# LIGHTPOINTE WIRELESS

# HyBridge™ LX & LXR-5

The industry's only 4-beam carrier-grade Gigabit bridge with auto-tracking, AGC & RF backup

- Faster than fiber point-to-point solution for businesses, government agencies and 4G/LTE carriers.
- Combines the superior security & speed of optical wireless transmission with radio backup for 99.999% availability.
- Industry exclusive highly reliable 4-beams & auto tracking.
- The clear choice of IT professionals desiring state of the art wireless capacity, reliability and fast ROI.

**lte**

# Hybrid Optical-RF Wireless Bridges for Enterprises & Carriers

LightPointe's innovative HyBridge™ Series combines the speed and security of industry-leading 4th generation optical wireless technology with radio frequency transmission. As the pioneer and wireless innovator since 1998, we've designed these bridges for maximum performance and unbeatable ROI. You will have the peace of mind of knowing that your network has the industry's fastest and most secure wireless technology *and* availability up to 99.999% — under all weather conditions. This makes the HyBridge Series a safe future proof investment.

These links include Adaptive Rate technology and LightPointe's exclusive DualPath™ feature, which automatically and seamlessly switches to a lower bandwidth mode if weather conditions warrant, then automatically goes back to "full throttle" optical transmission for performance and security surpassing all other wireless solutions.

## 4-Beam Optical Wireless/System Features

- High Speed full-duplex Gigabit connectivity for highly secure, reliable transmission up to a mile/~1600m.

- Industry exclusive 4-beam system, Auto Tracking and automatic power control.

- DualPath™ architecture (patented) for up to 99.999% network availability, even in dense fog.

- Integrated optical, radio and antenna components for a complete solution (easy install and attractive design).

- AirePex™ Intelligent Switching (patented) includes an algorithm to change between optical and RF transmission, preventing unnecessary switching.

- Intuitive AireManager™ Web interface allows links to be configured and monitored from a network computer.

- SNMP V1/2c support and alarm reports via SNMP traps.

- Enhanced link distances due to use of optical wireless and RF.

## Radio Frequency Features/Options

- *HyBridge LXR-5* includes a turn-key radio which uses flexible 5.4/5.8 GHz frequencies for widespread unlicensed usage, and uses worldwide license-free optical spectrum. Throughput is 150 Mbps half duplex.

- Maximized Distance DualPath™ feature enables longer distances due to rate adaptive use of multiple bands.

- Superior RF technology via both OFDM and 4 antenna/2x2 MIMO technology (higher data rates and lower interference in congested areas).

- Superior QoS due to Ethernet Port Flow Control and intelligent packet queuing, providing priority to voice/video traffic when switching to alternative RF path.

- Channel Shifting operates at frequencies different from those used in unlicensed 802.11 networks, for increased security. Links are undetectable by most 5 GHz devices.

- AES 256 encryption for optimum security.

- *HyBridge LX* is a radio-ready solution (deploy radio/frequency band of your choice, now or later).

Pulse
www.pulsesupply.com

## OPTICAL WIRELESS UNIT

| | |
|---|---|
| Description | Four-Beam Optics System with Auto Tracking and Automatic Power Control |
| Receiver/Transmitter(s) | Four transmitters, four receivers |
| Dimensions (W x H x L) | 321x297.5x620 mm (12.6x11.7x24.4 in) |
| FSO Head Weight | Without Pan/Tilt: 28 lbs (12.7 kg); With Pan/Tilt 33 lbs (15.0 kg) |
| Unit Shipping Weight | Each box includes: 1 FSO head, Pan/Tilt mount, PoE injector, LM-UU, accessories |
| Box A: | 62 lbs (28 kg); 33"(.838m) x 17"(.432m) x 25"(.635m) |
| Box B: | 62 lbs (28 kg); 33"(.838m) x 17"(.432m) x 25"(.635m) |
| Operating Voltage | Direct 48 Vdc or 48 Vdc via PoE injector |
| Alignment System | Heavy duty pan/tilt alignment bracket |
| Operating Temperature | -25 C to 60 C (-13 F to 140 F) |
| Humidity Range | Up to 95% non-condensing |
| Power Consumption Max | 40W |
| Immune to EMI & RF Interference | Yes |
| Built-In Alignment Telescope | Yes |
| Built-In Defroster | Yes |
| Bit Rate | 1.25Gbps, full-duplex |
| Operational Range | Up to 1 mile/~1600 meters (@17 dB/km attenuation) |
| Optical Transmitters | 4 x VCSEL |
| Free-Space Wavelength | 850 nm |
| Optical Receiver | Si APD |
| Receive Power Indicator | 10-level bar graph |
| Status Indicator (LED) | Power, LOS, Overload |

## RF UNIT (INCLUDED WITH *HYBRIDGE LXR-5*)

| | |
|---|---|
| Bit Rate | up to 150 Mbps |
| Processor | Atheros MIPS 24KC, 400 MHz |
| Transmission frequencies | 5.470 - 5.825 GHz (Manual or automatic country setting) |
| Channel width | (5 - 40 MHz) (Automatic or user selectable) |
| Dynamic Frequency Selection | Yes |
| Channel shifting support | Yes |
| Wireless Encryption | WPA/WPA AES-256 |
| Antenna Gain | 16 dBi |
| Polarization | Dual Linear |

## LAN NETWORKING INTERFACES

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|---|---|
| Protocol/Data Rate | 802.3z, Gigabit Ethernet |
| Physical LAN Network Interface | 1000BaseT RJ-45 SFP (options MM or SM fiber SFP) |
| VLAN Ethernet Support | up to 1250 Mbps, full-duplex, rate adaptive, VLAN/802.1Q pass-through support |
| AirePex™ support | Integrated multiport Ethernet switch with Dualpath™ failover support |
| Physical Mgt. Interface | Inband via Ethernet connection or outband via separate 10/100 RJ-45 copper port |
| DualPath™ Interface (*LX*) | IP67 rated external 10/100 RJ45 conn., non-powered or passive PoE (4,5+; 7,8 -) |
| Management System | Integrated Ethernet based Web Browser GUI, SNMP v1/2c (optional v3), RMON, Alarm Reporting via SNMP traps, TELNET |

## REGULATORY

| | |
|---|---|
| EMC | Optical: FCC PART 15, CE Mark RF: FCC Part 15.247, IC RS210, CE MARK |

**Rear Panel with built-in telescope**

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