distance for Full Throughput (approximate)	
Antenna (dBi)	**Meters**	**Yards**
18	200	218
13	50	55
8	10	11
4	2	2

Connect to the Power Source and the Local Network

3CRWE920G73 Indoor Wireless Bridge

Connect a twisted pair CAT5 Ethernet cable from the "To Hub/Switch" port of the PoE Adapter to a free port on the hub or switch within the local network

3CRWEASYG73 Outdoor Wireless Bridge

NOTE: 3Com recommends that you use a weatherproof and shielded CAT5 cable to help protect the Bridge and your network equipment from lightning and power surges.

If the Bridge failed to power on or if it lost power, the automatic shutdown feature that is built into the PoE injector may have been activated to protect the Bridge from power surges. Try resetting the PoE injector.

To reset the PoE injector:
1. On the PoE injector, unplug the CAT5 cables that connect to the Bridge and the Switch.
2. Unplug the power cord, and then wait for the PoE injector to automatically reset itself back to default. The reset process normally takes about five minutes.
3. Reconnect the power and CAT5 cables to the PoE injector, and then wait for the Bridge to complete its startup process. This normally takes about one minute.

To verify that you have successfully reconnected the Bridge to the network, use WIDMAN to search for the Bridge. It should appear in the list of detected network devices. If WIDMAN cannot detect the Bridge, please contact 3Com Customer Support.

LED Indicators

After the correct connection, the Power LED and the Ethernet link LED of the 3CRWE920G73 indoor bridge should light up. On the front of the Wireless Bridge you will find three LEDs

POWER
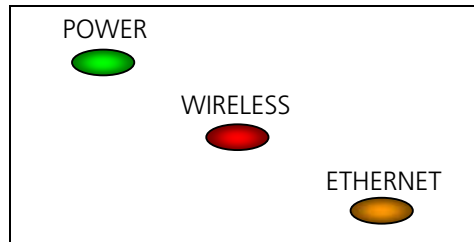
WIRELESS

ETHERNET

1   POWER LED

Off: Power supply connection not available or broken

On: Power supply connection OK

2   WIRELESS activity LED

Off: No activity

Blinking: Sending and receiving data

3   ETHERNET LAN link LED

Off: No LAN connection available

On: LAN connection OK

4.   Software Installation

Insert the installation CD-ROM delivered with the 3Com WLAN Building to Building Bridge into your CD-ROM drive

The installation wizard starts automatically and will guide you through the rest of the installation process. If the installation wizard does not start automatically, run "setup.exe" from the root directory of the installation CD. Then choose to install the 3Com Wireless Infrastructure Device Manager (WIDMAN) utility for helping you find the Bridge and configure its IP address.

The 3Com Installation CD contains the following tools and utilities:

3Com Wireless Infrastructure Device Manager (WIDMAN) — an administration tool that helps you selects 3Com wireless LAN devices and launches their configurations in your Web browser.

3Com 3CDaemon Server Tool – a firmware upgrade tool that can act in four different capacities:

◆   As a TFTP Server, necessary for firmware upgrades, and backup and restore functions. Use this option if you do not have a TFTP server set up.

◆   As a SysLog Server, which is necessary to view SysLog messages.

◆   As an optional TFTP Client.

◆   As an optional FTP Server.

[NOTE: It is recommended that you install the 3CDaemon Server tool if you do not already have a firmware tool for upgrades on your computer.]

To install one of the tools on your computer:

1   Turn on the computer;

2   Insert the 3Com Installation CD in the CD-ROM drive;

The setup menu appears. If it does not appear, you can start the setup menu from the Windows Start menu. For example: **Start > Run > d:setup.exe** .

3   In the menu, click Tools and Utilities.

4   In the next screen, click the tool you want to install.

5   Follow the instructions on the screens to complete the installation.

Reboot the computer if prompted to do so.

6   Launch the tool from the Windows Start menu.

5 Find your New Wireless Bridge

To find your new Wireless Bridge you will need to connect the Wireless Bridge to the same physical LAN network as your PC. By default, the Wireless Bridge will use DHCP Client mode to get an IP address from a DHCP Server. If your network does not have a DHCP server, the Bridge uses a default IP address of 169.254.X.Y, where the X and Y is the last two bytes of the MAC address in decimal value respectively. You can use that default IP address to configure the Wireless Bridge through a web browser directly.

