

## RFoG Optical Node FTTx Solution

### RON1500B Series



- **1GHz Mini Node**
- **Output 92dBuV**
- **1310/1550nm Return**
- **SCTE 174 2010 Standard Compliant**
- **Burst Mode Upstream**
- **Optical AGC**
- **Optional PON Upgrade Port**
- **Low Power Consumption**
- **LED Status Indicators**

ACT 1 GHz RON1500B Series RFoG Node is a cost-effective, high-performance optical network unit designed and optimized for standards-compliant RFoG Fiber-to-the-Home (FTTH) networks.

By deploying RFoG ONUs, cable operators can preserve their existing infrastructure investment while continuing to deliver Internet and telephony services via DOCSIS-compliant cable modems, alongside Video-on-Demand systems.

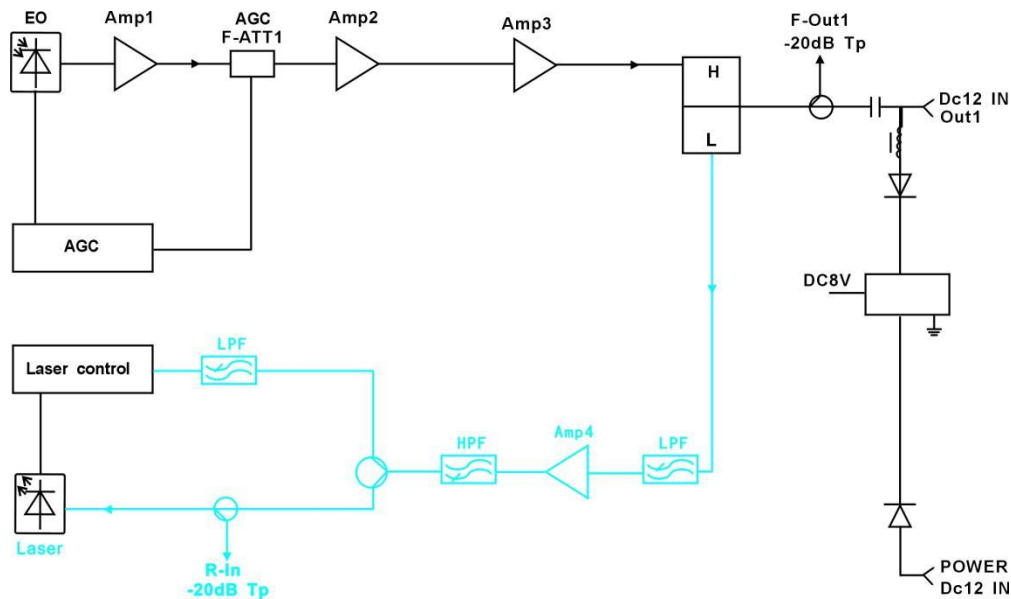
The RON1500 optical node forms part of ACT's comprehensive FTTx solution suite. It supports 1550 nm forward-path RF signals and return-path upstream signals at various CWDM wavelengths in a 1×32 split FTTH topology. The unit integrates a low-noise optical receiver and an isolated DFB optical laser to modulate upstream signals from set-top boxes (STBs) or DOCSIS modems back onto the fiber.

An optional PON upgrade port further enhances flexibility by combining upstream and downstream signals across a 1310/1490 nm EPON/GPON network—providing MSOs with a smooth migration path from traditional HFC systems to next-generation PON-based FTTH networks.

## Key Features

- Laser control circuit features a unique, reliable, and stable design
- Excellent AGC ensures consistent output level in range of -7 to +2 dBm
- Optimized circuit design and SMT process enhance signal path stability and improve RF linearity
- Professional RF attenuator circuit offers precise, linear attenuation
- GaAs amplifier provides high reliability, low distortion, and superior performance
- Return path control uses optional burst mode to significantly reduce noise collection
- Aluminum die-cast shell ensures effective cooling and an attractive appearance

