

CHP Max Headend Optics Platform

CHP-4RRP-*

Quad Return Path Receivers with Integrated Internal Optical Passive Modules

FEATURES

- Internal Optical Passive Module for increased headend optical shelf density
- Expand subscriber upstream capacity without sacrificing additional headend footprint for multiwavelength
- Leverage headend and hub efficiencies with industry leading density and low power consumption high density quad receiver
- 300 MHz bandwidth supporting DOCSIS® 3.1 upgrades
- Configure, monitor, and manage with CORView™ Element Management System
- Automatic Gain Control feature to allow for better level control with redundancy



PRODUCT OVERVIEW

The CHP Quad Return Path Receiver is an integral part of a flexible return path system. For added flexibility, ARRIS has now added an internal integrated optical passive module. This module supports increased density for upgrading networks and segmenting nodes for additional network bandwidth. With support for up to 300 MHz of return bandwidth, the CHP Quad Receiver is an ideal choice for supporting future DOCSIS 3.1 band splits without having to upgrade receivers.

The CHP Quad Return Path Receiver accepts four optical inputs into a single-wide module, which supports up to 40 receivers in a single 2RU CHP chassis and up to 800 receivers in a standard 40RU rack. As operators add bandwidth to their networks, the CHP Quad Receiver can help them to achieve industry leading density.

To support the ARRIS wavelength plan for the CORWave® II and CORWave® 3 platforms, some models allow for collocation of the downstream transmitters to mux together on a single fiber. Available models are listed in the ordering information section.

Automatic Gain Control allows for user to set the RF output level and have a window of optical input range to maintain the set output.

GENERAL SPECIFICATIONS

CHP-4RRP-*

Optical Specifications

Input Wavelength Range	Passive Dependent; refer to the Ordering Information table for model-specific wavelength ranges
Optical Input Range	-20 to 3 dBm
Optical Return Loss	40 dB
Optical Passive Losses, typical	-2.5 dB channel port (4 way models) -3.5 dB channel port (8 way models) -3 dB UPG port -1.5 dB UPG port (CHP-4RRP-DD08221-L model) -3 dB EXP port -1.5 dB WDM port (CHP-QCBDWDM-S model)

RF Specifications

RF Output Bandwidth	5 to 300 MHz
RF Output Level, min. per channel (Note 1)	40 dBmV
Flatness, peak-to-valley	± 0.75 dB with respect to gain slope
Gain Slope	± 1.0 dB
RF Gain Adjustment Range (Note 2)	0 to -31.5 in 0.5 dB steps
RF Output Return Loss, min.	16 dB
RF Test Point	-20 ± 0.5 dB

Performance Specifications

Equivalent Input Noise	< 4.5 pA/Hz ^{0.5}
Maximum Peak NPR Variation	4 dB
Noise-to-Power Ratio (NPR)/Dynamic Range	40/13 dB
BER Dynamic Range	> 40 dB
Optical Input to RF Output Terminated Isolation	≥ 60 dB
Channel-to-Channel Isolation	5 to 300 MHz @ 60 dB
Redundant Switching Time	50 ms
Power Consumption	12 W

Mechanical Specifications

Dimensions (W x H x D) in (cm)	1.25 x 3.44 x 18.5 in (3.18 x 8.74 x 46.99 cm)
Pigtail Length	Unless noted in the model description, pigtail lengths are 19 inches

Environmental Specifications

Operating Temperature Range	0° to 50°C (32° to 122°F)
Operating Humidity, Non-condensing	10 to 90%

NOTES:

- RF output is based on -9 dBm optical input at 7% OMI.
- The attenuator for each channel in the modules may be adjusted in 0.5 dB steps from 0 to 31.5 dB.

ORDERING INFORMATION

Model Name ¹	Description
CHP-4RRP-DD08221-L	CHP-4RRP-DD08221-L: CHP Quad Receiver with Internal Demultiplexer, LC connectors on pigtails, ITU CH: 21, 23, 25, 27, 29, 31, 33, 35 and red/blue upgrade port
CHP-4RRP-DD08243-L	CHP-4RRP-DD08243-L: CHP Quad Receiver with Internal Demultiplexer, LC connectors on pigtails, ITU CH: 43, 45, 47, 49, 51, 53, 55, 57
CHP-4RRP-DD04221-N	CHP-4RRP-DD04221-N: CHP Quad Receiver with 4 way Internal Demultiplexer, No external pigtails, ITU CH: 21, 23, 25, 27, TPF/TPR/UPG LC/APC ports
CHP-4RRP-MZ086HK-S	CHP-4RRP-MZ086HK-S: CHP Quad Receiver with 8 way Internal Demultiplexer (2.5 Meter pigtails), SC/APC external pigtails for Downstream 24, 28, 33, 39; Internal for Upstream 1491/1591/1611/1471 nm, TPF/TPR/UPG and EXP LC/APC ports
CHP-4RRP-DC043UL-N	CHP-4RRP-DC043UL-N: CHP Quad Receiver with 4 way Internal Demultiplexer, No external pigtails, CWDM 1471, 1491, 1591, 1611 nm, TPF/TPR/UPG LC/APC ports
CHP-4RRP-Z08DM-L	CHP-4RRP-Z08DM-L: Quad Return Receiver with Passive LC/APC pigtails, Forward: ITU 21, 28, 33, 39, Return: ITU 29, 31, 34, 38
CHP-4RRP-Z08DM-S	CHP-4RRP-Z08DM-S: Quad Return Receiver with Passive SC/APC pigtails, Forward: ITU 21, 28, 33, 39, Return: ITU 29, 31, 34, 38
CHP-4RRP-QCBDWDM-S	CHP-4RRP-QCBDWDM-S: 2.5 Meter SC/APC pigtailed Quad Receiver with 4 C-Band WDM filters with 4 individual LC/APC common ports

NOTE:

1. -L denotes LC/APC connectors; -N denotes no pigtail connectors; -S denotes SC/APC connectors for the pigtail fibers

RELATED PRODUCTS

CHP Chassis	Optical Patch Cords
Power Supplies	CORWave® II and 3
Management Module	Installation Services

Note: Specifications are subject to change without notice.

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