To find your new Wireless Bridge, open the 3Com Wireless Infrastructure Device Manager (WIDMAN) utility. On start up, the dialog box will look like the figure below:
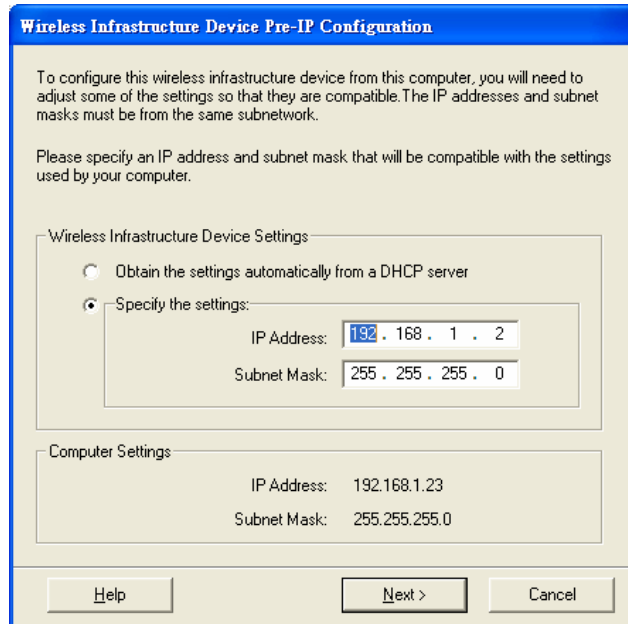
Click the 'Refresh' button and the 3Com Wireless Infrastructure Device Manager (WIDMAN) utility will begin to discover devices. After finding the new Wireless Bridge, it will list it in the list box.

Choose the Wireless Bridge in the list box, and then click the 'Configure…' button. The web browser wills pop-up, and it will bring you to the WEB UI of the Wireless Bridge.

If 3Com Wireless Infrastructure Device Manager (WIDMAN) finds that your PC cannot connect to the Wireless Bridge by IP, it would pop-up a dialog requesting that you change the IP address of the device. Then the utility will prompt you to enter the password of the bridge. *[Note: default password is "blank"]*

If the password is correct, you will be able to configure it through the WEB UI.

[NOTE: It can take up to 60 seconds for the 3Com Building to Building Bridge to boot up after power has been connected. The Bridge will not appear in the WIDMAN utility unit boot up is complete. Click the REFRESH button occasionally until the Bridge appears.]

The first time you configure the Wireless Bridge, you will see an initial Settings page. In this page, you will setup the username/password for administrator access. On international versions of the Bridge, you will select Country Settings on this page as well.

For more detailed settings of the Wireless Bridge, please refer to "3Com 802.11g 54Mbps Wireless Building to Building Bridge User's Guide".

6   Default Settings.

Property	Default Setting
Device Name	3Com Building-to-Building Bridge
Country	For U.S. version, United States
	For non-U.S version, set by the user
IP Network Setting	Obtain IP address automatically
IP Address	Obtained automatically (with a DHCP server)
	169.254.X.Y (without a DHCP server)
Subnet Mask	Obtained automatically (with a DHCP server)
	255.255.0.0 (without a DHCP server)
Default Gateway	Obtained automatically (with a DHCP server)
	0.0.0.0 (without a DHCP server)
DHCP Server	Disabled
DHCP Client	Enabled
Spanning Tree Protocol	Disabled
SNMP Read only Community	Public
SNMP Read Write Community	Private
TFTP Server	192.168.1.254
Time Settings	Disabled
Wireless Network Name (SSID)	3Com
Band	2.4Ghz Mixed (Allow both 11b and 11g)
Radio Channel	11
Broadcast SSID	Enabled
Wireless Security	None

7   Contents of CD

The CD-ROM which is enclosed in the package should include the following contents:

◆   3Com 802.11g 54Mbps Wireless LAN Building to Building Bridge User Guide
◆   MIB Directory
       Includes 3Com MIBs for Network Management usage
◆   Diagnostic Utility
◆   3Com 3CDaemon Server Tool
◆   3Com Wireless Infrastructure Device Manager
◆   Readme file

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