



3Com® 54 Mbps Wireless LAN Building-to-Building Bridge Family

DATA SHEET

Secure and reliable wireless connections that extend the network without costly cabling or leased-line charges

OVERVIEW

The 3Com® 54 Mbps Wireless LAN Building-to-Building Bridge family provides IEEE 802.11a and 802.11g Wi-Fi connections and bridged links across building complexes, enterprise campuses and metropolitan areas. Wireless outdoor bridges can connect intra-building LANs which are up to 10 miles (17 kilometers) apart, while 802.11g indoor bridges enable network connections between adjacent buildings and out to open areas such as atriums and storage yards. In addition, the 3Com 11a 54 Mbps Wireless LAN Outdoor Building-to-Building Bridge and 11b/g Access Point combines the functions of a bridge and a full-featured wireless access point in one durable weatherproof unit.

By installing 3Com building-to-building bridges, enterprises can avoid the expense of extending their cabling plant between buildings or using expensive leased lines with recurring monthly service fees. Rugged design and multiple security features help ensure continuous, reliable and secure operation. Several antenna options are available for the indoor bridges and the outdoor bridge/access point.

KEY BENEFITS

NETWORK CONNECTIONS EVERYWHERE

3Com building-to-building bridges let users connect to the enterprise network at full 54 Mbps or 108 Mbps Wi-Fi speeds wherever they happen to be working—even outdoors or in a remote facility across town. Extending the network beyond the reach of Ethernet cabling gives users more freedom and helps them be more productive. The bridges support both point-to-multipoint and point-to-point operation to meet a variety of configuration requirements.



from left: 3Com 11a 54 Mbps Wireless LAN Outdoor Building-to-Building Bridge and 11b/g Access Point, 11g 54 Mbps Wireless LAN Indoor Building-to-Building Bridge, and 11g 54 Mbps Wireless LAN Outdoor Building-to-Building Bridge

KEY BENEFITS (CONTINUED)

BRIDGE AND ACCESS POINT COMBINATION

The 3Com 11a Outdoor Building-to-Building Bridge and 11b/g Access Point provides point-to-point or point-to-multipoint bridge functionality while simultaneously using another band for access point operation, providing connectivity for mobile users. The access point, repeater, or bridge functionality can be independently configured on both radios, making the product extremely flexible for a variety of applications. The bridge function supports data rates up to 108 Mbps between buildings or to offsite locations. The access point function provides connectivity at up to 108 Mbps for as many as 128 users.

With access point and bridging functionality on the same unit, mobile users can link to the network and the traffic can be backhauled over a wireless point-to-point or point-to-multipoint bridge link to another unit attached to the wired network up to 15.5 kilometers (9.6 miles) away. The unit includes an embedded 17 dBi high-gain antenna for bridging applications. Optional external omni-directional and directional antennas are available separately.

WIRELESS COST ADVANTAGES

Using wireless bridges to extend the network saves the high cost of installing cable between buildings. Enterprises can also avoid the expense of leasing T1/E1 lines, which can cost up to US\$1,000 per month or more. And 3Com building-to-building bridges provide 10 to 20 times the bandwidth of T1/E1 lines.

SECURE COMMUNICATIONS

To ensure privacy and protect valuable information, 3Com building-to-building bridges are equipped with a full complement of enterprise-class security features. The bridges provide the latest Wi-Fi Protected Access 2 (WPA2) with Advanced Encryption Standard (AES) wireless encryption, WPA with PSK authentication, and Wired Equivalent Privacy (WEP) encryption. They also support virtual private network (VPN) and virtual LANs (VLANs) pass-through so that data access can be restricted to specific groups or individuals. IEEE 802.1X (EAP-MD5, EAP-TLS, EAP-TTLS and PEAP) is supported for user or MAC authentication, and an embedded supplicant is included for authentication to the local LAN.

DURABLE AND RELIABLE

The outdoor bridges are designed to withstand harsh conditions, as the rugged housing guards against vibration, water and shock, and even includes internal lightning protection. An internal heater is included to help keep it operational in extreme cold environments. Dynamic Rate Shifting helps keep network connections available.

