

# HyBridge™ All-Weather Always-On Wireless Bridge

Multi-Frequency & Rate Adaptive GbE Radio Solution

LightPointe's patented HyBridge™ All-Weather Series combines the speed and security of industry-leading 4th generation optical wireless technology with radio frequency transmission. 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. These links include a multi-frequency adaptive rate modulation technology, which automatically adjust the system throughput based on the available system fade margin and operating conditions. This fully integrated solution guarantees uptime and seamlessly integrates in new or existing Ethernet networks.

**New Product**  
+2 YEAR WARRANTY!

- Patented license-free multi-frequency & rate-adaptive point-to-point wireless Gigabit bridge for Enterprises and 4G/LTE carriers.
- Combines the superior security & speed of optical wireless transmission with RF radio technology for ALWAYS-ON operation.
- Industry exclusive highly reliable 4-beams & auto tracking.
- The most advanced, reliable wireless bridge on the market.



## 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.
- ALWAYS ON operation even under most difficult weather conditions such as 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 seamlessly change between optical and RF transmission, preventing unnecessary switching.
- Extensive QoS features, VLAN support, and intelligent packet queuing.
- 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 as well as SYSLOG support.

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

**EETimes 40**  
**Future perfect**

Forty innovators building the foundation of the next-gen electronics industry  
LightPointe CEO Honored for FSO bridge advances



**LIGHTPOINTE™**  
WIRELESS

## 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
Modulation - Rate Adaptive	OOK (Optical carrier), 64QAM, 16QAM, QPSK, BPSK (RF carrier)
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)

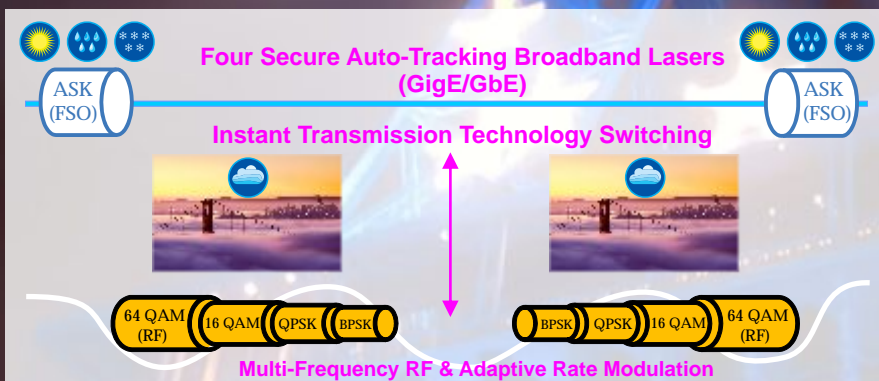
Bit Rate	up to 150 Mbps
Processor	Atheros MIPS 24KC, 400 MHz
Transmission frequencies	5.470 - 5.825 GHz (Manual or automatic country setting)
Channel width	(5 - 40 MHz) (Automatic or user selectable)
Dynamic Frequency Selection	Yes
Channel shifting support	Yes
Wireless Encryption	WPA/WPA AES-256
Antenna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

## LAN NETWORKING INTERFACES

Protocol/Data Rate	802.3z, Gigabit Ethernet
Physical LAN Network Interface	100/1000 RJ-45 copper
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), Alarm Reporting via SNMP traps, SYSLOG, TELNET

## REGULATORY

EMC	Optical: FCC PART 15, CE Mark RF: FCC Part 15.247, IC RS210, CE MARK
Laser Safety	Eye safe Class 1M laser product (IEC/EN 60825-1/A2)



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**LIGHTPOINTE**  
WIRELESS