AR80 & AR80X

80 GHz AdaptRate™ Wireless Links

AR80

AR80X

80 GHz WIRELESS LINKS 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, as well as extending enterprise LANs between buildings and sites.

FEATURES

PERFORMANCE:

- Full rate, full duplex, Gigabit or Fast Ethernet
- AdaptRate switching overcomes rain downpours
- AdaptPath provides secondary path switching for maximum service availability
- Interference-free operation enabling high-density deployments
- Simple, fast path licensing
- Low latency for fiber-equivalent performance
- Forward Error Correction provides maximum link range

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, cellular/Wi-Fi/WiMAX backhaul, redundant fiber overlays, mesh.

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

SECURITY:

- Highly secure narrow beamwidth antennas
- Secure Management software option provides HTTPS management access and RADIUS authentication (see Advanced Security datasheet)
- AES Encryption hardware option provides the ultimate level of full line-rate data protection (see Advanced Security datasheet)

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 agent

CONNECTIVITY RANGES

| AR80 | Up to 5 Miles (8 km) |
| AR80X | Up to 7 Miles (11.5 km) |

DATASHEET

	AR80 AdaptRate™ Gigabit Ethernet		AR80X AdaptRate™ Extended Range	
Operating Mode	1000 Mbps full-duplex, 100 Mbps full-duplex, 1000/100 Mbps AdaptRate			
AdaptRate and AdaptPath Switching	Normal operation: 1000 Mbps / Path fade mode: 100 Mbps / Secondary link: Dependant of user supplied product capability			
	Switching time: < 50 milliseconds			
	AdaptRate switch point: -57 dBm / -59 dBm			
	AdaptPath switch point: Configurable			
	1000 Mbps	**100 Mbps**	**1000 Mbps**	**100 Mbps**
Data Rate	1000 Mbps full duplex	100 Mbps full duplex	1000 Mbps full duplex	100 Mbps full duplex
Latency	< 40 uSec	< 220 uSec	< 40 uSec	< 220 uSec
Link Budget	172 dB @ 10^{-12} BER	183 dB @ 10^{-12} BER	186 dB @ 10^{-12} BER	197 dB @ 10^{-12} BER
	174 dB @ 10^{-6} BER	185 dB @ 10^{-6} BER	188 dB @ 10^{-6} BER	199 dB @ 10^{-6} BER
RF Interface	72.5 GHz/82.5 GHz (FDD), digitally modulated (BFSK) with forward error correction RS(204,188)			
	1.4 GHz bandwidth	285 MHz bandwidth	1.4 GHz bandwidth	285 MHz bandwidth
	Min. link distance 328 ft (100 m)		Min. link distance 1,312 ft (400 m)	
	256-Bit AES Encryption option (see Advanced Security datasheet for details)			
Antenna	External 12 in (31 cm) directional cassegrain		External 24 in (62 cm) directional cassegrain	
	Linear polarized (H/V), 44 dBi gain, 0.9° beam		Linear polarized (H/V), 51 dBi gain, 0.4° beam	
Ethernet Interfaces	1000base-SX with LC connectors - up to 270 m 62.5/125µm MMF, or 500 m 50/125µm MMF			
	10/100base-TX with RJ-45 connector (with integral surge suppressor) - up to 100 m 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			
	RADIUS Authentication, SysLog support			
Power	Supplied 100 – 240 VAC input, +24 VDC output, indoor rated power supply (0°C to +40°C). 45 watts max. consumption			
	-48 VDC input option with user supplied power supply, 45 watts max. consumption			
	Max. cable length: 650 ft (200 m) with 12AWG 400 ft (125 m) with 14AWG, stranded wires highly recommended (surge suppressor required)			
Mount	Fine-adjust pole mount: 3.5-4.5 in (8.9-11.4 cm) OD -- SCH40 or higher		Fine-adjust pole mount: 3.5-4.5 in (8.9-11.4 cm) OD -- SCH40 or higher	
Size	Radio/antenna unit: 20 w * 14 h * 10 d (in) / 50 w * 36 h * 25 d (cm)		Radio with antenna and mount: 24 w * 24 h * 20 d (in) / 62 w * 62 h * 50 d (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 to +55 °C (-27 to 131 °F)			
	Operating altitude: 14,764 ft maximum (4,500 m)			
Wind Loading	46 lbs. force @ 125 MPH		202 lbs. force @ 125 MPH	
Regulatory	Safety: UL Listed, CE Mark, EN60950, meets FCC 1.1310 general population RF MPE limits			
	RF Certifications: EN302217 (2008-11), U.S. FCC Part 101			
Install Kit	Voltmeter test cable, power connectors			

BSI
ISO 9001:2008
FM 59394

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