POWER FLEXIBILITY

To simplify installation where AC power outlets may not be readily available, Power over Ethernet (PoE) is supported on all bridges. The outdoor bridges require a custom PoE inserter (included with the unit) to support the higher power required for the embedded heater. The included power inserter also provides additional lightning protection, which is critical when mounting any communications equipment outdoors.

CONVENIENT INSTALLATION AND MANAGEMENT

Setup wizard software makes installation and configuration easy. Once setup is complete, the building-to-building bridges can be remotely managed using a standard Web browser or SNMP management tools.

FEATURES AND BENEFITS

ECONOMICAL, HIGH-SPEED CONNECTIVITY

Cost-effective wireless building-to-building links	Rapid return on investment in as little as two to three months by eliminating fiber cable installation or recurring T1/E1 line costs—wireless building-to-building bridge deployments cost about one tenth what cabling would cost, with no right-of-way or trenching issues.
High-speed 54 Mbps data rate (108 Mbps for bridge/access point)*	Much higher throughput than 1.5/2.0 Mbps T1/E1 lines.

OPEN AND FLEXIBLE

Wi-Fi CERTIFIED a/b/g	Ensures access point interoperability with other Wi-Fi certified products.
Range up to 10 miles (17 km) [†]	Network can be extended to buildings across an entire metro area; longer distances are possible with external antenna options.
Antenna choices [‡]	4 dBi to 20 dBi panel or omni-directional antennas are available to provide maximum RF coverage for a wide range of applications.
Point-to-point and point-to-multipoint wireless bridging, and mobile user connectivity [§]	Access point, repeater, and bridge functionality can be independently configured on both radios, making the unit extremely flexible for a variety of applications.
Point-to-point and point-to-multipoint topology	Flexibility in configuring building-to-building networks; point-to-multipoint supports up to six bridge connections .

SECURE AND RELIABLE

WPA/TKIP, WPA2/AES [§] , 64-/128-/152-bit WEP, 802.1X authentication and encryption	Toughest industry-standard algorithms help keep wireless transmissions private.
VPN and VLAN pass-through [¶]	Supports secure tunnels and segmented traffic to protect data and provide workgroup containment.
Weatherproof, fire-resistant enclosure with integrated antenna [¶]	Meets stringent outdoor environmental and safety specifications.
EN/EC 60529 IPX4 rated	Meets UL and CAN/CSA standards for waterproofing.
Dynamic Rate Shifting	Matches the best connection speed in response to physical and traffic conditions so wireless connections stay reliable.

INSTALLATION AND MANAGEMENT CONVENIENCE

Power over Ethernet	PoE support eliminates the need to locate the device near existing AC power outlets; a power injector is supplied with all building-to-building bridges.
Web browser, SNMP and 3Com Network Director support	Bridges can be managed from anywhere; LANs may be seamlessly integrated with enterprise management tools.
Setup wizard	Simplifies setup procedures.

* Data throughput can vary depending upon several factors, including network traffic load, distance between bridges, antennas, line-of-sight conditions, and local and remote electromagnetic emissions (EMI) and Fresnel zone obstructions.

[†] Maximum range of 10 miles requires 3Com wireless building-to-building bridges at both ends.

[‡] Not available with Outdoor Building-to-Building Bridge, 3CRWEASYG73.

[§] Outdoor Building-to-Building Bridge and 11b/g Access Point, 3CRWEASYA73, only.

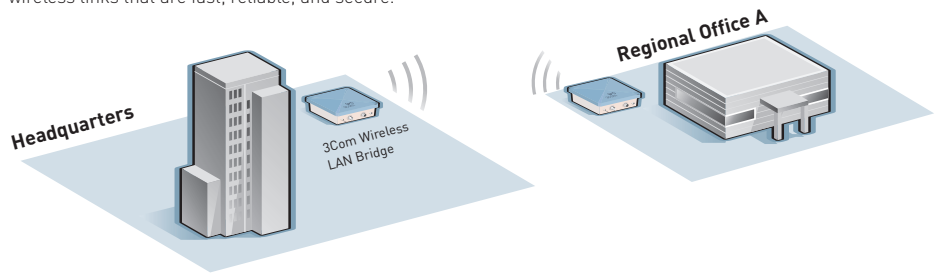
[¶] Not available with Outdoor Building-to-Building Bridge and 11b/g Access Point, 3CRWEASYA73.

