

# CHP Max Headend Optics Platform

## CHP-R4RRXF-30-L, CHP-4RRXF-30-L

### Redundant/Non-Redundant Quad Return Path Receiver

## FEATURES

- Expand subscriber upstream capacity without increasing headend footprint
- Optimize headend and hub efficiencies with industry leading density and low power consumption
- 300 MHz bandwidth supporting DOCSIS® 3.1 upgrades
- Improve system uptime with automatic failover option
- Configure, monitor, and manage with CORView™ Element Management System
- Automatic Gain Control feature to allow for better level control with redundancy

The CHP Quad Return Path Receiver is an integral part of a flexible return path system. Designed to operate as either a stand-alone or redundant module, the CHP Quad Receiver allows operators to increase their network capacity while reducing operational power. 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.



The CHP Quad Receiver is available in both redundant and non-redundant configurations. The redundant model protects both the optical path and vital hardware for VoIP, business data services, and other critical applications. For additional protection, the redundant model's integral optical and RF switches alternate between diverse paths when the receiver detects an optical path module hardware fault. In these instances, switch time is less than 50 milliseconds. Operators can pair redundant and non-redundant modules in either the same CHP chassis or in a spare chassis up to 6 meters away.

The CHP Quad Receiver offers high RF output with excellent power efficiency, typically consuming less than 3 Watts per RF channel. The modules are hot-swappable to ensure minimal loss of uptime. The receiver's Craft Graphical User Interface (GUI) provides local monitoring, configuration control, and firmware downloads, while the System Management Module (SMM) provides local and remote IP access to the Craft GUI, firmware downloads, and the SNMP HMS interface.

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.

## OPTIONS

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Redundant or Non-Redundant

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CORView Element Management System

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## SPECIFICATIONS

Characteristics	CHP-R4RRXF-30-L	CHP-4RRXF-30-L
<b>Physical</b>		
Dimensions	1.25 in W x 3.44 in H x 18.5 in D (3.18 cm x 8.74 cm x 46.99 cm)	1.25 in W x 3.44 in H x 18.5 in D (3.18 cm x 8.74 cm x 46.99 cm)
Weight	3.0 lb (1.35 kg)	3.0 lb (1.35 kg)
Housing Ports		
<b>Environmental</b>		
Operating Temperature Range	0° to 50°C (32° to 122°F)	0° to 50°C (32° to 122°F)
Storage Temperature Range	-20° to 60°C (-4° to 140°F)	-20° to 60°C (-4° to 140°F)
Humidity	10% to 90% non-condensing	10% to 90% non-condensing
<b>Optical</b>		
Input Wavelength Range	1260 to 1620 nm	1260 to 1620 nm
Optical Input Range	-20 to 3 dBm	-20 to 3 dBm
Optical Return Loss	55 dB	55 dB
<b>RF</b>		
RF Output Bandwidth	5 to 300 MHz	5 to 300 MHz
RF Output Level, per Channel <sup>1</sup>	40 dBmV (min)	40 dBmV (min)
Flatness, Peak-to-Valley	± 0.75 dB with respect to gain slope	± 0.75 dB with respect to gain slope
Gain Slope	± 1.0 dB	± 1.0 dB
RF Gain Adjustment Range <sup>2</sup>	0 to -31.5 in 0.5 dB steps	0 to -31.5 in 0.5 dB steps
RF Output Return Loss	16 dB (min)	16 dB (min)
RF Test Point	-20 ± 0.5 dB	-20 ± 0.5 dB
<b>Performance Specifications</b>		
Equivalent Input Noise	< 4.5 pA/Hz <sup>0.5</sup>	< 4.5 pA/Hz <sup>0.5</sup>
Maximum Peak NPR Variation	4 dB	4 dB
Noise-to-Power Ratio (NPR)/Dynamic Range	40/13 dB	40/13 dB
BER Dynamic Range	> 40 dB	> 40 dB
Optical Input to RF Output Terminated Isolation	≥ 60 dB	≥ 60 dB
Channel-to-Channel Isolation	5 to 300 MHz @ 60 dB	5 to 300 MHz @ 60 dB
Redundant Switching Time	50 ms	N/A
<b>Power Requirements</b>		
Power Consumption	12 W	12 W

### 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.

## RELATED PRODUCTS

CHP Chassis	Optical Patch Cords
CHP Power Supplies	Optical Passives
CHP Management Module	Installation Services

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

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**Note:** Specifications are subject to change without notice.

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