Our Cambium Point-to-Point (PTP) 200 Series Wireless Ethernet Solutions are designed to give you high-throughput, reliable broadband communications on a tight budget. With a PTP 200 Series solution, enterprises, government organizations and service providers with limited resources can establish and extend backhaul communications affordably.

Meeting Your Needs
Within our Cambium PTP 200 family of products, you can choose among three line-of-sight (LOS) and near-line-of-sight (nLOS) solution platforms, the PTP 200, PTP 230 and PTP 250. Our PTP 49200 system operates in the 4.9 GHz defined-use licensed band at data rates up to 21 Mbps. This system provides very reliable and affordable connectivity and backhaul to support police officers, firefighters, 9-1-1 centers and other public safety agencies.

In the PTP 230 platform, our PTP 54230 and PTP 58230 models operate in the 5.4 and 5.8 GHz license-exempt bands at data rates up to 50 Mbps. These systems are ideal to supply affordable long-distance communications. In addition, PTP 54230 and 58230 systems can synchronize communications using a GPS timing device, allowing you to collocate multiple radios with virtually no self-interference.

Our PTP 5X250 is a dual-band radio operating in the 5.4 and 5.8 GHz license-exempt bands. PTP 5X250 systems offer data rates up to 256 Mbps (release 02-00 and higher). For applications such as video surveillance, Voice-over-IP and streaming video content, these systems offer very compelling, price-per-megabit communications.

Having a wide array of value-priced, high-quality communication options makes it easy to obtain the right combination of features to meet your specific application, infrastructure and environmental requirements.
### RADIO TECHNOLOGY

| **RF bands** | Defined-Use Licensed Band:  
| 49200: | 4.940 – 4.980 GHz |

**License-Exempt Bands:**  
| 54230: | 5.470 GHz – 5.725 GHz  
| 58230: | 5.725 GHz – 5.875 GHz  
| 5X250: | 5.470 GHz – 5.725 GHz  
| | 5.725 GHz – 5.850 GHz |

**Channel size**  
In all cases, channel sizes depend on region code.  
| 49200: | 10 MHz  
| 54230, 58230: | Configurable to 10 or 20 MHz  
| 5X250: | Configurable to 20 or 40 MHz |

**Channel selection**  
| 49200, 54230, 58230: | Manual selection  
| 5X250: | Automatic selection on start-up, with manual override |

**Transmit power**  
| 49200: | Auto transmit power control by Master up to 18 dBm  
| 54230, 58230: | -30 to +19 dBm to EIRP limit by region (1 dBm interval)  
| 5X250: | Up to 22 dBm; varies with modulation mode and settings. |

**System gain**  
| 49200: | Integrated – Up to 141 dB using Integrated antenna  
| 54230, 58230: | Integrated – Up to 125 dB using Integrated antenna  
| | LENS – Up to 137 dB using passive LENS  
| | Reflector – Up to 155 dB using passive reflector  
| 5X250: | Integrated – Up to 158 dB using 23 dBi Integrated antenna  
| | System gain will vary with modulation mode and antenna type. |

**Receiver sensitivity**  
| 49200: | Up to -89 dBm (with FEC)  
| 54230, 58230: | Up to -86 dBm (with FEC)  
| 5X250: | Adaptive, varying between -93 dBm and -71 dBm |

**Modulation**  
| 49200: | Adaptive between QPSK, 16 QAM and 64 QAM  
| 54230, 58230: | Adaptive between QPSK, 16 QAM and 64 QAM  
| 5X250: | Dynamic; adapting between BPSK and 64 QAM with single and dual payload |

**Error correction**  
| 49200: | ARQ, FEC (3/4 Reed-Solomon block coding)  
| 54230, 58230: | ARQ, FEC (3/4 Reed-Solomon block coding)  
| 5X250: | ARQ, FEC |

**Duplex scheme**  
| Time Division Duplex (TDD) |

**Antenna**  
In all cases, check local regulations prior to antenna purchase.  
| 49200: | Varies with antenna type; can operate with a selection of separately-purchased antennas, 50 ohm N-type  
| 54230, 58230: | Integrated – 10 dBi (55° antenna), can be enhanced with passive LENS or reflector dish  
| 5X250: | Integrated flat plate 23 dBi / 7°  
| | Connectorized: Can operate with a selection of separately-purchased single and dual polar antennas through 2 x N-type female connectors |

**Maximum Range**  
| 49200: | Integrated – Up to 15 mi (24 km)  
| 54230, 58230: | Integrated – Up to 4.5 mi (7.2 km)  
| | LENS – Up to 18 mi (29 km),  
| | Reflector – Up to 80 mi (128.7 km)  
| 5X250: | 20 MHz Channel – Up to 34 mi (54 km)  
| | 40 MHz Channel – Up to 17 mi (27 km)  
| | Models vary with modulation mode and antenna type and size. |

**Security and encryption**  
| 49200: | DES, FIPS 197 128-bit AES Encryption  
| 54230, 58230: | DES, FIPS 197 128-bit AES Encryption  
| 5X250: | Proprietary encryption; FIPS 197 128-bit AES Encryption (available in North America) |
**ETHERNET BRIDGING**

