

M4.5740L/LX

45 Mbps Ethernet Bridge

Introducing the first tri-band ready (5250 MHz . 5875 MHz), point-to-point OFDM Wireless Ethernet Bridge capable of sustained throughput of 45 Mbps with outstanding features including Dynamic Frequency Selection and Adaptable Rate Modulation.

The M4.5740L and M4.5740LX provide exceptional performance and value as a high-capacity backhaul solution for Enterprise and Municipal connectivity, SCADA systems, IP surveillance systems, and “last mile” connectivity solutions (Internet, T1, leased-lines).

Product Overview

- Tri-band ready, 5250-5875 MHz
- Point-to-point, OFDM
- 45 Mbps of sustained throughput
- Up to 20 mile range, 20 dB fade margin
- Dynamic Frequency Selection
- Adaptable Rate Modulation

Performance & Flexibility

The M4.5740L and M4.5740LX are carrier-grade, point-to-point backhaul solutions that deliver up to 45 Mbps for the license-exempt 5.8 GHz ISM band, the lower 5.3 GHz U-NII band, and the proposed upper 5.47 GHz U-NII band.

The M4.5740L/LX utilize a high-performance OFDM radio with a contention-free point-to-point protocol and user-selectable data rates of 6, 12, 18, 24, 36, 48 and 54 Mbps. Outstanding features include Dynamic Frequency Selection*, TPC*, FEC and ARQ with variable-size sliding window. Packet aggregation allows superior FTP performance over long transmission ranges.

Channel Flexibility

The M4.5740L/LX is configured to support up to 23 channels across the U-NII and ISM bands. When combined with software-selectable dual-polarized antennas, exceptional frequency agility can be attained.

Interference Mitigation

The M4.5740L/LX offers several powerful interference mitigation tools such as FEC, ARQ, and automatic RF transmit power control (TPC).



Compact & Rugged Design

The M4.5740L/LX radio is designed to withstand the harshest environments, encased in a heavy-duty aluminum housing. These fully weatherized outdoor units, with rugged conduit adapter, offer a small footprint and operate from -40° to 140° F. The M4.5740L radio is integrated onto the backside of a dual-polarity patch panel antenna, while the M4.5740LX is a stand-alone connectorized radio supporting external 2-foot to 4-foot dual-polarity dish antennas. Both radios are powered using Power-over-Ethernet (PoE) ensuring ease of installation and quick deployment.

Security & Authentication

The M4.5740L/LX features MAC level address authentication, 128-bit proprietary encryption, over-the-air data scrambling, and two-level password control via SSL for secure operation.

Management Features

The M4.5740L/LX enables remote and local management via Telnet, SNMP and HTTP via browser. Powerful tools such as site survey, asymmetrical bandwidth control, and remote temperature and input voltage measurements allow operators total control/flexibility to monitor and manage their network. The radios also feature a built-in LED alignment tool and a universal mounting bracket to minimize deployment costs.

* DFS, TPC and 5.47-5.725 GHz channels available pending FCC approval

M4.5740L/LX

COMPATIBILITY/RANGE CHART

| Product | Model Type | Antenna | Range/Fade Margin* |
|-----------|-----------------------------|------------------|--------------------|
| M4.5740L | Radio w/ integrated antenna | Internal, 23 dBi | 6 miles / 10 dB |
| M4.5740LX | Connectorized radio | External, 34 dBi | 20 miles / 18 dB |

* At 5.8 GHz with maximum RF modulation speed. Adaptive modulation enables longer range links up to 40 miles at lower speeds.

SPECIFICATIONS

Radio Parameters

Frequency of Operation

5250-5350 MHz and 5470-5725 MHz (U-NII Bands)

5725-5875 MHz (ISM Band)

Channels

23 non-overlapping, user changeable

Channel Spacing

20 MHz

RF Power Output (ISM Band)

+21 dBm Max Setting (6 Mbps mode)

+17 dBm Max Setting (54 Mbps mode)

Modulation Format

OFDM

Modulation Speeds

6, 12, 18, 24, 36, 48, 54 Mbps; User selectable

Certification / Compliance

FCC Part 15.247, 15.407

Receiver Sensitivity (BER 10⁻⁶)

-92 dBm (6 Mbps mode) to -73 dBm (54 Mbps mode) typical

Antenna Parameters

Internal Antenna

Integrated 23 dBi 9° X 9° patch dual-polarized (HPOL/VPOL), Electrically selectable polarization

External Antenna (Optional)

28 to 34 dBi dual-polarized dish antennas, 2-4 ft. diam.

Power Parameters

Power Method

Power-over-Ethernet (PoE) via DC voltage injected at PoE J-box

Voltage Input Limits into Radio

10.5 VDC . 24 VDC

Standard Power Supply

120 VAC to 24 VDC adapter

PoE Cat-5 Max Cable Length

300 feet on 24 AWG STP Cat-5 cable

Power

13.4 W

Data & Operational Parameters

User Data throughput

5 Mbps (6 Mbps mode) to 45 Mbps (54 Mbps mode)

Upstream/Downstream Throughput

Dynamic, automatically adjusts to suit demand

Bandwidth Control

Asymmetrical MIR bandwidth control

Latency

< 5 ms

Interference Handling

Forward Error Correction (FEC) & Automatic Retransmit Request (ARQ)

Security

Proprietary MAC address authentication; over the air data scrambling; two level password control.

Encryption

128-bit STEP (Secure Trango Encryption Protocol)

Configuration & Management

Telnet, SNMP, HTTP; TFTP server daemon for firmware upgrades; Built-in Link Performance tests; Remote temperature and input voltage measurement.

Protocol Support

802.1p (QoS) upgrade option

Physical and Environmental

Ethernet Interface

RJ45, 10/100BaseT, IEEE 802.3 Ethernet compliant, auto-sense, auto-negotiate

External Antenna

Connector SMA reverse polarity (-EXT Models only)

Reset Button

Resets password and IP configuration

Radio Enclosure

All-weather, powder coated, heavy duty aluminum construction with conduit adapter

Temperature Range

-40° to 60° C (-40° to 140° F); Temperature measurement via Telnet, SNMP, HTTP

Radio Weight

7 lbs (ATLAS5010-INT with integrated Patch Panel Antenna)
3 lbs (ATLAS5010-EXT stand-alone radio)

Radio Dimensions

15" x 15" (ATLAS5010-INT with integrated Patch Panel Antenna)
7" x 7" (ATLAS5010-EXT stand-alone radio)

* Please note- this product is pending EU approval