


WIRELESS NETWORK SOLUTIONS

PTP 45600 and PTP 48600

4.5 and 4.8 GHz Point-to-Point Bridges


Spectrum-Efficient, High-Availability Bridges

Operating in the 4.5 and 4.8 GHz radio frequencies at data rates up to 300 Mbps, the Motorola Point-to-Point (PTP) 45600 and 48600 Wireless Ethernet Bridges can support a variety of fixed and portable communications for U.S. Federal Government and NATO applications. With a unique combination of technologies that can deliver up to 99.999% link availability in non-line-of-sight and long-distance line-of-sight environments, over water and open terrain, even in extreme weather conditions, PTP 45600 and PTP 48600 solutions deliver high-throughput and spectral efficiency while maintaining low latency.

The bridges can form a stand-alone network or integrate easily with Motorola's Point-to-Multipoint, Mesh, WiMAX, Indoor WLAN and Land Mobile Radio (LMR) solutions to meet a wide variety of Federal Government and NATO communication requirements, including:

- Battlefield communications
- Public safety
- Video surveillance

- Border security
- Training and simulation networks
- LMR backhaul
- Building-to-building and campus connectivity

The electronic components are encased in a robust outdoor enclosure that can withstand temperatures from -40° F to +140° F (-40° C to +60° C) and winds up to 202 mph (325 kph). The small-footprint, lightweight units can be installed quickly with audio and graphical features that help you easily obtain the maximum signal strength and throughput. Plus, Motorola's PTP LINKPlanner tool lets you perform path calculations and project link performance prior to purchase, based on variables specific to your deployment.

Motorola PTP 45600 and 48600 Bridges
4.5 GHz Part Numbers

WB3040 PTP 45600 Full Integrated Link
 WB3041 PTP 45600 Full Connectorized Link

4.8 GHz Part Numbers

WB3378 PTP 48600 Full Integrated Link
 WB3379 PTP 48600 Full Connectorized Link

SPECIFICATION SHEET

Motorola 4.5 and 4.8 GHz Point-to-Point Bridges – PTP 45600 and PTP 48600

Radio Technology	Remarks
RF band	45600: 4.400 – 4.600 GHz ¹ (Federal and NTIA) 48600: 4.700 – 4.940 GHz ¹ (NTIA) 4.710 – 4.940 GHz ¹ (Federal) 4.710 – 5.000 GHz ¹ (Federal Extended) 4.940 – 4.990 GHz ¹ (Public Safety as appropriate)
Channel size	45600: Configurable to 5, 10, 15, 20 or 30 MHz, depending on region code 48600: Configurable to 5, 10 or 20 MHz, depending on region code
Channel selection	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	45600: +27 dBm for all modulation modes 48600: Varies with modulation mode and settings from +27 dBm to +22 dBm
System gain	45600 Integrated: Varies with modulation mode; up to 168 dB using 21.5 dBi integrated antenna ² 48600 Integrated: Varies with modulation mode; up to 169 dB using 22 dBi integrated antenna ² Connectorized: Varies with modulation mode and antenna type ²
Receiver sensitivity	Adaptive, varying between -98 and -60 dBm
Modulation	Dynamic; adapting between BPSK and 256 QAM
Error correction	FEC
Duplex scheme	Time Division Duplex (TDD) and Half Duplex Frequency Division Duplex (HD-FDD), Dynamic or Fixed ratio; each TDD-synchronized link requires a Motorola PTP-SYNC Synchronization Unit to provide an accurate timing reference signal
Antenna	45600 Integrated: Integrated flat plate 21.5 dBi / 11° 48600 Integrated: Integrated flat plate 22 dBi / 10° Connectorized: Can operate with a selection of separately-purchased single and dual polar antennas through 2 x N-type female connectors (local regulations should be checked prior to purchase)
Range	Up to 124 miles (200 km)
Security and encryption	Optional FIPS-197 compliant 128/256-bit AES Encryption; optional FIPS 140-2 ³ Level 2 mode; certification status may be confirmed at: http://csrc.nist.gov/groups/STM/cmvp/inprocess.html
Ethernet Bridging & T1/E1	
Protocol	IEEE 802.3
User data throughput	45600: Dynamically variable up to 300 Mbps at the Ethernet (aggregate): 5 MHz Channel: Up to 40 Mbps 10 MHz Channel: Up to 84 Mbps 15 MHz Channel: Up to 126 Mbps 20 MHz Channel: Up to 168 Mbps 30 MHz Channel: Up to 300 Mbps 48600: Dynamically variable up to 200 Mbps at the Ethernet (aggregate): 5 MHz Channel: Up to 48 Mbps 10 MHz Channel: Up to 100 Mbps 20 MHz Channel: Up to 200 Mbps
QoS	8 Queues
Ethernet Interface	10 / 100 / 1000 Base T (RJ-45), auto MDI/MDIX, optional 1000 Base SX
T1/E1 Interface	ITU-T G.703 G.823/G.824 Supports up to two T1/E1 ports
T1/E1 Latency (one way)	As low as 1.7 ms, depending on range, bandwidth, modulation mode and number of T1/E1 ports; accurate T1/E1 latency figures can be determined for any given configuration using the PTP LINKPlanner
Management & Installation	
LED indicators	Power status, Ethernet link status and activity
System management	Web access via browser or TLS/HTTPS; SNMP v1, v2c and v3 ⁴ , MIB-II and proprietary PTP MIB; Motorola One Point Wireless Suite
Installation	Built-in audio and graphical assistance for link optimization
Connection	Distance between outdoor unit and primary network connection: up to 330 feet (100 meters)
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: 12.1 lbs (5.5 kg) including bracket Connectorized ODU: 9.1 lbs (4.3 kg) including bracket PIDU Plus: 1.9 lbs (864 g)
Operating temperature	-40°F (-40°C) to +140°F (+60°C), including solar radiation
Wind speed	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	55 W max
Environmental & Regulatory	
Protection and safety	UL60950; IEC60950; CB Approval for Global
Radio	FCC Part 90Y, NTIA PTP 45600: J/F-12 approved for DoD
EMC	USA CFR 47 Part 15 Class B

Wireless Network Solutions

PTP 45600 and 48600 systems are included in Motorola's portfolio of unrivaled wireless network solutions. The portfolio includes indoor WLAN, outdoor wireless mesh, point-to-multipoint, point-to-point networks and voice over WLAN systems, giving customers the agility and seamless connectivity they need to grow their business or better protect and serve the public. Combined with powerful software for wireless network design, security, management and troubleshooting, Motorola's solutions deliver trusted networking and anywhere access to organizations worldwide.

¹ Regulatory conditions for RF bands should be confirmed prior to system purchase.

² Gain, maximum transmit power and effective radiated power may vary based on regulatory domain.

³ While FIPS 140-2 is compatible with existing systems, certain hardware limitations may apply.

⁴ SNMP v3 is available on AES-enabled radios.

