DATA SHEET

CHP Max Headend Optics Platform

CHP-D2RRX-85-AA-S

Digital Return Receiver Compatible with
DT4 and DT7 85 MHz Digital Return Transmitters

FEATURES

- Enables NC2000, NC4000, and VHubs to connect to the CHP Platform
- Digital Return technology for ease of set-up and simplified “plug and play” operation
- 2:1 Time Division Multiplexing solution supports 1x85 and 2x85 MHz bandwidth digital return performance
- Dual Density receiver optimizes valuable headend/hub real estate
- Remote node monitoring with Digital Element Management System (DEMS) eliminates the need for a transponder
- Full CORView™ Lite and Element Management Software Compatibility

Designed to support HFC network integration from platform to platform, the CHP-D2RRX-85-AA-S is the first CHP-based receiver to support the legacy digital return protocol from CommScope DT4 and DT7 transmitters installed in NC2000, NC4000™, OM4120™, and OM6000™ node platforms.

CommScope’s next-generation digital return solutions offer easy set-up and performance that is independent of link distance. The new CommScope digital return system offers two, 5 to 85 MHz Time Domain Multiplexed (TDM) RF channels that make it easy to manage node segmentation and subscriber growth (in the 2-fer mode). The receiver will also support a single 1x85 MHz TDM stream from the transmitter (in the 1-fer mode).

The CHP-D2RRX-85-AA-S dual digital return path receiver module contains two independent receiver circuits in a single width CHP module, enabling up to 20 receivers, or 40 RF streams, in a fully-loaded CHP chassis. With four RF outputs, a single DRR module can support a full, 4x4 segmented node, increasing the efficiency of node splits and preserving valuable real estate in the hub or headend. The CHP-D2RRX-85-AA-S is compatible with the DT4 85 MHz transmitter that works with NC2000 and NC4000 nodes and the VHub. It is also compatible with the DT7 85 MHz transmitter that works with Opti Max™ OM6000 and OM4120 nodes.

The receiver utilizes Avalanche Photo Diode (APD) technology, enabling very high receiver sensitivity to extend link reach. The receiver supports an optical input range of to -23 to -10 dBm.

An additional benefit of CommScope's next-generation digital return system is the integrated Digital Element Management System (DEMS) monitoring provided by the transmitter modules, which eliminates the need for a separate DOCSIS transponder. Key parameters and module status of the node are communicated to the receiver via overhead bits in the digital return data stream.

The CHP Management Module (SMM-2), combined with the CORView EMS platform, manages the devices through standard SNMP/CLI interfaces and sophisticated Graphical User Interfaces.

RECEIVER SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions	1.25 in W x 3.44 in H x 18.5 in D (3.18 cm x 8.44 cm x 46.99 cm)
Weight	3.0 lb (1.35 kg)
Optical Connector Type	SC/APC (8 degrees)
RF Connector	F Type
RF Test Point	F Type
Environmental	
Operating Temperature Range	0° to 50°C (32° to 122°F)
Storage Temperature Range	-20° to 60°C (-4° to 140°F)
Humidity	5% to 95% non-condensing
Optical	
Input Wavelength Range	1200 nm to 1620 nm
Optical Input Range	-23 to -10 dBm
RF	
RF Output Bandpass	5–85 MHz
Output Level[1]	40 dBmV (max)
Channel to Channel Isolation	60 dB
Output Return Loss	-16 dB
Output and Test Point Impedance	75 Ω
RF Output Test Point	-20 ± 1.0 dB
Power Requirements	
Power Consumption	16 W (Typical), 18 W (max)

NOTE:
1. With minimum transmitter and receiver attenuation setting.

LINK SPECIFICATIONS

Characteristics	Specification
Link Budget (DT4 or DT7 Transmitters with Recommended SFP)	
1310	10 km fiber
CWDM	50 km fiber, 23 dB link budget
DWDM	80 km fiber, 26 dB link budget
General	
Peak Noise-Power Ratio (NPR), Typical	47 dB
Dynamic Range, @ ≥ 40 NPR, Typical[1,2]	17/11 dB (1-fer/2-fer)
BER Dynamic Range, @ ≤ 10^{-6} BER[1,2]	29/23 dB (1-fer/2-fer)
RF Link Gain, dB[3]	30/32 (1-fer/2-fer)
Link Flatness, dB[3]	± 1.0

NOTES:
1. Typical performance provided for the transmitter installed in the OM6/NC4 at 23°C
2. With minimum transmitter and receiver attenuation setting.
3. Measured from input of DT7x30/DT4250N to D2RRX output.

RELATED PRODUCTS

OM6000 Optical Node	VHub
NC4000 Optical Node	OM4120 Optical Node
NC2000 Optical Node	DT7 Digital Return Transmitters

Contact Customer Care for product information and sales:
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