harmonic

MAXLink™
HLE 3800P/3802P

Supertrunk Link Extender

HIGHLIGHTS

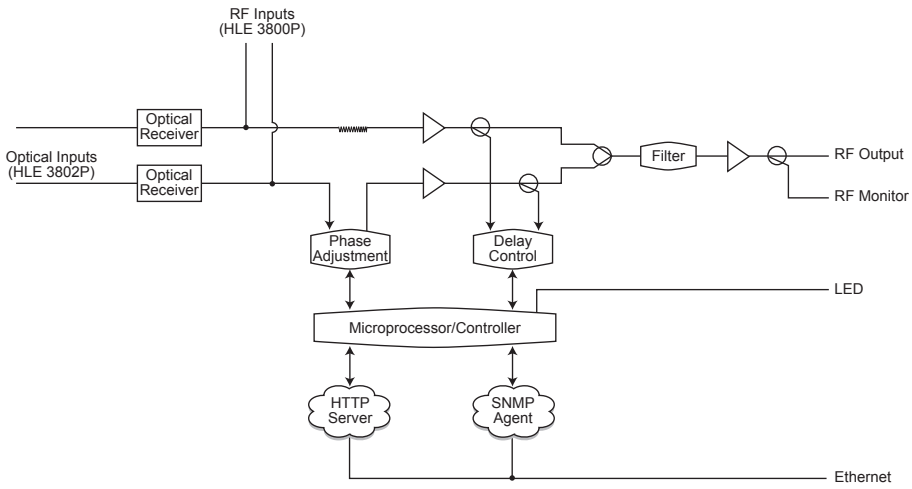
- **Patented dual-fiber technology allows a 3 dBCNR and up to 6 dB CSO inprovement over single-fiber transmission**
- **Industry-leading performance over long (100+ miles) distances provides an efficient, cost-effective alternative to digital transport**
- **Embedded SNMP agent (v1, v2c, v3)**
- **Support of SCTE, HMS MIBs in addition to enterprise MIBs**
- **Embedded Web (HTTP) server for user-friendly graphical interface**

The MAXLink™ Extender brings a performance breakthrough to supertrunking and headend to hub interconnect applications. With this product, the outstanding performance of the MAXLink transmitter family can be increased by 3 dB without resorting to split frequency bands and/or multiple transmitters.

This extraordinary performance enhancement by the MAXLink Extender is achieved by making use of the basic architecture of the external modulator used in the MAXLink transmitter family. The two optical outputs of the transmitter's external modulators are 180 degrees out of phase, as in a "push-pull" amplifier. The two optical signals are transmitted on two fibers to optical receivers where they are converted to RF electrical signals. The RF output signals from these receivers are used as inputs to the MAXLink Extender, where they are combined after phase alignment to form a final output with a 3 dB higher carrier-to-noise ratio (CNR) than that obtainable from a single-fiber link.

The composite second order (CSO) distortion is also improved by the MAXLink Extender, as all even-order distortion products generated by the receivers tend to cancel when the two 180 degrees out-of-phase signals are combined. Typically, the single-fiber link CSO specification is enhanced by 6 dB.

The HLE 3800P is a 1-RU module with two RF inputs and 1 RF output. The HLE 3802P is a 1-RU module with integrated standard optical receivers (similar to HRM 3811) with two optical inputs and 1 RF output.



Standard Configuration

INPUT

Number of Inputs	2 RF (HLE 3800P) 2 Optical (HLE 3802P)
Input Level Range	20 to 30 dBmV per channel (HLE 3800P) -6 to +3 dBm (HLE 3802P)
Operational Bandwidth	45 to 870 MHz
Return Loss	> 14 dB

OUTPUT

Number of Outputs	1 RF
Flatness	± 0.5 dB
Return Loss	> 16 dB
RF Gain	> 15 dB
CNR Improvement	Up to 3 dB[1]
CSO Improvement	Up to 6 dB (relative to CSO of worse receiver/link)[1]

USER INTERFACE

Front Panel
- Full Numeric Keypad
- Multi-line Alphanumeric Display

RF Monitor Point
- Flatness ± 0.5 dB
- Return Loss > 16 dB
- Level 20 dB ± 1 dB (below input)

Rear Panel
- RF / Optical Inputs
- RF Output
- RJ-45 Connector for Network Management
- TTL Alarm Contacts

NETWORK MANAGEMENT

SNMP Protocol	v1, v2c, v3
HTTP Protocol	HTTP 1.1 (with Web browser-based authentication)

POWERING

Consumption	< 75 W
AC Version	100 to 240 V 50 to 60 Hz
DC Version	-48 V

ENVIRONMENTAL

Operating Temperature Range	+32° to +122° F 0° to +50° C
Storage Temperature Range	-40° to +158° F -40° to +70° C
Relative Humidity	85% maximum, non-condensing

PHYSICAL

Dimensions (W x H x D)	19" x 1.7'' x 20.5" 48.3 cm x 4.3 cm x 52.1 cm
Weight	21 lbs 9.5 kg
Mounting	19" rack

Note:

1. *Overall performance of a 1550 nm transmission system depends on many factors. Consult your Harmonic Applications Engineer for more information.*

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