

## FEATURES

- Supports single-subscriber applications while conforming to key elements of the SCTE174 RFoG Standard
- 1550/1610 nm optical channel plans supported
- +19 dBmV RF output levels with optical automatic level control (ALC) maintains RF output levels over a wide range of optical inputs
- 5–42, 5–65, or 5–85 MHz RF return options on 1610 nm
- 54–1002, 85–1002, or 102–1002 MHz forward options on 1550 nm
- 10/10, 10/1, 2/1, 1/1 Gbps PON pass-through and no PON pass-through options
- DC power supported via RF port or dedicated power port
- Indoor and outdoor mounting options

To support MSOs in the deployment of Fiber to the Premises (FTTP) networks, CommScope offers a family of RFoG Optical Network Unit (R-ONU) devices as part of complete end-to-end RFoG solutions, including the CommScope chassis-based OR3144H Quad Diplexer/Return Receiver (with enhanced return path performance for DOCSIS® 3.0), VHub-based OR4148H Quad Diplexer/Return Receiver (for extended reach applications), as well as AgileMax® platform solutions. These SDU R-ONUs are available with three bandwidth options: 5–42 MHz return with 54–1002 MHz forward, 5–65 MHz return with 85–1002 MHz forward, or 5–85 MHz return with 102–1002 MHz forward, all using 1550 nm downstream and 1610 nm RF return upstream wavelengths.



CSHMPIE Power Inserter



The CP80x5U/8U-02 SDU R-ONU is a 1 GHz (1002 MHz) RFoG Optical Network Unit that converts optical signals to RF signals at the customer premises. The R-ONUs support IEEE EPON and ITU GPON/XGPON overlay with RFoG across the same fiber network. The CP80x8U-02 version supports PON pass-through via an integrated WDM optical pass-through port for 10/10G PON on 1577/1270 nm downstream/upstream (DS/US), 10G/1G PON on 1577/1310 nm DS/US, and 2/1 (Turbo EPON) and 1/1 Gbps on 1490/1310 nm, enabling direct PON connection to compatible CPE.

The CP80x5U/8U devices incorporate thermally stable DFB laser technology for optimal upstream digital return performance; local powering adapter or UPS solutions; rugged construction plus weatherproof outdoor enclosures and indoor mounting solutions. Combined with the CommScope portfolio of multiwavelength transmitters, a wide selection of optical passives, low noise return receivers, and AgileMax solutions, the CP80x5U/8U R-ONUs leverage existing HFC infrastructures and back-office systems to provide cable operators with the ability to extend their fiber networks easily, incrementally, and economically.

## SPECIFICATIONS

Characteristics	Specification
<b>Physical</b>	
Dimensions	6.4" W x 4.1" H x 1.5" D (16.3 cm x 10.4 cm x 3.8 cm)
Weight	1.0 lb (0.45 kg)
<b>Environmental</b>	
Operating Temperature Range	-40° to +65°C (-40° to 149°F)
Storage Temperature Range	-40° to +85°C (-40° to 185°F)
Humidity	5% to 95% non-condensing
<b>Power Requirement</b>	
Input Voltage Range	10 to 18 V <sub>DC</sub> (from wall adapter or UPS, see Ordering Information). Power Inserter included.
Power Consumption, typical	2.5 W
<b>Connectors</b>	
Optical Interface (RF)	IEC 61754-4 compliant SC/APC recessed female fiber connector for 1550 nm and 1610 nm RF
Optical Interface (PON pass-through models only)	IEC 61754-4 compliant SC/APC recessed female fiber connector for 1577, 1490, 1310, 1270 nm PON wavelengths
Combined RF and DC Interface	75 ohm coax "F-female" connector
Pass-through V <sub>DC</sub> Power Port	75 ohm coax "F-female" connector
<b>Downstream</b>	
<b>Optical Receiver</b>	
Input Wavelength	1525–1565 nm
Input Power Range	0 to -6 dBm
<b>RF Performance</b>	
RF Passbands	54 to 1002 MHz (CP8015U/CP8018U) 85 to 1002 MHz (CP8045U/CP8048U) 102 to 1002 MHz (CP8095U/CP8098U)
RF Output Level	19 dBmV/ch (at 1002 MHz)
Output Slope	5 ± 2 dB
Flatness, max	± 1.5 dB
Output Level Stability	± 2.0 dB (over optical input power range)
<b>Link Performance</b>	
CNR	> 48 dB
CSO	< 60 dB (at 0 dBm input power)
CTB	< 60 dB (at 0 dBm input power)
Typical System Performance	3.1% OMI, -5 dBm, 20 km, 1x32 splitter
<b>Upstream-Return Path</b>	
<b>Optical Transmitter</b>	
Transmission Wavelength	1610 nm ± 10 nm
Output Power	3.0 ± 1.0 dBm
<b>RF Performance</b>	
Passband	5–42 MHz (CP8015U/CP8018U) 5–65 MHz (CP8045U/CP8048U) 5–85 MHz (CP8095U/CP8098U)
RF Input Range	15–45 dBmV (35% OMI @ 39 dBmV)
Transmitter OMI	30%
Squelch Threshold	13 dBmV ± 1.0 dB
Dynamic Range @ 30 dB NPR	15.5 dB (60 MHz loading, -20 dBm input to the OR3144H receiver)

## SPECIFICATIONS

Characteristics	Specification
<b>PON Performance</b>	<b>CP80x8U Only</b>
Receive Input Wavelengths	1575–1580 nm (10 Gbps) and 1480–1500 nm (1 Gbps)
Transmit Wavelengths	1260–1280 nm (10 Gbps) and 1260–1360 nm (1 Gbps)
Isolation – 1550 nm to PON, min	-18 dB
Isolation – 1610 nm to PON, min	-15 dB
Isolation – 1577/1490 PON to RFoG	-50 dB
Isolation – 1310/1270 PON to RFoG	-25 dB
<b>Status Indicator LED</b>	
Green = optical input power	≥ -14 dBm (± 1 dB)
Red = optical input power	< -14 dBm (± 1 dB)
<b>Standards and Certifications</b>	
	EMI/EMC complies with FCC Class B and ANSI/SCTE 174 2010
	CE mark certified
	US/C 60950-1, IEC/EN 60950-1
	Class 1 laser product per IEC 60825-1 and FDA 21 CFR 1040.10/11
	Compliant with surge requirements of ANSI/SCTE 174 2010
<b>Mounting</b>	
	Direct mounting on an interior wall or in optional outdoor housing. Contact your sales representative regarding enclosures for other indoor/outdoor mounting options.

## ORDERING INFORMATION

Forward Path (MHz)	54–1002	85–1002	102–1002
Reverse Path (MHz)	5–42	5–65	5–85
1550/1610 nm RF + 10/10, 10/1, 2/1, 1/1 Gbps PON pass-through	CP8018U-02-10	CP8048U-02-10	CP8098U-02-10
1610 nm RF Rtn (no PON pass-through)	CP8015U-02-10	CP8045U-02-10	CP8095U-02-10

### NOTES:

A CSHMPIE Power Inserter is included. The PS1921W-10 Power Supply is ordered separately. See RFoG and RFPON ONU Powering Solutions Data Sheet for specifications and details.

## RELATED PRODUCTS

OR3144H Quad Diplexer/Return Receiver	OR41x8H Diplexer/Return Receiver
CSHMPIE Power Inserter	PS1921W-10 Power Supply

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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