

APPLICATIONS

Businesses share a growing need for high capacity, reliable and secure network connectivity alternatives to interference-prone low frequency radios and cost-prohibitive, limited availability fiber. BridgeWave's gigabit point-to-point wireless bridges are the perfect alternative to meet these challenges and accommodate your wireless bridging needs today and into the future.

Visit our website at <http://www.bridgewave.com/solutions/casestudies.cfm> and review real life business situations where BridgeWave's gigabit point-to-point wireless bridges are providing wireless connectivity for mission-critical applications.



Enterprise

Inter-building LAN extensions, server centralization, remote data storage & backup, redundant fiber overlays and disaster recovery.



Service Provider

High-capacity business services, cellular/WiFi/WiMAX backhaul, fiber backbone extensions, redundant fiber overlays, mesh backbone, short term connections.



Healthcare

Secure (HIPAA-compliant) campus connectivity, off-site medical office & lab network access, real-time imaging application connectivity, redundant fiber overlays and disaster recovery.



Education

High-performance campus & off-site location connectivity, WiFi & security camera backhaul and connectivity to service provider fiber.



Government/Military

Highly-secure inter-building connections, redundant fiber overlay, disaster recovery and short term connections



Municipalities

High-performance backbone connectivity for municipal networks, video surveillance systems, traffic control & monitoring, backhaul for 4.9 GHz mesh nodes, homeland security, E911 deployments

ABOUT

Founded in 1999, BridgeWave Communications is the leading supplier of gigabit Ethernet wireless connectivity solutions. The company's exclusive AdaptRate technology and Forward Error Correction capabilities deliver the highest availability at the longest distances for full-rate GigE connections. BridgeWave's point-to-point, fixed wireless products are ideally suited for a wide variety of enterprise, service provider, healthcare, education, public safety and government/military network applications.

BridgeWave's gigabit wireless solutions are enabled by our proprietary transceiver and modem technologies. BridgeWave's products utilize the upper millimeter-wave radio spectrum in the 60 - 90 GHz range, providing multi-mile gigabit per second wireless connectivity at affordable price points. BridgeWave's solutions provide fiber-comparable performance without the delay and cost associated with leased-lines.

BridgeWave is an ISO9001 certified supplier and has proven scalability and reliability with thousands of radios installed worldwide.



BridgeWave
COMMUNICATIONS

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BridgeWave
COMMUNICATIONS

AFFORDABLE
& RELIABLE

**Gigabit
Wireless
Solutions**





BridgeWave Products-At-A-Glance

60 GHz LICENSE-FREE



	FE60U	GE60	AR60/AR60X
Data Rate	100 Mbps full-duplex	1000 Mbps full-duplex	Full-time 1000 Mbps Full-time 100 Mbps 1000/100 Mbps AdaptRate
Latency	<220µSec	<40µSec	<40µSec (GE mode) <220µSec (FE mode)
Link Budget @ 10 ⁻¹² BER	160.5 dB	149.5 dB	149.5 dB (GE mode) 160.5 dB (FE mode)
RF Interface	58.1/62.9 GHz (FDD), digitally modulated (BFSK) with forward error correction RS(204,188)		
Antennas	Integrated 10" (25cm), H or V, 40 dBi, 1.4° beam (FE60, GE60, AR60) External 24" (60cm), H or V, .46 dBi, 0.6° beam (AR60X)		
Ethernet Interfaces	1000Base-SX with LC connectors, up to 270m 62.5/125µm MMF or 50/125 µm MMF 1000Base-Tx with RJ45 connector, up to 100m CAT5 cable (two surge suppressors required) Maximum Ethernet frame length: 1632 bytes		
Management	Web-based HTML embedded management agent: setup, security, status, Statistics; Secure Management Access, RADIUS; Syslog support SNMP support: MIB-II and BridgeWave enterprise MIB		
Power	100-240 VAC input/+24 VDC output, indoor 0 - 40°C power supply, 45 watts max consumption (outdoor rated power supply option available). Max cable length: 650 ft (200m) with 12AWG, 400 ft (125m) with 14AWG, (24VDC surge suppressor required)		
Size & Weight (radio + antenna)	FE60U, GE60, AR60: 12" w x 12" h x 6" d (30cm x 30cm x 15cm); 22 lbs (10kg) AR60X: 24" w x 24" h x 20" d (62 cm x 62cm x 50cm); 38.5 lbs (17.5kg)		
Environmental	Operating Temperature: -30°C to +55°C (-22°F to +122°F) Operating Altitude: 14,764 ft (4,500 m) maximum		

