Harmonic

METROLink™
HLD 7105T-Cxx

DWDM Forward Transmitter

APPLICATIONS

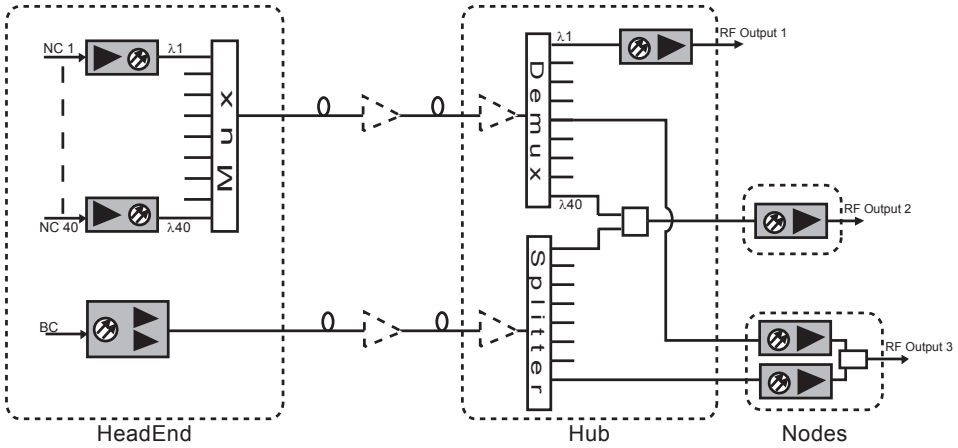
- Targeted digital services (digital video, Video on Demand (VOD), Internet, cable telephony, IP telephony)
- Digital video transport in native 64 QAM and 256 QAM formats
- 1GHz RF bandwidth expanding capacity to meet any video, VoIP or internet service requirement
- Electronic dispersion compensation enables high channel loads while minimizing fiber induced second order distortions.
- Compensation up to 100 km with up to 300 MHz RF load altogether.
- Highest loading capability in the market: 40 wavelengths on the ITU grid with 100 GHz (0.8 nm) spacing.
- Multiple wavelengths combined on a single fiber result in efficient fiber usage, cost and space savings.
- Integrated element management with SNMP compatibility.
- Microprocessor control of all key parameters provides consistent and optimum product performance and monitoring.
- Simple "plug-and-play" operation reduces time and cost of installation.
- Compact size enables 10 HLD transmitters to fit in a 3 RU platform

Product Description

Harmonic's METROLink™ HLD 7105T-Cxx is a family of high performance DFB laser transmitter modules designed for forward path narrowcasting applications. The DFB laser's wavelength is stabilized and aligned to one of forty wavelengths on the ITU grid with 100 GHz (0.8 nm) spacing. Using Dense Wavelength Division Multiplexing (DWDM), digital narrowcast services can be carried on a single fiber and targetted by wavelength. The new HLD 7105T-Cxx transmitter includes electronic dispersion compensation which enables high channel loads while minimizing fiber induced second order distortions. The HLD 7105T-Cxx transmitters can operate in simple point to point narrowcast transport or in combination with the METROLink series of gain flat optical amplifiers and wavelength select transmitters for complete system solutions.

The HLD 7105T-Cxx transmitter modules are very compact with 10 transmitter modules fitting into a single three rack unit high HLP 4200 platform. The transmitter modules fit into the platform via the HMC 4000 module carrier adapter. Set up is possible three ways: via the HLP 4200WD platform front panel menu, the RF adjustment on the module front panel, or the NETWatch™ Element Management System.

The HLD7105T-Cxx transmitter provides up to 1Ghz RF bandwidth. They makes it possible for customers to consume ever increasing amounts of video content. This includes high definition television, narrowcast services such as VOD, personal video recorders (PVR), network PVR, time-shifted TV and Internet gaming. Continuous high performance and reliability of the transmitters are assured by a microprocessor and associated firmware which control and monitor all vital functions. Monitored functions include laser temperature and operating point, optical power, module temperature and composite RF drive level.



Models Available

HLD 7105T-Cxx-zz
Cxx = channel number on the ITU grid (see table below). 40 wavelengths available
zz = Connector Type (AS for SC/APC), AE for E2000

Optical Output

Wavelength	From 1530.33 to 1561.42 nm (see table below)
Output Power [1, 2]	7.5 ± 0.25 dBm
Flatness	< 1.5 dB peak-to-valley
Eye Protection	Safety shutter

Channel[3]	Wavelength (nm)	Channel[3]	Wavelength (nm)
C20	1561.42	C40	1545.32
C21	1560.61	C41	1546.12
C22	1559.79	C42	1545.32
C23	1558.98	C43	1544.53
C24	1558.17	C44	1542.14
C25	1557.36	C45	1541.35
C26	1556.56	C46	1540.56
C27	1555.75	C47	1539.77
C28	1554.94	C48	1538.98
C29	1554.13	C49	1538.19
C30	1553.33	C50	1538.98
C31	1552.52	C51	1536.61
C32	1551.72	C52	1535.82
C33	1550.92	C53	1535.04
C34	1550.12	C54	1534.25
C35	1549.32	C55	1533.47
C36	1548.51	C56	1532.68
C37	1547.72	C57	1531.89
C38	1546.92	C58	1531.11
C39	1546.12	C59	1530.33

RF Input

Total Input Level Range[1]	23 to 40 dBmV

Recommended input level per channel (at factory setting)

# of QAM Channels[4]	Level per Channel(dBmV)
9	25
18	22
33	19.3
50	17.5

Fiber Dispersion Compensation
Fiber lengthUp to 100 km in 10 km steps
(set up by user)

RF Bandwidth	300 MHz
Operational Bandwidth	40 to 1003 MHz
RF Attenuator Adjustment Range	15 dB in 0.1 dB steps
Impedance	75 Ω
Return Loss	> 16 dB

NETWatch™ Element Management System

HEM Interface	RS-485, RS-232C connectors (in HLP 4200)

Power Requirements

Nominal	+24 VDC; supplied by HLP 4200 bus
Maximum	+28 VDC
Consumption	22 Watts maximum

User Interface

Front Panel Bi-state Status LED	Normal = Green, Alarm = Red
Module Selection Indicator	Yellow LED

Monitor Point
Laser RF Drive Monitor
Flatness ± 1.5 dB
Return Loss > 16 dB
Connector Type Female F

Environmental

Operating Temperature Range	0° to +50° C (+32° to 122° F)
Storage Temperature Range	–40° to +70° C (-40° to 158° F)
Relative Humidity	Maximum 85% non-condensing

Over temperature laser protection: Software and hardware

Physical

Dimensions	1.3" W x 4.4" H x 12.7" D / 3.3cm W x 11.2 cm H x 32.2 cm D
Weight	2.1 lbs. / 0.95 kg
Mounting	HLP 4200 platform; via module carrier HMC 4000
Optical Connector Type	SC/APC[5] or E2000
RF Connector Type	Standard F, RG-59 cable type (accepts 0.51 - 0.8 mm center conductor diameter)

Note:

1. If total RF input drops to 22 dBmV or below, optical output will drop by ~3 dB. This feature helps suppress noise effects related to SBS.

2. Please contact your Harmonic Applications Engineer to determine the expected performance and constraints for your DWDM system

3. Channel number on the ITU grid.

4. 6 MHz or 8 MHz wide channels.

5. Other connector types available upon request.

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