

# Single Port RFoG Mini-Node

The QAMnet iTRVR-R is a bi-directional analog Optical Network Unit (ONU) designed for Deep Fiber and RFoG applications.



iTRVR-R Single Port RFoG Mini-Node

## Product Description

The QAMnet iTRVR-R is a bi-directional analog Optical Network Unit (ONU) designed for Deep Fiber and RFoG applications. Using Wavelength Division Multiplexing (WDM) technology, a 1550 nm receiver and a 1310 nm or CWDM laser transmitter are combined into a common optical port. The iTRVR-R is a versatile, compact, and low cost mini-node. With standard HFC configuration of a forward receiver and a reverse transmitter, the iTRVR-R can provide the HD video and QAM data bandwidth capacity of a traditional HFC optical node, but at a fraction of the cost. The return path bandwidth capacity of the RFoG systems can be increased by a factor of 8, by using return path laser with from 8 different CWDM wavelengths. Additionally, the iTRVR-R is well-suited for a node splitting solution of a deep fiber system that enhances an existing HFC infrastructure.

## Features

- 1550 nm forward path receiver
- Return path laser: Standard: 1310nm, FP; Optional: CWDM DFB with wavelength choice of: 1310 nm, 1450 nm, 1470 nm, 1490 nm, 1510 nm, 1570 nm, 1590 nm, 1610 nm
- Fast Burst Mode operation
- Single optical fiber for forward / return path
- Low power consumption, compact and durable
- 12 VDC power adaptor included

## Applications

- ✓ HFC    ✓ FTTH    ✓ RFoG    ✓ PON    ✓ Deep Fiber Applications

## PRODUCT SPECIFICATIONS

### Optical Specifications

Forward Path - Receiver	
Receiver Wavelength Range	1530 nm - 1560 nm
Input Optical Power Level	+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 870 MHz
Return Path - Transmitter	
Laser Wavelength (standard)	1310 nm ± 20 nm, FP type
Laser Wavelength (standard)	1310 nm, 1450 nm, 1470 nm, 1490 nm, 1510 nm, 1570 nm, 1590 nm, 1610 nm
Output Optical Power Level	+2 dBm typ.
RF Input Turn On Power Level	25 dBmV min.
Burst Mode Switch on Time	1.0 μm max.
MER of QAM64	34 dB min. at 20 MHz
Frequency Range, 1	5 MHz to 42 MHz
Frequency Range, 2	5 MHz to 65 MHz
General Specifications	
Flatness in Frequency Range	±0.5 dB
Optical Return Loss	45 dB min.
RF Impedance	75 Ω
RF Return Loss	16 dB min.

### Mechanical Specifications

Optical Connectors	1, SC/APC
Temperature Range	-20 to +65 °C
Power Supply	12 - 15 VDC 80 - 240 V, 43 - 63 Hz AC (AC adaptor)
Power Consumption	5 W max.
Housing Dimensions	4.6"(W) x 5"(L) x 1.3"(H)
Control / Monitoring	Voltage Monitoring: Optical Level 1V/mW
Display	3 LEDs: Optical Input/Output and Power

### Ordering Information

iTRVR-R	
1	5 to 42 MHz return path
2	5 to 65 MHz return path