[¶] Not available with Indoor Building-to-Building Bridge, 3CRWE920G73.

3COM 11G 54 MBPS WIRELESS LAN OUTDOOR BUILDING-TO-BUILDING BRIDGE: SAMPLE DEPLOYMENTS

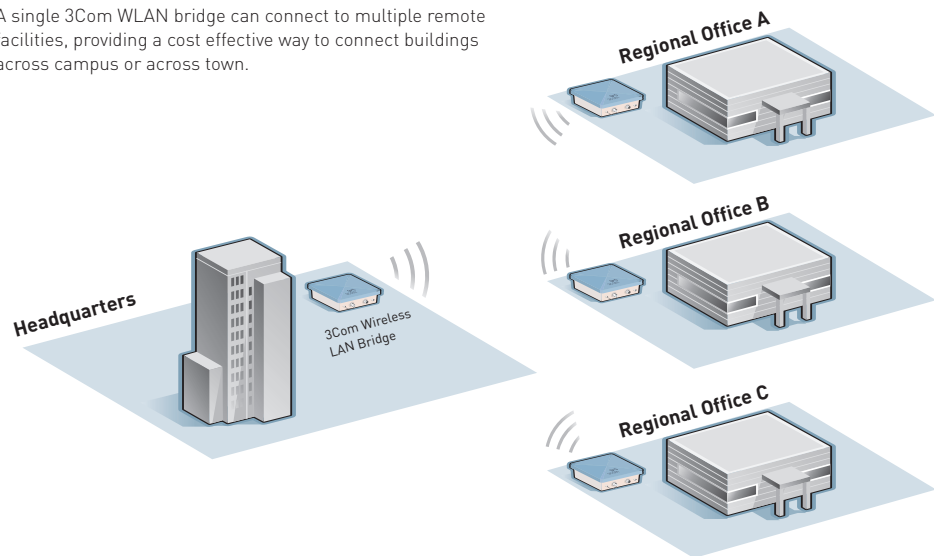
Point-to-Point Bridging

3Com WLAN bridges can be used to join sites together over wireless links that are fast, reliable, and secure.



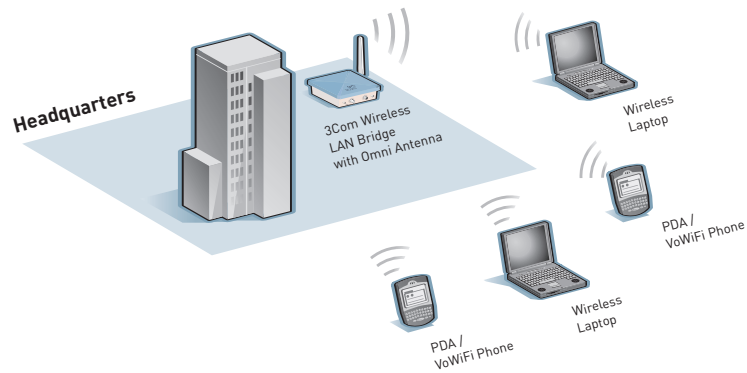
Point-to-Multipoint Bridging

A single 3Com WLAN bridge can connect to multiple remote facilities, providing a cost effective way to connect buildings across campus or across town.



