

RF over Glass (RFoG)

CP801TU-01-00

RFoG OBI-free SDU R-ONU
with 16-to-1 Optical Receiver Support

FEATURES

- Standards compliant OBI-free technology enables high performance upstream operation in an RFoG environment
- Return path wavelength management supports up to 16 R-ONUs transmitting into a single optical receiver
- 19 dBmV RF output level for single subscriber (SDU) applications
- 51–1002 MHz forward on 1550 nm and 5–42 MHz return on 1610 nm wavelengths
- DFB laser transmitter supports full DOCSIS® 3.0 operation
- Low RIN and wide dynamic range
- Rugged cast housing
- Indoor and outdoor mounting options



PRODUCT OVERVIEW

The ARRIS CP801TU RFoG Optical Network Unit (R-ONU) for Single Dwelling Unit (SDU) applications is part of the ARRIS Optical Beat Interference elimination “OBI-free” technology family that supports cost-effective deployment of full interactive video, voice, and data services over an RFoG network. ARRIS OBI-free technology enables multiple simultaneous upstream RF channel transmissions, enabling multiple MAC domains and full DOCSIS 3.0 channel usage to efficiently coexist, offering increased upstream bandwidth usage for RF returns as compared to previous non-OBI-free models.

The upstream wavelength management feature designed into the CP801TU R-ONU enables up to 16 CP801TU R-ONUs to be deployed into a single optical receiver. An internal rotary switch selects one of sixteen wavelength management options for the upstream optical receiver. The 19 dBmV RF output with ALC (Automatic Level Control) supports a wide array of SDU designs, with a 5–42 MHz return path using 1610 nm wavelength optics and a 51–1002 MHz forward path on 1550 nm wavelength optics. Internal optical filtering ensures the R-ONU can be safely deployed in a system with 1 GE (1490 nm) or 10 GE (1577 nm) PON downstream signals overlaid onto the same fiber without the need for any additional filtering, allowing operators to deploy advanced services as required.

Cable operators can deploy advanced fiber-to-the-home topologies with full customer support using existing headend and back-office technology and procedures. These OBI-free SDU R-ONUs support any RFoG solution that uses standard industry wavelengths to and from the premises. The compact size and powering features support both indoor and outdoor installations. An advanced cooling fin design ensures optimal heat conductance away from the unit.

ARRIS is committed to providing full end-to-end solutions to cable operators in the roll-out of next-generation network architectures and these R-ONU devices are integral to our RFoG offering.

SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions	6.4" W x 4.2" H x 1.5" D (16.3 cm x 10.4 cm x 3.8 cm)
Weight	1.0 lb (0.45 kg)
Environmental	
Operating Temperature Range	-20° to +60°C (-40° to 140°F)
Storage Temperature Range	-40° to +85°C (-40° to 185°F)
Humidity	5% to 95% non-condensing
Power Requirement	
Input Voltage Range	+10.5 to 18 VDC from wall adapter or UPS. Recommended power supply: PS1921W-10 (ordered separately)
Power Consumption, max	13.5 W max at turn on; 9 W max after 1 minute
Connectors	
Optical Interface	IEC 61754-4 compliant SC/APC recessed female fiber connector
RF Interface	75 ohm coax "F-female" connector
DC power Interface	75 ohm coax "F-female" connector
Forward Path RF -20 dB Test Point	75 ohm coax "F-female" connector
Downstream	
Optical Receiver	
Input Wavelength	1540–1565 nm
Input Power Range, Nominal	+1 to -5 dBm
RF Performance	
RF Passband	51 to 1002 MHz
Channel Loading	Analog NTSC (up to 550 MHz), 256 QAM at -6 dBc (550-1002 MHz)
RF Output Level, Nominal (@ 3.2% OMI)	19 dBmV/ch at 1002 MHz
Slope (51-1002 MHz)	6 dB linear
Flatness (51-1002 MHz), excluding Slope, max	± 1.5 dB
Output Return Loss	> 16 dB
Output Level Stability	± 2.0 dB (over +1 to -5 dBm input power)
Link Performance	(CW loading to 550 MHz and 256 QAM loading above 550 MHz at -6 dBc)
CNR	> 47 dB (typical system performance, -5 dBm, 20 km, 1x32 splitter)
CSO	> -60 dB (at 0 dBm input power)
CTB	> -58 dB (at 0 dBm input power)

SPECIFICATIONS CONTINUED

Characteristics	Specification
Return Path	
Optical Transmitter	
Transmission Wavelength	1610 nm \pm 10 nm
Output Power	3.0 \pm 1.0 dBm
RF Performance	
Passband	5–42 MHz
RF Input Range	17–35 dBmV
Squelch Threshold	13 dBmV
Dynamic Range @ 30 dB CNR	-20 dBm input to OR3144H receiver; 5–42 MHz return: 18 dB (35 MHz loading)
Input Return Loss	> 16 dB (within passband)
Status Indicator LED	
Green = optical input power	\geq -11 dBm
Red = optical input power	< -13 dBm
Mounting	
Direct mounting on an interior wall or in optional outdoor housing. Contact your ARRIS representative regarding enclosures for other indoor/outdoor mounting options.	

ORDERING INFORMATION

Model Name	Description
CP801TU-01-00	5–42 MHz 1610 nm Return/51–1002 MHz 1550 nm Forward RFoG OBI-free RFoG ONU
PS1921W-10	The PS1921W-10 (DOE Class VI) Power Supply may be ordered separately for use with the ONU mentioned above. The unit is supplied with interchangeable slide-on adapters that are compatible with USA, Europe/Latin America, and UK AC outlets.

NOTE:

PS1921W-10 Power Supply must be ordered separately. The PS1921W-10 Power Supply connects directly to the module's 75-ohm coax "F-female" connector and does not require the PS1900-ADP Adaptor. The PS1900-ADP Adaptor is sold separately.

RELATED PRODUCTS

OR3144H Quad Diplexer/Return Receiver	OR4148H Diplexer/Return Receiver
OR4178H Diplexer/Return Receiver	PS1921W-10 Power Supply

Customer Care

Contact Customer Care for product information and sales:

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

Note: Specifications are subject to change without notice.

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