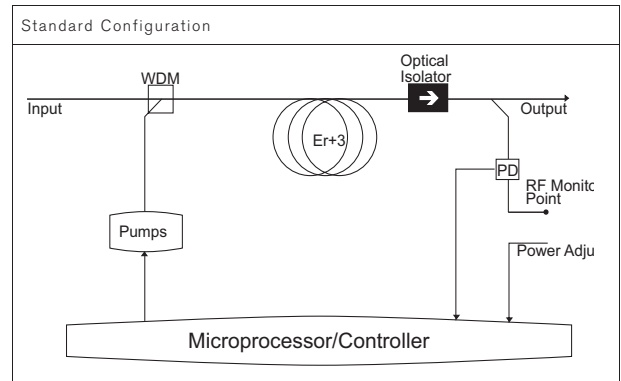


MAXLink™ 1550 nm Optical Amplifier HOA 7014E / 7017E

Product Description

The Harmonic MAXLink™ transmission system is a family of transmitters and optical amplifiers designed for 1550 nm-based network applications. The MAXLink system provides a cost-effective solution for a variety of applications and architectures, including long haul applications that are beyond the reach of 1310 nm transmitters and fiber dense architectures which take advantage of high power optical amplifiers. In addition, this system is ideally suited for new, evolving transport architectures such as redundant rings, broadcast layer transmission, and hub interconnects used in broadband networks. The MAXLink product line consists of plug-in modules for the HLP 4200 broadband platform, including the HLT series of broadcast optical transmitters as well as a full range of optical amplifiers with up to 30 dBm of output power. This transmission system has been designed to complement Harmonic's PWRLink™ 1310 nm DFB transmitter family.

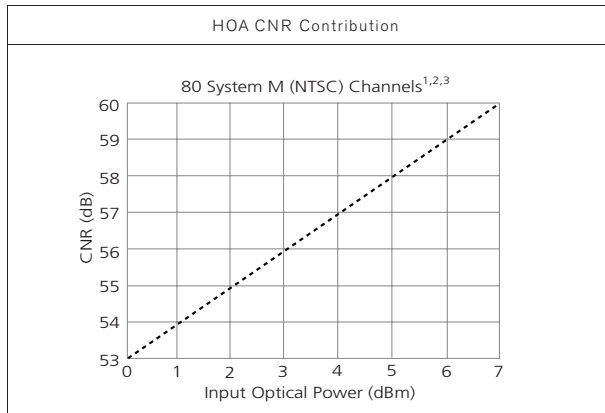
The HLP 4200 broadband platform is a 3 RU high rack mount housing designed to simplify headend operation. The stackable platform is the industry's most compact system, also housing Harmonic's PWRLink transmitters, optical switch, pre-amplifier, optical receiver, QAM modulators and element management-controlled power supply modules. The HLP 4200 platform provides for plug-and-play installation and operation through a user-friendly 40-character display and front panel push-button controls. As with all Harmonic products, MAXLink modules have built-in element management capabilities.



Advantages

The MAXLink optical amplifier's cost-effective, powerful technology offers many advantages:

- Very low noise figure (3.7 dB) with "E" series optical amplifiers.
- Integrated element management intelligence with SNMP compatibility enables seamless communication with comprehensive network management systems, without additional cost or complexity.
- Microprocessor control of all key parameters provides consistent, optimum product performance and monitoring.
- MAXLink optical amplifier and transmitter modules share a common platform with Harmonic's PWRLink 1310 nm transmitter family, enabling seamless network management integration of diverse equipment, providing user interface commonality, and maximizing rack space efficiency.
- Simple "plug-and-play" operation reduces time and cost of installation.



Optical Amplifier Performance

Carrier-to-Noise (CNR)	Shown in figure above.
Carrier-to-CSO	> 80 dB
Carrier-to-CTB	> 80 dB
All performance specifications are WORST CASE. ⁴	

Optical Output

Wavelength	1535 nm - 1565 nm
Output Power	
HOA 7014E	+14 dBm (25 mW)
HOA 7017E	+17 dBm (50 mW)
Optical Power Adjustment Range	3 dB down from maximum
Input Range	0 dBm to +10 dBm
Noise Figure	3.7 dB
Optical Return Loss	< -50 dB
Polarization Sensitivity	< 0.1 dB
Laser Shutdown	DISABLE/ENABLE switch
Eye Protection	Safety shutter

NETWatch™ Element Management System

HEM Interface	RS-485, RS232C connectors (in HLP 4200)
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Power Requirements

Nominal	+24 VDC; supplied by HLP 4200 bus
Maximum	+26 VDC
Consumption	22 Watts maximum

User Interface

Front Panel	
Bi-state Status LED	Normal = Green, Alarm = Red
Module Selection Indicator	Yellow LED
Auto/Manual LED	Auto = Yellow
Function slide switch and set-up adjustment	
Monitor Point	
Level	+4 dBmV per channel (typical 80 analog channels)
Flatness	±1 dB
Return Loss	> 16 dB
Connector Type	Male GSK
Rear Panel	
Laser ENABLE Switch	
Laser Disabled	Yellow LED

Environmental

Operating Temperature Range	0° to +50° C (+32° to 122° F)
Storage Temperature Range	-40° to +70° C (+32° to 158° F)
Relative Humidity	Maximum 85% non-condensing
Over Temperature Laser Protection	Software and hardware

Physical

Dimensions	2.6" W x 4.4" H x 10.7" D 6.6 cm W x 11.2 cm H x 27.2 cm D
Weight	4 lbs. / 1.8 kg
Mounting	HLP 4200 platform; one module slot
Optical Connector Type	SC/APC

Notes:

- Specifications for 80 unmodulated System M (NTSC) channels and 200 MHz digital at -10 dBc.
- For System B/G, I and D (PAL), decrease CNR by approximately 1 dB (5 MHz video bandwidth).
- Assumes use of MAXLink "E" series transmitters.
- Overall performance of a 1550 nm transmission system depends on both transmitter and optical amplifier performance. Consult MAXLink 1550 nm Transmitter specifications and your Harmonic applications engineer for more information.

