



# BW80 & BW80X

## 80 GHz Upgradeable Gigabit Ethernet Wireless Links

### 80 GHz WIRELESS SOLUTIONS FOR HIGH-BANDWIDTH APPLICATIONS

BridgeWave is the leading supplier of gigabit RF connectivity solutions for service provider, government, military, and enterprise applications. BridgeWave Gigabit Ethernet links extend network operator fiber to provide high capacity access and backhaul, and can also extend enterprise LANs between buildings and sites.

BridgeWave's BW80 and BW80X (extended range) links provide an economical solution for users needing gigabit or sub-gigabit connections between buildings, or extensions off of fiber-backbones. BW80 allows for granular upgrades in capacity to full-rate gigabit speeds yielding true future-proof backbone connectivity. Begin operation with full-duplex transport rates of 125 Mbps and simply increase capacity over the link as needs grow and budget allow. BW80 provides the ability to remotely upgrade capacity in steps from 250 Mbps, 500 Mbps, and full-rate gigabit 1000 Mbps without a visit to site. The ability to upgrade data rates in granular steps is another BridgeWave innovation that continues our leadership as the number one supplier of gigabit millimeter wave wireless solutions.

### FEATURES

#### PERFORMANCE:

- Full-rate, full-duplex software upgradeable capacity to Gigabit Ethernet
- Interference-free operation enabling high-density deployments
- Low latency for fiber-equivalent performance
- Forward Error Correction provides maximum link range

#### SECURITY:

- Highly secure narrow beamwidth antennas
- RADIUS Authentication
- Secure Management software option provides HTTPS management access

#### RELIABILITY:

- Rigorous HALT/HASS testing, 28-year MTBF
- Up to 99.999%, carrier-grade availability

#### EASE-OF-USE:

- Connects directly to standard network equipment
- All-outdoor, compact design
- Low voltage power cabling
- Rapid & flexible deployment
- Embedded web and SNMP based network management

### CONNECTIVITY RANGES



**BW80**

**Up to 5 Miles**  
(8 km)



**BW80X**

**Up to 6 Miles**  
(9.5 km)

### WIRELESS "VIRTUAL FIBER" SOLUTIONS FOR:



#### Enterprise

Server centralization, remote data storage and backup, leased line replacement.



#### Healthcare

Secure, HIPAA-compliant connectivity, medical office, lab network access, real-time imaging & records, application connectivity.



#### Education

High-performance campus connectivity, Wi-Fi and security camera backbone.



#### Government/Municipalities

Video surveillance systems, traffic control and monitoring, Wi-Fi/4.9GHz backhaul.



#### Service Provider

High-capacity business services, fiber extensions, redundant fiber overlays, mesh backbone, short term connections.



#### Mobile Backhaul

Future-proof full-rate gigabit backhaul for next generation 4G/LTE/WiMAX backhaul.

## SPECIFICATIONS

	BW80	BW80X
Data Rates		
Base Rate	125 Mbps full-duplex	125 Mbps full-duplex
Upgrade Rates	250 Mbps, 500 Mbps, 1000 Mbps full-duplex via software key	250 Mbps, 500 Mbps, 1000 Mbps full-duplex via software key
Latency	< 40uSec	< 40uSec
Link Budget	172dB @ 10 <sup>-12</sup> BER 174dB @ 10 <sup>-6</sup> BER	186dB @ 10 <sup>-12</sup> BER 188dB @ 10 <sup>-6</sup> BER
RF Interface	72.5GHz/82.5GHz (FDD), digitally modulated with forward error correction RS(204,188), 1400 MHz bandwidth	
	Min. link distance 328 ft (100 m)	Min. link distance 1,312 ft (400 m)
Antenna	External 12 in (31 cm) directional cassegrain Linear polarized (H/V), 44dBi gain, 0.9° beam	External 24 in (62 cm) directional cassegrain Linear polarized (H/V), 51dBi gain, 0.4° beam
Ethernet Interfaces	1000base-SX with LC connectors - up to 270m 62.5/125µm MMF, or 500m 50/125µm MMF 10/100base-TX with RJ-45 connector (with integral surge suppressor) - up to 100m Cat5 cable Maximum Ethernet frame length: 1632 bytes	
Management	Web-based (HTML) embedded management agent: setup, security, status, statistics, software update Secure Management Access (see Advanced Security datasheet for details) SNMP support: MIB-II and BridgeWave enterprise MIB Voltmeter test points: Receive Signal Level and Link Quality SysLog (RFC 3164, RFC 3195) event support RADIUS Authentication	
Power	Supplied 100 – 240 VAC input, +24VDC output indoor rated power supply (0°C to +40°C). 45 watts max. consumption Max. cable length: 650 ft (200m) with 12AWG; 400 ft (125m) with 14AWG, stranded wires highly recommended (surge suppressor required)	
Mount	Fine adjust pole-mount: 3.5–4.5in (8.9–11.4cm) OD – SCH40 or higher	
Size	Radio/antenna unit: 20w * 14h * 10d (in) / 50w * 36h * 25d (cm)	Radio/antenna unit: 24w * 24h * 20d (in) / 62w * 62h * 50d (cm)
Weight	Radio with antenna and mount: 22 lbs (10 kg)	Radio with antenna and mount: 38.5 lbs (17.5 kg)
Environmental	Operating Temperature: -33°C to +55 °C (-27°F to 131 °F) Operating Altitude: 14,764 ft (4,500 m)	
Wind Loading	60 lbs. force @ 100 MPH	120 lbs. force @ 100 MPH
Regulatory	Safety: UL Listed, CE Mark, EN60950, meets FCC 1.1310 General Population RF MPE limits EMC: EN 301 489-1, EN 301 489-4 RF Certifications: U.S. FCC Part 15.255, Industry Canada RSS-210, EN 302 217 (2008-11)	
Install Kit	Voltmeter test cable, power connectors, AC-to-DC Power Supply	



ISO 9001:2008  
FM 59394

[www.bridgewave.com](http://www.bridgewave.com)

BridgeWave strongly recommends that a link analysis be performed to ensure the system meets the individual application requirements. Please contact BridgeWave Sales. BridgeWave reserves the right to change specifications and features listed herein without notice or obligation.

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