

## Point-to-Point Ethernet Digital Microwave Radios

### KEY PRODUCT FEATURES

- Three base models, for fixed wireless transmission rates of 45, 22.5 or 11.25Mb/s, up to 40 miles
- Two license-free frequency options: 5.8GHz ISM or 5.3GHz UNII
- Full Duplex, Frequency Division Duplexing (FDD) operation for low-latency, symmetric traffic
- Three, six or twelve distinct software selectable channel pairs, depending on the model, for industry leading frequency coordination
- Single cable to radio for Ethernet and power
- Advanced security settings allow three levels of user access
- Single weatherproof unit for outdoor applications (providing minimal RF cable loss). Extended temperature range: -33°C to +60°C
- Integral Antenna or optional connection for external flat or parabolic directional antennas
- 16 QAM modulation allowing up to 48 co-located radios without interference
- SNMP, FTP, Telnet, and Web Interface provided for ease of management, configuration, installation, and operation of the radio
- Low part count contributing to a High Mean Time Between Failure Rate (MTBF) > 7 years
- 99.999% uptime Carrier Class reliability meets or exceeds wireline standards
- 5 Year Product Warranty and advance replacement service options
- Specifications are guaranteed over the full temperature range and for the life of the product

### WHAT IS THE ETHERLINK FAMILY OF RADIOS?

Aeras Networks' EtherLink family is a line of all-Ethernet, high capacity, point-to-point microwave radios. Customers can choose from three versions offering three different data rates: EL-4500 (45Mb/s), EL-2500 (22.5Mb/s) or EL-1200 (11.25Mb/s). The lower rate products are field upgradeable to deliver the higher rates. All radios offer full-duplex operation, with Telco grade performance.

EtherLink radios operate in the license-free band, and operators can select a version offering transmission in the 5.3 GHz UNII band or a version supporting the 5.8 GHz ISM band. Each radio can be ordered with either an integral antenna, or a connector for an external antenna.

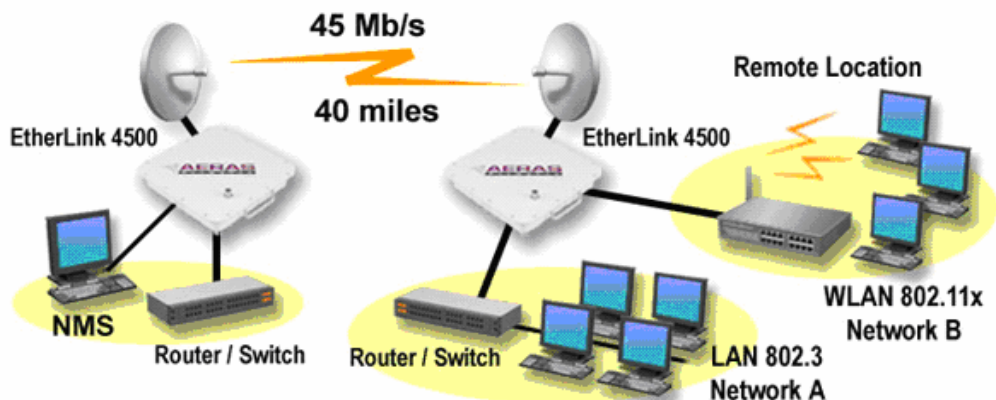
EtherLink radios are easy to deploy, with a unique quick release install bracket for handy pole mounted installations. A single cable brings both power and Ethernet to the unit. The radios are optimized for Ethernet backhaul, LAN extension and a variety of other data telecommunication services.

### WHY AERAS WIRELESS BROADBAND?

Aeras Networks' EtherLink family of wireless solutions deliver up to 45 Mb/s full duplex backhaul bandwidth with powerful Forward Error Correction (FEC). The UNII versions reach up to 7 miles, while the ISM versions carry up to 40 miles. By combining superior ease of installation, next-generation license-free wireless technology with sophisticated remote management capabilities, Aeras delivers a powerful alternative to expensive traditional leased lines and even other older wireless broadband systems.

