DATA SHEET

Headend Optics Platform (CH3000)

OR3144H

RFoG Diplexer/Return Receiver

FEATURES

- Enables deployments of RFoG applications
- Low optical insertion loss
- Low noise
- Low power consumption
- 5–85 MHz passband
- Eight LC/APC connectors provide four 1550 nm forward signal inputs and four network outputs (1550 nm forward and 1310 nm, 1590 nm, or 1610 nm return)
- RF attenuator
- Front panel -20 dB test port for RF return
- Hot plug-in/out
- Local and remote status monitoring capability
- One half-depth slot in CH3000 Chassis

The CommScope OR3144H RFoG Diplexer/Return Receiver provides, in a single half-depth module, a completely integrated diplexer/return receiver for RFoG applications where digital receivers are located in a headend or hub facility.

In the OR3144H, eight LC/APC connectors provide the interface for four 1550 nm forward signal inputs and four access network ports (1550 nm downstream output and return signal inputs of 1310, 1590, or 1610 nm). The combined RF return signals are output through an F-type connector on the front panel of the module.

In the forward path, the 1550 nm broadcast inputs are injected into the four broadcast input (BC-NC) ports and are independently passed through the OR3144H to the 1550 nm downstream plant. In the upstream direction, the return signals, which can be either 1310 nm, 1590 nm, or 1610 nm, are separated from the 1550 nm downstream signals, and converted to RF via optical-to-electrical (O/E) conversion.

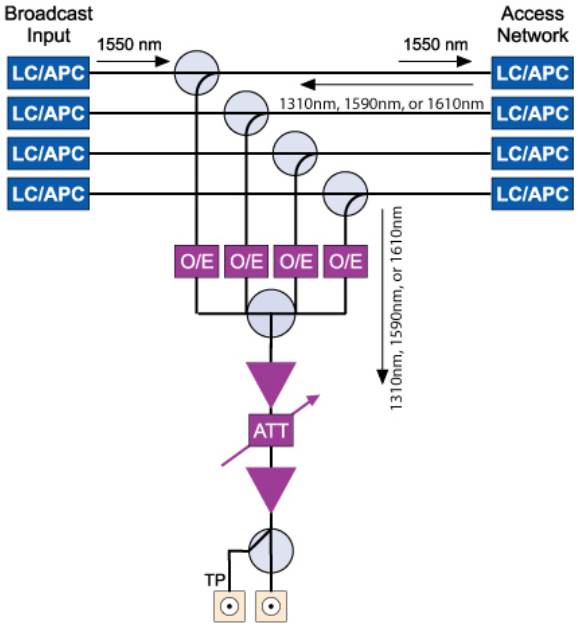
Following the optical-to-electrical conversion, the combined RF signal is available at the front panel F-type female connector. The gain of the combined RF signal can be manually adjusted with the internal attenuator using management software. A -20 dB G-type RF test point is available on the front panel.

High density packaging enables network operators to install up to 28 OR3144H modules per 3RU chassis, all of which can be monitored remotely or locally from the power supply module. Additionally, the compact single-width module design can be plugged in either the front or rear of the CH3000 3RU chassis to optimize equipment installation and operating conditions. The compact design minimizes rack space requirements in headends or hubs and enhances deployment of traditional HFC, passive HFC, and fiber-to-the-home (FTTH) networks.

SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions (without Connectors)	6.6” D x 4.3” H x 1.0” W (3RU) (16.7 cm x 11 cm x 2.5 cm)
Weight	1.5 lbs (0.68 kg)
Environmental	
Operating Temperature Range	-20° to +65°C (-4° to 149°F)
Storage Temperature Range	-40° to +85°C (-40° to 185°F)
Humidity	5% to 95% non-condensing
General	
Nominal Wavelengths	• Broadcast pass-through: 1550 nm • O/E upstream: 1310 nm, 1590 nm, or 1610 nm
	Hot plug-in/out
Power Requirements	
Input Voltage	12 V_{DC} nominal from CH3000 chassis power supply
Power Consumption, Typical	3.5 W
Connectors	
Optical Connectors	• Broadcast input: 4 LC/APC connectors • Access network: 4 LC/APC connectors
Return Path RF Output Connector	F-type female (at front panel)
RF Test Point	G-type male (at front panel, -20 dB)
Optical	
BC INP to Access Network (Downstream)	• Passband: 1525 to 1565 nm • Insertion loss (including connectors): 0.8 dB maximum • Isolation, BC INP to O/E: 65 dB typical • Output power per path: 20 dBm maximum (at Access Network output)
Access Network to O/E (Upstream)	• Passband: 1260–1500 nm and 1575–1620 nm • Insertion loss (including connectors): 0.9 dB maximum • Optical input power per path: -24 to -15 dBm nominal Maximum composite or total input power of -12 dBm for the receiver operated in RFoG or Burst mode.
Electrical, Return RF	
Passband	5 to 85 MHz
Frequency Response (Flatness)	± 1.5 dB
Output Return Loss, min	18 dB
Level Stability @ 1610 nm	± 0.5 dB
Nominal Output Level at Full Gain	34 dBmV (-24 dBm optical input, 26.7% OMI)
Gain Control Range	0 to 20 dB
Gain Control Step	1 dB

Module Schematic



ORDERING INFORMATION

Model Name	Description
OR3144H-85-01-01-AL	RFoG Diplexer/Return Receiver, 5–85 MHz Return Passband, with eight (8) LC/APC Connectors

RELATED PRODUCTS

CH3000 Chassis	Optical Patch Cords
Optical Nodes	Optical Passives
BP Back Plates	Installation Services

Contact Customer Care for product information and sales:

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

COMMSCOPE®

Note: Specifications are subject to change without notice.

87-10509_RevK_OR3144H_RFoG-Diplxr-RtnRx