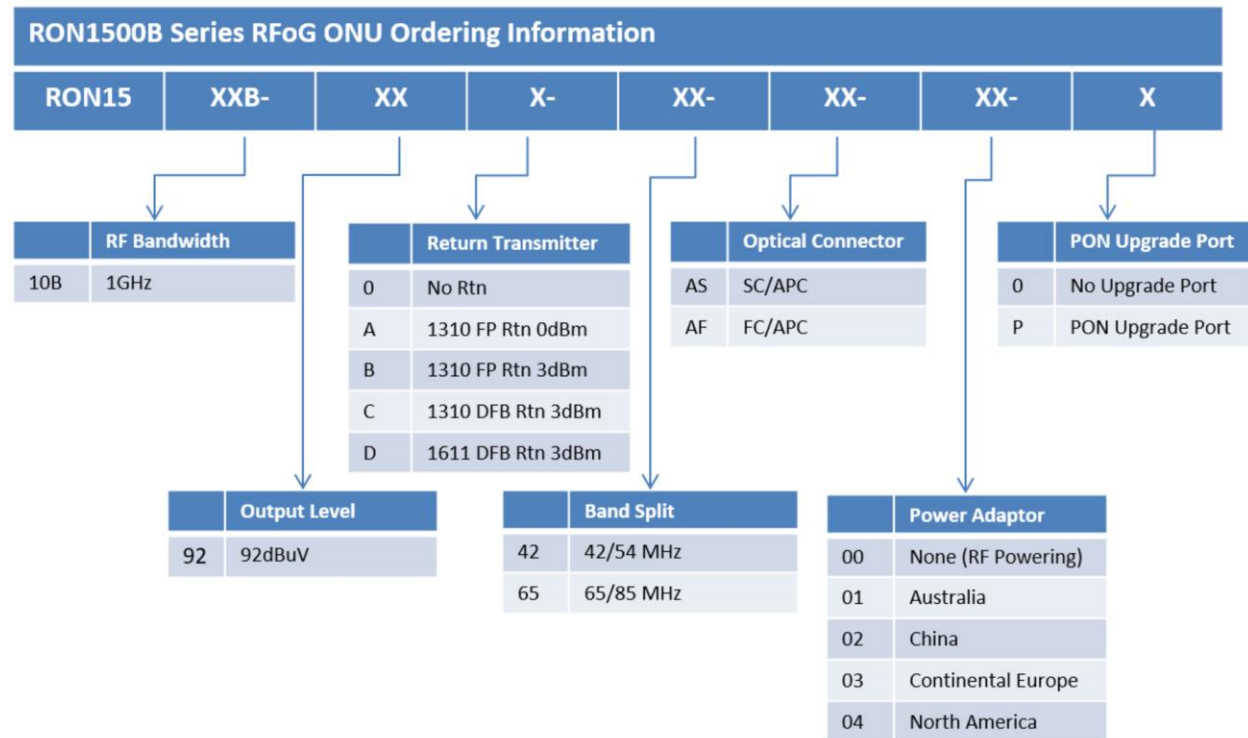
## Block Diagram



## Specifications

Item		Unit	Technical Parameters
<b>Forward Optical Receiver</b>			
Optical Parameters	Receiving Optical Power	dBm	-7 to +2
	Optimized Input Range	dBm	-3 to +1
	Optical Return Loss	dB	> 45
	Optical Receiving Wavelength	nm	1100 to 1600
	Optical Connector Type		FC/APC, SC/APC (or specified by the user)
	Optical Fiber Type		Single mode
Link Performance	C/N	dB	≥ 51 (optical input power -1dBm)
	C/CTB	dB	≥ 63
	C/CSO	dB	≥ 60
RF Parameters	Frequency Range	MHz	47/54/70/85 to 862(1003)
	Flatness in Band	dB	±0.75
	Rated Output Level	dBμV	≥ 92
	Max Output Level	dBμV	≥ 92
	Output Return Loss	dB	≥16
	Output Impedance	Ω	75
<b>Reverse Optical Transmitter</b>			
Optical Parameters	Optical Transmit Wavelength	nm	1310±10, 1550±10 or specified by the user
	Laser Type		DFB or FP laser
	Optical Output Power	mW	0.5, 1, 2
	Optical Connector Type		SC/APC (or specified by the user)
RF Parameters	Frequency Range	MHz	5 to 30/42/55/65, (or specified by the user)
	Flatness in Band	dB	±0.75
	Input Level	dBμV	75 to 85 (Suggested input 80)
	Input Return Loss	dB	≥ 16
	Output Impedance	Ω	75
	NPR Dynamic Range	dB	≥15 (NPR≥30 dB) Use DFB laser ≥10 (NPR≥30 dB) Use FP laser
General Performance	Power Voltage	V	DC12V
	Operating Temperature	°C	-30 to +70
	Storage Temperature	°C	-30 to +70
	Relative Humidity	%	Max 95% no condensation
	Consumption	W	≤6
	Dimension	mm	154(L) x 116(W) x 26(H)

## Ordering Information



## Contact Information



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