Aeras Networks offers wireless customers:

- Faster return on investment
- Next day deployment (no limitations or delays)
- Carrier Class reliability 'Five Nines'
- Easy installation and maintenance with high MTBF rate
- Internal BERT and Loopback Tests
- Field proven design



### EtherLink Ethernet Backhaul Application

**ETHERLINK MODELS**

MODEL	DATA RATE	AVAILABLE CHANNEL PAIRS	# CO-LOCATED RADIOS*
EL-4500	45, 22.5, 11.25Mb/s	3	12
EL-2500	22.5, 11.25Mb/s	6	24
EL-1200	11.25Mb/s	12	48

\*TWO FREQUENCY PLANS (5.3 AND 5.8GHZ) AND TWO POLARIZATION OPTIONS (VERTICAL AND HORIZONTAL)

**GENERAL PRODUCT INFO**

FREQUENCY BAND	Full Duplex Operation in either the UNII or ISM Bands
SPECTRUM OPTIONS	5.250-5.350 GHz or 5.725-5.825 GHz
CAPACITY OPTIONS	2x10/100BaseT Ethernet switched ports
CHANNEL BANDWIDTH	16 MHz

**DIGITAL INTERFACES**

TYPE	2x10/100BaseT per IEEE802.3
ETHERNET MODE THROUGHPUT	45 Mb/s
MAX DISTANCE (CPE to EtherLink)	300 feet

**TRANSMITTER**

FREQUENCY RANGE (Frequency Agile)	5.250-5.350 GHz OR 5.725-5.825 GHz
OUTPUT POWER AT FREQUENCY (Adjustable)	<u>5.3GHZ</u> <u>5.8GHZ</u> +10dBm max   +16 dBm max
TRANSMIT ATTENUATION	1-30dB adjustable below max power
FREQUENCY STABILITY MODULATION MODULATION	±5 ppm 16 QAM with built in Equalization

**RECEIVER**

TYPE	Double Heterodyne
SENSITIVITY BER 10 <sup>-6</sup> INCLUDING FORWARD ERROR CORRECTION (FEC)	<u>EL-1200</u> <u>EL-2500</u> <u>EL-4500</u> -84dBm   -81dBm   -78dBm
MAX RF INPUT LEVEL	-35 dBm
FREQUENCY STABILITY	±5 ppm
ADJACENT CHANNEL REJECTION	≥40dB (RF bandwidth of ≤16MHz)

**NETWORK MANAGEMENT**

SNMP	MIB II and private EtherLink functions
NMS/EMS	Standard SNMP based NMS, or Web Browser Interface
CRAFT INTERFACE	RS232, 9600bps, CLI
REMOTE ACCESS	HTTP, FTP and Telnet

**STATUS INDICATORS/DIAGNOSTICS**

EXTERNAL LEDs	Power, Local Alarm, RF Link, 2xEthernet links
ALARMS STATUS	AIS, Radio TX/RX, BER Threshold NMS IP addresses, BER, TX Power, RX Signal Level, Loopback Test, Ethernet Input
CONFIGURATION COMMANDS	NMS IP addresses, TX Power, TX Mute, Frequency, RSL, BER Alarm, Loopback Tests, BER Tests
DIAGNOSTIC TEST FEATURES	BER, Local/Remote/RF Loopbacks
PERFORMANCE MONITORING	Receive Signal Strength Indicator (RSSI), Ethernet Statistics

**POWER**

INPUT POWER RANGE	±21 to 60 VDC
POWER CONSUMPTION	36 Watts max

**MECHANICAL**

DIMENSIONS (HXWXD)"	12"x12"x4"
WEIGHT	11 lbs (5Kg)

**ENVIRONMENTAL**

TEMP. RANGE	-33°C to +60°C
ALTITUDE	15,000 feet
HUMIDITY	Outdoor/weatherproof

**ANTENNAS**      **FORWARD GAIN**      **FRONT/BACK RATIO**

INTEGRAL	21 dBi	40 dB
EXTERNAL PARABOLIC:		
-2 feet (.61m)	28.1dBi	38 dB
-4 feet (1.22m)	34 dBi	46 dB

**FCC INFO (US ONLY)**

FCC APPROVAL PENDING

**LINK CONFIGURATION OPTIONS (SELECT WHEN ORDERING)**

**TRANSMISSION RATE:** 45Mb/s (MODEL #EL-4500), 25Mb/s (EL-2500) OR 12.5Mb/s (EL-1200)

**FREQUENCY:** 5.3GHZ (UNII) OR 5.8GHZ (ISM)

**OUTDOOR UNIT (ODU) ANTENNA:** INTEGRAL OR EXTERNAL

**TRANSMISSION BAND:** HIGH OR LOW (ONE OF EACH REQUIRED FOR LINK)

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