<table>
<thead>
<tr>
<th>Protocol</th>
<th>49200: Proprietary OFDM</th>
<th>54230, 58230: Proprietary OFDM</th>
<th>5X250: Proprietary</th>
</tr>
</thead>
<tbody>
<tr>
<td>User data throughput</td>
<td>49200: Up to 21 Mbps (aggregate)</td>
<td>54230, 58230: 10 MHz Channel – Up to 24 Mbps 20 MHz Channel – Up to 50 Mbps</td>
<td>5X250: Up to 256 Mbps at the Ethernet (aggregate): 20 MHz Channel – Up to 112 Mbps 40 MHz Channel – Up to 256 Mbps</td>
</tr>
<tr>
<td>Latency (typical)</td>
<td>49200: 5 to 7 ms round trip</td>
<td>54230, 58230: 5 to 7 ms round trip</td>
<td>5X250: 4 ms round trip</td>
</tr>
<tr>
<td>QoS</td>
<td>49200: DiffServ QoS</td>
<td>54230, 58230: DiffServ QoS</td>
<td>5X250:</td>
</tr>
<tr>
<td>Ethernet Interface</td>
<td>49200: 10/100 Base T (RJ-45)</td>
<td>54230, 58230: 10/100 Base T (RJ-45)</td>
<td>5X250: 1000 Base T (RJ-45), auto MDI/MDIX</td>
</tr>
<tr>
<td>VLAN</td>
<td>49200: 802.1Q with 802.1p priority</td>
<td>54230, 58230: 802.1ad (DVLAN Q-in-Q), 802.1Q with 802.1p priority, dynamic port VID</td>
<td>5X250: 802.1Q</td>
</tr>
</tbody>
</table>

**MANAGEMENT & INSTALLATION**

<table>
<thead>
<tr>
<th>LED indicators</th>
<th>49200: Power, GPS, Sync, Session, Link and Activity indicators</th>
<th>54230, 58230: Power, GPS, Sync, Session, Link and Activity indicators</th>
<th>5X250: Power status LED on Power Supply Unit (PSU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>System management</td>
<td>49200: HTTP, Telnet, FTP, SNMPv2c; compatible with Prizm 3.2 or later and CNUT 3.1 or later</td>
<td>54230, 58230: HTTP, Telnet, FTP, SNMPv2c; Wireless Manager, version 3.0 or higher</td>
<td>5X250: Web access via browser; SNMP v2c using MIBII and proprietary PTP MIB</td>
</tr>
<tr>
<td>Installation</td>
<td>49200: Audio and LED indicators for link optimization</td>
<td>54230, 58230: Audio and LED indicators for link optimization</td>
<td>5X250: Built-in audio and graphical assistance for link optimization</td>
</tr>
<tr>
<td>Connection</td>
<td>Distance between outdoor unit and primary network connection: up to 330 ft. (100 meters)</td>
<td></td>
<td></td>
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</tbody>
</table>

**PHYSICAL**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>49200: H-13.25” (33.6 cm), W-8.25” (21 cm), D-4.38” (11.1 cm)</th>
<th>54230, 58230: H-11.75” (29.9 cm), W-3.4” (8.6 cm), D-3.4” (8.6 cm)</th>
<th>5X250: Integrated ODU: W-14.5” (370 mm), H-14.5” (370 mm), D-3.75” (95 mm) Connectorized ODU: W-12.2” (309 mm), H-12.2” (309 mm), D-4.1” (105 mm) PoE Power Supply: W-6.5” (165 mm), H-2.0” (50 mm), D-3.5” (88 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>49200: 2.8 lbs (1.3 kg)</td>
<td>54230, 58230: 1 lb (0.6 kg)</td>
<td>5X250: Integrated ODU: 12.1 lbs (5.5 kg) including bracket Connectorized ODU: 9.1 lbs (4.3 kg) including bracket PoE power supply: 0.83 lbs (378 g)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>49200: -40° to +131° F (-40° to +55° C)</td>
<td>54230, 58230: -40° to +131° F (-40° to +55° C)</td>
<td>5X250: -40° to +140° F (-40° to +60° C), including solar radiation</td>
</tr>
<tr>
<td>Wind speed survival</td>
<td>49200: 118 mph (190 kph)</td>
<td>54230, 58230: 118 mph (190 kph)</td>
<td>5X250: 150 mph (240 kph)</td>
</tr>
<tr>
<td>Power supply</td>
<td>PoE power supply unit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Power source | 100-240 VAC, 50-60 Hz

Power consumption | 49200: 22 W max at 56 VDC  
| 54230, 58230: 9 W max at 30 VDC  
| 5X250: 35 W max

**ENVIRONMENTAL & REGULATORY**

Protection and safety | 49200: UL60950; IEC60950; EN60950; CSA-C22.2 No. 60950;  
| CB Approval for Global  
| 54230, 58230: IEC60950, EN60950  
| 5X250: UL60950-1; CSA-C22.2 No. 60950-1  
| CB Approval for Global

Radio | 49200: FCC – ABZ89FT7631, IC – 109W-4940  
| 5X250: 5.4 GHz: EN301 893  
| 5.8 GHz: FCC CFR 47, Part 15, sub-part C, 15.247;  
| IC RSS210, Annex B; EN 302 502

EMC | FCC CFR 47, 15.209 & 207, Class B;  
| IC RSS210 Annex 8.5 & RSS Gen Para 7.2.2, Class B;  
| EN301 489-1 & EN301 489-4, Class B

**Note:** The PTP 5X250 device has not been authorized in the 5.4 GHz band as required by the rules of the Federal Communications Commission and Industry Canada. This device is not, and may not be, offered for sale or lease, or sold or leased, as a dual-band device in the U.S. and Canada until authorization is obtained.

For more information about our PTP 200 Series solutions visit cambiumnetworks.com.

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1. Because PTP 200 Series products are based on three different platforms, upgrades between platforms are not available.
2. Only the 5.8 GHz band will be available in the U.S. and Canada until use of the 5.4 GHz band is authorized by the Federal Communications Commission (FCC).
3. Regulatory conditions for RF bands should be confirmed prior to system purchase. Certain bands may not be available in all geographic regions.
4. Gain, maximum transmit power and effective radiated power may vary based on regulatory domain.