



3Com® 54 Mbps Wireless LAN Building-to-Building Bridge and Access Point

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 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). 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.



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

* Using IEEE 802.11a is no longer allowed outdoors in Europe where new DFS (Dynamic Frequency Selection) requirements exist.

KEY BENEFITS (CONTINUED)

BRIDGE AND ACCESS POINT COMBINATION

The 3Com 11a/11g Outdoor Building-to-Building Bridge and 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.
Dynamic Frequency Selection (DFS)	Detects radar signals that must be protected against IEEE 802.11a interference; automatically switches the 802.11a operating frequency to one that is not interfering with the radar systems. [*]
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.

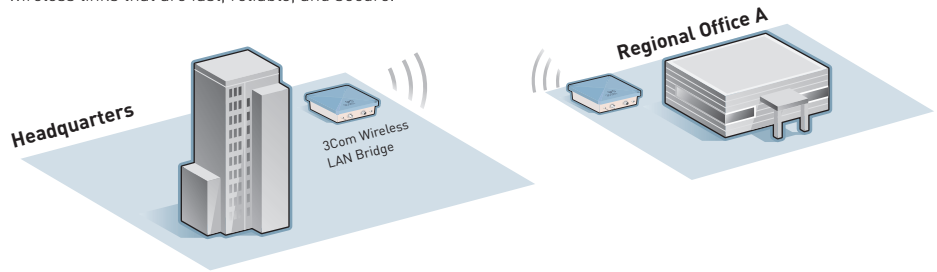
[‡] Maximum range of 10 miles requires 3Com wireless building-to-building bridges at both ends.

^{*} Using IEEE 802.11a is no longer allowed outdoors in Europe where new DFS (Dynamic Frequency Selection) requirements exist.

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

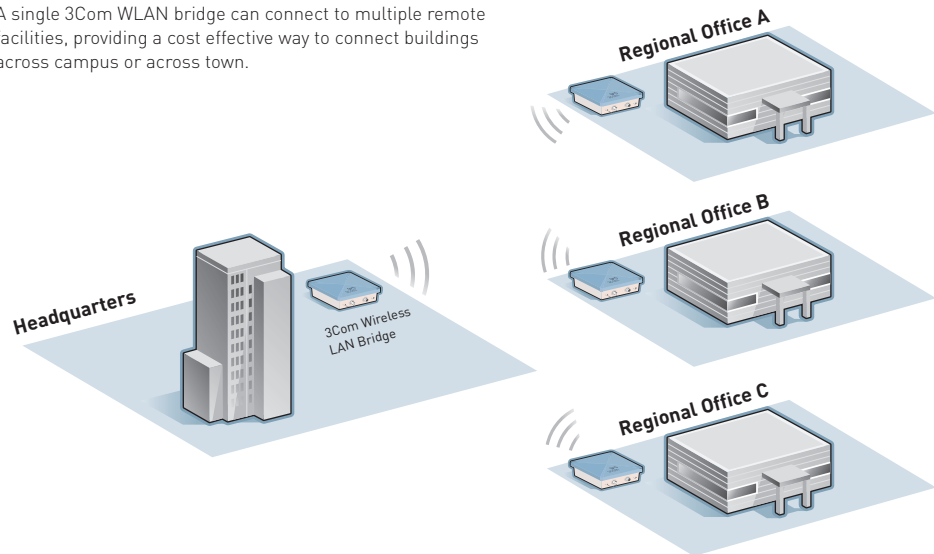
Point-to-Point Bridging

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



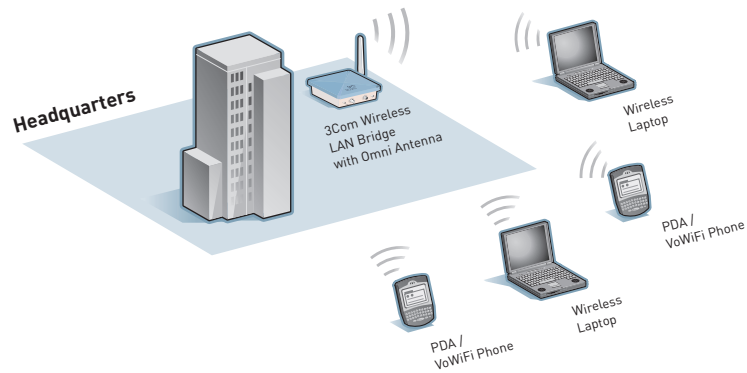
Point-to-Multipoint Bridging

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



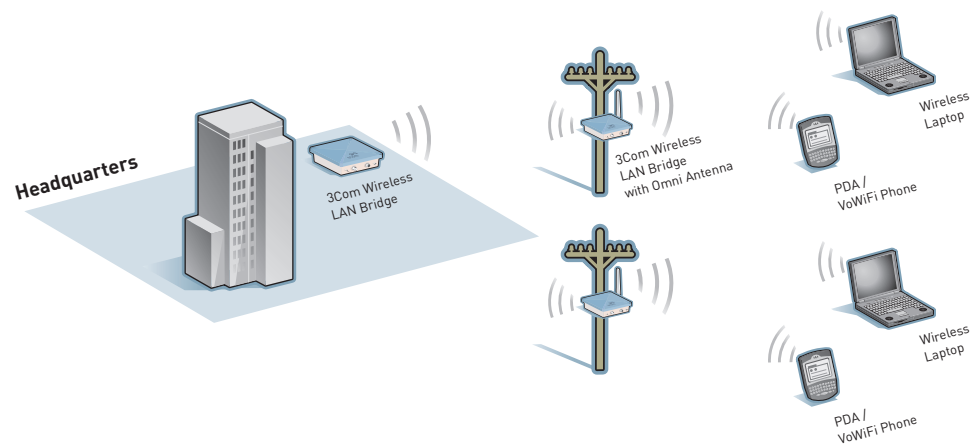
Outdoor Wireless Access

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

MEDIA INTERFACES

10BASE-T/100BASE-TX, 802.11a/b/g

WIRELESS DATA RATES

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

802.11a*: 5 GHz*; 802.11b/g: 2.4 GHz

USERS SUPPORTED^s

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:

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

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)

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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, DFS^{§*}

ANTENNA

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

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

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

MANAGEMENT

CLI via console port or Telnet / SSH
HTTP or HTTPS web browser interface
SNMP v1 and 3
3Com Wireless Infrastructure Device Manager (Widman)

LEDS

Power, reset, Ethernet link, Ethernet activity, radio activity, bridge link RSSI

DIMENSIONS AND WEIGHT

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

* Using IEEE 802.11a for bridging is not recommended in countries requiring radar detection, as link speed and quality may be adversely affected due to Dynamic Frequency Selection (DFS).

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

SPECIFICATIONS (CONTINUED)



ENVIRONMENTAL RANGES

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

11a / 11g Wireless 54 Mbps Wireless
LAN Indoor Building-to-Building
Bridge and 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 11a 11g 54 Mbps Wireless LAN Outdoor Building-to-Building
Bridge and Access Point*

3CRWEASYA73

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

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

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

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