



# LTR-1G-D-1610



## DEVICE

## GEAPON Enabled RFoG Mini-Node, Dual Input/Output

## OVERVIEW

The Optilab LTR-1G-D-1610 is a bi-directional analog Optical Network Unit (ONU) designed for combining GEAPON-based systems with RFoG applications. The LTR-1G-D-1610 contains a fully function burst mode RFoG mini-node and an internal multiplexer for combining external GEAPON signals. With advanced Wavelength Division Multiplexing (WDM) technology, optical wavelengths from the analog ONU, which are 1550 nm in forward-path and 1610 nm in return-path, can be added with the GEAPON ONU signals, which are 1490 nm downstream and 1310 nm upstream. With a forward 1550 nm forward-path receiver and a return-path 1610 DFB laser, the LTR-1G-D-1610 can provide the HD video and QAM-based return data bandwidth as a conventional HFC optical node. It can be used for enhancing GEAPON transmission in HFC, Deep Fiber and RFoG networks. The return path bandwidth capacity of the RFoG systems can be increased by a factor of 3, by using return path laser width from 3 different CWDM wavelengths. Contact Optilab for more information.

## FEATURES

- 1550 nm forward path receiver
- 1570 nm DFB laser return path
- Internal WDM adds GEAPON wavelengths of 1310 nm and 1490 nm
- Single optical fiber for forward/return path
- Second output for passing through GEAPON
- Designed for combining GEAPON with RFoG

## USE IN

- RFoG
- Deep Fiber Applications
- HFC
- FTTH
- XPON





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## SPECIFICATIONS

Receiver Wavelength Range	1530 nm - 1560 nm
Input Optical Power	+3 dBm to -6 dBm
RF Output Power Level	25 dBmV typ.
Carrier to Noise Ratio (CNR)	50 dB typ. @ 0 dBm Input Level
Composite Second Order (CSO) Distortion	-60 dBc max.
Composite Triple Beat (CTB) Distortion	-60 dBc max.
Frequency Range	54 MHz to 1 GHz

## FORWARD PATH (RECEIVER)

## RETURN PATH (TRANSMITTER)

Transmitter Wavelength	1610 nm DFB
Output Optical Power Level	+2 dBm typ.
RF Input Turn On Power Level	25 dBmV typ.
Burst Mode Switch on Time	1.0 $\mu$ m max.
MER of QAM64	34 dB min. @ 20 MHz
Frequency Range	5 MHz to 42 MHz

## XPON

Pass Wavelength	1310 nm $\pm$ 25 nm, 1490 nm $\pm$ 5 nm
Insertion Loss for GEAPON signals	1 dB max.
Isolation from RFoG	30 dB min.

## GENERAL

Flatness in Frequency Range	$\pm$ 0.5 dB
Optical Return Loss	45 dB min.
RF Impedance	75 $\Omega$
RF Return Loss	16 dB min.

## MECHANICAL

Optical Connectors	2, SC/APC, RFoG and GEAPON
Temperature Range	-20°C to +65°C
Power Supply	12 - 15 V DC, 350 mA
Power Consumption	5 W max.
Housing Dimensions	4.6" (W) x 5" (L) x 1.3" (H)
Control/Monitoring	Voltage Monitoring: Optical Level 1 V/mW, On/Off Switch
Display	3 LEDs: Optical Input/Output and Power

