



PTP 58500 & PTP 54500

Motorola 5.8 and 5.4 GHz Point-to-Point Bridges



High-Performance, Secure Wireless Ethernet Bridges

The Motorola wi4 Fixed Point-to-Point Wireless Ethernet Bridges – PTP 500 Series – bring together the speed and reliability of licensed wireless with the flexibility of the unlicensed space. Operating in the 5.4 and 5.8 GHz bands at Ethernet data rates up to 105 Mbps and distances up to 155 miles (250 km), the systems are designed for virtually any environment – non-line-of-sight, long-range line-of-sight and high interference – where high throughput is a major requirement.

Through Motorola’s unique combination of technologies, PTP 500 Series solutions are ideal for a wide variety of applications, including voice-over-IP, video surveillance, telemedicine, disaster recovery, emergency services and high-speed backhaul.

The wi4 Fixed PTP 500 Series bridges are part of Motorola’s MOTOwi4 portfolio of innovative wireless broadband solutions that create, complement and complete IP networks. Delivering IP coverage to virtually all spaces, the MOTOwi4 portfolio includes wi4 Fixed, wi4 Mesh, wi4 Indoor and wi4 WiMAX solutions for high-speed connectivity over private and public networks.

Authorization Note

The 5.4 GHz version of this device has not been authorized as required by the rules of the Federal Communications Commission (FCC). That device is not, and may not be, offered for sale or lease, or sold or leased in the United States, until authorization is obtained.

Motorola PTP 58500 Bridges 5.8 GHz Part Numbers

WB2857 Integrated
WB2858 Connectorized

Motorola PTP 54500 Bridges 5.4 GHz Part Numbers

WB2874 Integrated
WB2875 Connectorized

SPECIFICATION SHEET

Motorola 5.4 and 5.8 GHz wi4 Fixed Point-To-Point Bridges – PTP 500 Series

Radio Technology	Remarks
RF band	5.725 GHz–5.875 GHz* 5.470 GHz–5.725 GHz*
Channel size	15 MHz
Channel selection/ dynamic frequency control	By <i>intelligent</i> Dynamic Frequency Selection (i-DFS) or manual intervention; automatic selection on start-up and continual adaptation to avoid interference
Transmit power	Varies with modulation mode and settings from -18 dBm to 27 dBm
System gain	Integrated: Varies with modulation mode; up to 167 dB using 23 dBi integrated antenna** Connectorized: Varies with modulation mode and antenna type**
Receiver sensitivity	Adaptive, varying between -94 dBm and -69 dBm
Modulation	Dynamic; adapting between BPSK single and 64 QAM dual
Error correction	FEC
Duplex scheme	5.4 GHz: Symmetric Fixed TDD; same frequency Tx/Rx 5.8 GHz: Symmetric Fixed TDD; same or split frequency Tx/Rx where regulations permit
Antenna: type/gain/B/W	Integrated: Integrated flat plate 23 dBi / 8° Connectorized: Can operate with a selection of separately-purchased single and dual polar antennas through 2 x N-type female connectors (check local regulations prior to purchase)
Range	Up to 155 miles (250 km)***
Security and encryption	Proprietary scrambling mechanism; optional FIPS-197 compliant 128- and 256-Bit AES Encryption * Regulatory conditions for RF bands may vary by geographic location and should be confirmed prior to system purchase ** Gain, maximum transmit power and effective radiated power may vary based on regulatory domain *** In all cases the range limit is set by the latest software release

Ethernet Bridging

Protocol	IEEE 802.3
User data throughput	Dynamically variable up to 105 Mbps at the Ethernet (aggregate)
Latency	<3 ms average each direction
QoS	802.1p (2 levels)
Interface	10 / 100 Base T (RJ-45) – auto MDI/MDIX

Management & Installation

LED indicators	Power status, Ethernet link status and activity
System management	Web or SNMP v1/v2c using MIBII and a proprietary PTP MIB; Canopy® Prizm
Installation	Built-in audio assistance and voltage output for link optimization
Connection	Distance between outdoor unit and primary network connection: up to 330' (100 meters)
Lightning protection	Built into the ODU; an external PTP Lightning Protection Unit (PTP-LPU) end device is required near the base of the tower or wall at the cable entrance point leading to the network

Physical

Dimensions	Integrated Outdoor Unit (ODU): Width 14.5" (370 mm), Height 14.5" (370 mm), Depth 3.75" (95 mm) Connectorized ODU: Width 12.2" (309 mm), Height 12.2" (309 mm), Depth 4.1" (105 mm) Powered Indoor Unit (PIDU Plus): Width 9.75" (250 mm), Height 1.5" (40 mm), Depth 3" (80 mm)
Weight	Integrated ODU: 11.8 lbs (5.35 kg) including bracket Connectorized ODU: 10.4 lbs (4.7 kg) including bracket PIDU Plus: 1.9 lbs (864 g)
Wind speed survival	202 mph (325 kph)
Power supply	Integrated with Indoor Unit
Power source	90–240 VAC, 50–60 Hz / 36-60V DC; redundant powering configurations supported
Power consumption	50 W max

Environmental & Regulatory

Operating temperature	-40°F (-40°C) to +140°F (+60°C)
Protection and safety	UL60950; IEC60950; EN60950; CSA-C22.2 No. 60950
Radio	5.8 GHz: USA CFR 47 Part 15.247, Canada IC RSS-210 Issue 7, Europe EN 302 502, Eire ComReg 03/42, UK IR2007 5.4 GHz: Europe EN 301 893, Canada IC RSS-210 Issue 7
EMC	USA CFR 47 Part 15 Class B, Canada CSA Std C108.8 1993 Class B, Europe EN 55022 CISPR 22
Safety	Europe EN 301 489-4



Motorola, Inc., 1303 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. • www.motorola.com/ptp

MOTOROLA and the Stylized M Logo are registered in the U.S. Patent and Trademark Office. All other product or service names are the property of their respective owners.
© Motorola, Inc. 2008. All rights reserved.