A complete list of product specifications can be found at www.bridgewave.com/products

AR60X 	Up to 1.5 Miles (2.5 km)
FE60U	Up to 1 Mile (1.6 km)
AR60 	Up to 1 Mile (1.6 km)
GE60	Up to .75 Mile (1 km)

BENEFITS

- >> Rapid deployment avoids construction and fiber-leasing delays
- >> Eliminates recurring leased-line transmission charges
- >> Significantly outperforms copper-based alternatives
- >> Built-in capacity for future applications
- >> Ownership of infrastructure

FEATURES

- >> Full rate, full duplex, ultra low latency GigE transport
- >> Fast Ethernet products are software key upgradeable to GigE
- >> License-free (60 GHz) or licensed band (80 GHz) operation
- >> Integrated all-outdoor unit is easy to install with minimal configuration
- >> Carrier class "five-nines" operation over the longest link distances
- >> AdaptRate™ technology ensures all-weather link availability
- >> AdaptPath™ capability provides proactive secondary path switching
- >> Both 'in-band' and 'out-of-band' secure network management
- >> Narrow antenna beams provide security and interference immunity
- >> Integrated gigabit Ethernet switch supports "add/drop" configurations
- >> 256-bit AES encryption offers maximum data security





80 GHz LIGHTLY-LICENSED



	FE80U/FE80XU	GE80/GE80X	AR80/AR80X
Data Rate	100 Mbps full-duplex	1000 Mbps full-duplex	Full-time 1000 Mbps Full-time 100 Mbps 1000/100 Mbps AdaptRate
Latency	<220µSec	<40µSec	<40µSec (GE mode) <220µSec (FE mode)
Link Budget @ 10 ⁻¹² BER	177 dB (FE80U) 191 dB (FE80XU)	166 dB (GE80) 180 dB (GE80X)	166 dB/180 dB (GE mode) 177 dB/191 dB (FE mode)
RF Interface	72.5/82.5 GHz (FDD), digitally modulated (BFSK) with forward error correction RS(204,188)		
Antennas	External 12" (30cm), H or V, 43 dBi, 0.8° beam (FE80U, GE80, AR80) External 24" (60cm), H or V, 50 dBi, 0.4° beam (FE80XU, GE80X, AR80X)		
Ethernet Interfaces	1000Base-SX with LC connectors, up to 270m 62.5/125µm MMF or 50/125 µm MMF; 1000Base-Tx with RJ45 connector, up to 100m CAT5 cable (two surge suppressors required); maximum Ethernet frame length: 1632 bytes		
Management	Web-based HTML embedded management agent: setup, security, status, statistics; Secure Management Access, RADIUS; Syslog support SNMP support: MIB-II and BridgeWave enterprise MIB		
Power	100-240 VAC input/+24 VDC output; indoor 0 - 40°C power supply, 45 watts max consumption; (outdoor rated power supply option available). Max cable length: 650 ft (200m) with 12AWG, 400 ft (125m) with 14AWG, (24VDC surge suppressor required)		
Size & Weight (radio + antenna)	FE80U, GE80, AR80: 20" w x 14" h x 10" d (50cm x 36cm x 25cm); 22 lbs (10kg) FE80XU, GE80X, AR80X: 24" w x 24" h x 20" d (62 cm x 62cm x 50cm); 38.5 lbs (17.5kg)		
Environmental	Operating Temperature: -30°C to +55°C (-22°F to +122°F) Operating Altitude: 14,764 ft (4,500 m) maximum		

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AR80X 	Up to 6 Miles (9.5 km)
FE80XU	Up to 6 Miles (9.5 km)
AR80 	Up to 5 Miles (8 km)
GE80X/FE80U	Up to 5 Miles (8 km)
GE80	Up to 4 Miles (6.5 km)