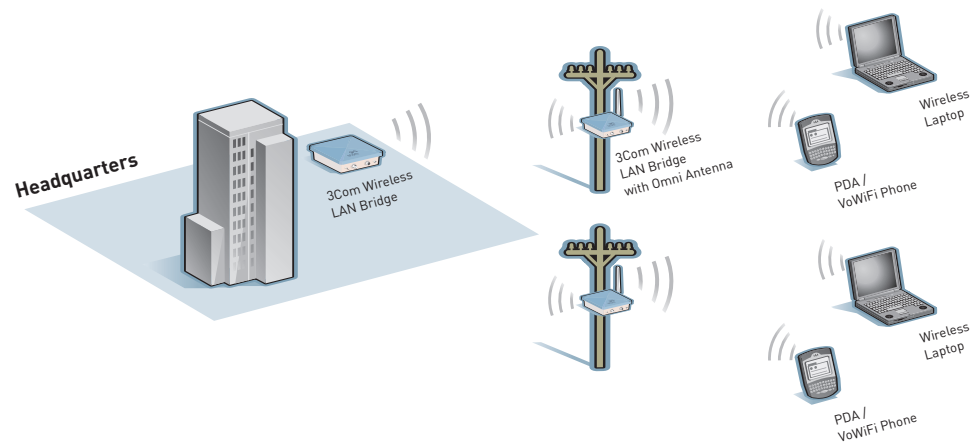
Outdoor Wireless Access

The 3Com Outdoor WLAN Bridge / AP can be mounted anywhere wireless access is required. Throughout an Enterprise, college, or hospital campus, or mounted on the side of a building, the unit provides up to 108 Mbps connectivity for mobile users on 802.11a and 802.11g, and up to 11 Mbps connectivity on 802.11b.



Outdoor Wireless Bridging and Access

The 3Com Outdoor WLAN Bridge / AP can provide access point services on one radio, while providing wireless backhaul on the other radio. Access points can be distributed throughout a campus, shopping mall, park, or apartment complexes, wherever wireless coverage is required, and can be mounted mounted anywhere power is available. Network/Internet connectivity is then provided through a wireless backhaul link to another unit attached to the corporate network/Internet.



SPECIFICATIONS

All information in this section is relevant to all members of the 3Com Building-to-Building Bridge family, unless otherwise stated.

MEDIA INTERFACES

Indoor and Outdoor Bridges (3CRWEASYG73 and 3CRWE920G73)
RJ-45, 10BASE-T/100BASE-TX, 802.11b/g
Outdoor Bridge/Access Point (3CRWEASYA73)
10BASE-T/100BASE-TX, 802.11a/b/g

WIRELESS DATA RATES

3CRWEASYG73 and 3CRWE920G73
802.11a: 802.11b: 11, 5.5, 2, 1 Mbps
802.11g: 54, 48, 35, 24, 18, 12, 9, 6 Mbps
3CRWEASYA73
802.11a/g: 6/9/12/18/24/36/48/54 Mbps, up to 108 Mbps (turbo and super modes)
802.11b: 1/2/5.5/11 Mbps

FREQUENCY BAND

3CRWEASYG73 and 3CRWE920G73
802.11b/g: 2.4–2.4835 GHz
3CRWEASYA73
802.11a: 5 GHz; 802.11b/g: 2.4 GHz

USERS SUPPORTED[§]

Up to 64 simultaneous wireless users per access point radio for a total of 128

OPERATING CHANNELS

Use of this product is only authorized for the channels approved by each country. To conform to FCC and other country restrictions, this product may be limited in the channels that are available.

MODULATION TECHNIQUE

802.11a: BPSK, QPSK, 16-QAM, 64-QAM
802.11b/g: CCK, BPSK, QPSK, OFDM

MEDIA ACCESS PROTOCOL

CSMA/CA

TRANSMIT POWER SETTINGS

Based on the regulatory domain set by the system administrator, not to exceed the following:

Outdoor Bridge (3CRWEASYG73)
17 dBm: ±1 dB (U.S., Canada, Mexico)
20 dBm: ±1 dB (Europe, U.K., Ireland, Latin America)

Indoor Bridge (3CRWE920G73)
17 dBm (U.S., Canada, Mexico)
20 dBm EIRP max. depending on antenna and cable configuration (Europe, U.K., Ireland, Latin America)

Outdoor Bridge/Access Point (3CRWEASYA73)

802.11g
6 to 54 Mbps: 18 dBm (2412 and 2472 GHz); 20 dBm (2417 - 2467 GHz)

802.11b
1 to 11 Mbps: 15 dBm (2412, 2472 and 2417 - 2467 GHz)

802.11a
6 to 48 Mbps: 17 dBm (5.150 - 5.250, 5.250 - 5.350, 5.500 - 5.700, and 5.725 - 5.825 GHz)
54 Mbps: 12 dBm (5.150 - 5.250 GHz), 17 dBm (5.250 - 5.35 and 5.500 - 5.700 GHz), 16 dBm (5.725 - 5.825 GHz)

RECEIVE SENSITIVITY

3CRWEASYG73 and 3CRWE920G73

802.11a
6 Mbps: -87 dBm
9 Mbps: -86 dBm
12 Mbps: -84 dBm
18 Mbps: -82 dBm
24 Mbps: -79 dBm
36 Mbps: -75 dBm
48 Mbps: -72 dBm
54 Mbps: -71 dBm

802.11b
1 Mbps: -91 dBm
2 Mbps: -89 dBm
5.5 Mbps: -88 dBm
11 Mbps: -86 dBm
802.11g
6 Mbps: -85 dBm
9 Mbps: -83 dBm
12 Mbps: -81 dBm
18 Mbps: -79 dBm
24 Mbps: -77 dBm
36 Mbps: -74 dBm
48 Mbps: -72 dBm
54 Mbps: -70 dBm

802.11a/g
1 Mbps: -95 dBm
2 Mbps: -92 dBm
5.5 Mbps: -91 dBm
6 Mbps: -89 dBm
9 Mbps: -88 dBm
11 Mbps: -88 dBm
12 Mbps: -86 dBm
18 Mbps: -84 dBm
24 Mbps: -81 dBm
36 Mbps: -77 dBm
48 Mbps: -73 dBm
54 Mbps: -72 dBm

3CRWEASYA73
802.11a
6 Mbps: -88 dBm
9 Mbps: -87 dBm
12 Mbps: -86 dBm
18 Mbps: -84 dBm
24 Mbps: -81 dBm
36 Mbps: -75 dBm
48 Mbps: -72 dBm
54 Mbps: -71 dBm

802.11b
1 Mbps: -93 dBm
2 Mbps: -90 dBm
5.5 Mbps: -90 dBm
11 Mbps: -87 dBm
802.11g
6 Mbps: -88 dBm
9 Mbps: -87 dBm
12 Mbps: -86 dBm
18 Mbps: -85 dBm
24 Mbps: -81 dBm

36 Mbps:
-77 dBm (5.150 - 5.350 GHz)
-78 dBm (5.500 - 5.825 GHz)
48 Mbps: -73 dBm
54 Mbps:
-69 dBm (5.150 - 5.250 GHz)
-70 dBm (5.250 - 5.700 GHz)
-67 dBm (5.725 - 5.825 GHz)

[§] Outdoor Building-to-Building Bridge and 11b/g Access Point, 3CRWEASYA73, only.

SPECIFICATIONS (CONTINUED)

STANDARDS CONFORMANCE

IEEE 802.11b, 802.11g, 802.11a[§], 802.3, 802.1X[§], WPA2[§], WPA, WEP, AES, EAP, FTP, HTTP, IAPP, NTP, SNMP, SNTP

ANTENNA

Outdoor Bridge (3CRWEASYG73):
Integrated 18 dBi directional panel antenna (19° beam angle)

Indoor Bridge (3CRWE920G73):
Antenna must be ordered at time of bridge purchase

Outdoor Bridge/Access Point (3CRWEASYA73): Integrated 17 dBi antenna; 18° horizontal beamwidth, 18° vertical beamwidth; unit supports 1 external 802.11a and 2 external 802.11g antennas with "N" connectors.

SECURITY

3CRWEASYG73 and 3CRWE920G73
64-/128-bit WEP, WPA/TKIP encryption
WPA-PSK (AES) authentication
Local MAC address filtering
VPN and VLAN pass-through

3CRWEASYA73
WPA/TKIP, WPA2/AES
40/64-, 104/128-, 128/152-bit WEP
Local MAC authentication
RADIUS MAC authentication
Local MAC address filtering
RADIUS client support
Access Control Lists (ACLs)
SSL/SSH
IEEE 802.1X authentication access control with key rotation
IEEE 802.1X mutual authentication access control between two bridged access points

NETWORKING PROTOCOLS

NetBEUI, IPX, TCP/IP, Bridging Protocol, Spanning Tree Protocol, SNMP, DHCP

PERFORMANCE

3CRWEASYG73 and 3CRWE920G73
Dynamic rate shifting
Packet bursting
Clear channel connect

3CRWEASYA73
Dynamic rate shifting
Packet bursting
Clear channel connect
802.11a/g turbo and Super G modes

MANAGEMENT

3CRWEASYG73 and 3CRWE920G73
CLI via Telnet or SSN
HTTP or HTTPS web browser interface
SNMP v1 and 3
3Com Network Director
Remote software upgrade via HTTP
3CRWEASYA73
CLI via console port or Telnet / SSH
HTTP or HTTPS web browser interface
SNMP v1 and 3
3Com Wireless Infrastructure Device Manager (Widman)

LEDS

3CRWEASYG73 and 3CRWE920G73
Power, LAN activity, radio activity
3CRWEASYA73
Power, reset, Ethernet link, Ethernet activity, radio activity, bridge link RSSI

DIMENSIONS AND WEIGHT

3CRWEASYG73
Length: 38 cm (15 in)
Width: 35 cm (13.78 in)
Height: 7 cm (2.75 in)
Weight: 2.54 kg (5.6 lb)

3CRWE920G73
Length: 17.5 cm (6.9 in)
Width: 12.1 cm (4.76 in)
Height: 3.6 cm (1.4 in)
Weight: 0.26 kg (0.575 lb)

3CRWEASYA73
Length: 19.5 cm (7.6 in)
Width: 19 cm (7.4 in)
Height: 7.4 cm (2.8 in)
Weight: 5.3 kg (11.6 lb)

REGULATORY/AGENCY APPROVALS

Safety
EN 60950 2000, IEC 60950 Edition 3, CSA 22.2 60950 3rd edition, UL 60950 3rd edition, UL 2043, IEC 60529, NOM-109 SCFI, AS/NZ 3260

Radio/ Electromagnetic
47 CFR Part 15, Section 15.247, 15.207, 15.407; FCC 03-287 Parts 2 & 15, FCC Bulletin OEC-65; Canada RSS-102 Issues 1 & 5; EN 300-328, EN 301 983, EN 301-489

Emissions/Immunity
ICES-003 Class B, FCC Part 15 Class B, ETSI EN 301 489-17, EN 55022: 1994+A1: 1995+A2: 1997 Class A, EN 61000-3-2:2000, EN 61000-3-3: 1995+A1:2001

[§] Outdoor Building-to-Building Bridge and 11b/g Access Point, 3CRWEASYA73, only.

^{*} Outdoor Building-to-Building Bridge, 3CRWEASYG73, only.

SPECIFICATIONS (CONTINUED)



ENVIRONMENTAL RANGES

3CRWEASYG73 and 3CRWE920G73
Operating temperature: -33 to 50°C
(-27 to 122° F)

Wind^v: operational loading up to
153 kph (95 mph); wind survival
to 201 kph (125 mph)

Vibration class 4M3

Transportation environment: ETS 300
019-2-2 Class 2.3 public transportation
Storage environment shock: IEC 68-2-29
Drop: IEC 68-2-32

Lightning^v: unit should withstand a
+4KV of Input surge, 1.2 µsec rise/fall
time, 50 µsec duration, every 10
seconds, for both RF and IF ports

3CRWEASYA73

Operating temperature: -40 to 65°C
(-40 to 149° F)

Wind: operational loading up to
246 kph (100 mph); wind survival
to 241 kph (150 mph)

Vibration class 4M3

Transportation environment: ETS 300
019-2-2 Class 2.3 Public Transportation
Storage environment shock: IEC 68-2-29
Drop: IEC 68-2-32

Lightning: unit should withstand a
+4KV of input surge, 1.2 µsec rise/fall
time, 50 µsec duration, every 10 sec.,
for both RF and IF ports

PACKAGE CONTENTS

3CRWEASYG73

11g 54 Mbps Wireless LAN Outdoor
Building-to-Building Bridge, power
adapter/PoE injector, power cable(s)
for PoE injector, lightning arrester,
mounting bracket, CD-ROM with user
guide and configuration software,
warranty booklet

3CRWE920G73

11g Wireless 54 Mbps Wireless LAN
Indoor Building-to-Building Bridge,
power adapter for PoE injector, power
cable(s) for PoE injector, mounting
bracket, CD-ROM with user guide and
configuration software, warranty
booklet

3CRWEASYA73

11a Wireless 54 Mbps Wireless LAN
Indoor Building-to-Building Bridge
and 11b/g Access Point (with internal
lightning protection), power injector
and 30 meter (98 ft) power cable, PoE
inserter, wall and pole mounting
brackets, grounding wire, weather-
proof Ethernet and console cables,
CD-ROM with Setup Wizard software
and user's manual, warranty booklet

WARRANTY AND OTHER SERVICES

One Year Limited Hardware Warranty.
Limited Software Warranty for 90
days. 90 days of telephone technical
support.

Refer to www.3com.com/warranty for
details.

ORDERING INFORMATION

PRODUCT DESCRIPTION

3COM SKU

3Com 11g 54 Mbps Wireless LAN Outdoor Building-to-Building Bridge 3CRWEASYG73

3Com 11g 54 Mbps Wireless LAN Indoor Building-to-Building Bridge 3CRWE920G73

3Com 11a 54 Mbps Wireless LAN Outdoor Building-to-Building Bridge and 11b/g Access Point 3CRWEASYA73

Indoor Bridge (3CRWE920G73) Accessories

3Com 6/8 dBi Dual-Band Omni Antenna 3CWE591

3Com 3/4 dBi Dual-Band Ceiling Mount Antenna 3CWE592

3Com 18/20 dBi Dual-Band Panel Antenna 3CWE596

3Com 4/6 dBi Dual-Band Hallway Antenna 3CWE597

3Com 8/10 dBi Dual Band Panel Antenna 3CWE598

3Com Ultra-Low Loss Antenna Cable 6-Foot 3CWE580

3Com Ultra-Low Loss Antenna Cable 20-Foot 3CWE581

3Com Ultra-Low Loss Antenna Cable 50-Foot 3CWE582

3Com RSMA to SMA 6" Antenna Cable 3CWE586

Outdoor Bridge/Access Point (3CRWEASYG73) Accessories

3Com 6/8 dBi Dual-Band Omni Antenna 3CWE591

3Com 18/20 dBi Dual-Band Panel Antenna 3CWE596

3Com 8/10 dBi Dual-Band Panel Antenna 3CWE598

3Com Ultra-Low-Loss N-to-N Antenna Cable 6-Foot 3CWE810

3Com Ultra-Low-Loss N-to-N Antenna Cable 20-Foot 3CWE811

3Com Ultra-Low-Loss N-to-N Antenna Cable 50-Foot 3CWE812

3Com Global Services

3Com Wireless LAN Site Survey, Network Health Check,

Installation Services and ExpressSM Maintenance www.3com.com/services_quote

3Com University Courses www.3com.com/3comu

Visit www.3com.com for more information about 3Com secure converged network solutions.

3Com Corporation, Corporate Headquarters, 350 Campus Drive, Marlborough, MA 01752-3064
3Com is publicly traded on NASDAQ under the symbol COMS.

Copyright © 2007 3Com Corporation. All rights reserved. 3Com and the 3Com logo are registered trademarks, and Express is a service mark, of 3Com Corporation. All other company and product names may be trademarks of their respective companies. Wireless speed and performance depend on number of users, physical conditions, and other electronic devices in the area. While every effort is made to ensure the information given is accurate, 3Com does not accept liability for any errors or mistakes which may arise. All specifications are subject to change without notice. 401004-002 01/07

