

# Alloptic MDU MicroNode™ 1550 RFoG ONU



The Alloptic **MicroNode™ 1550 Forward and Return Path RFoG ONU**, specifically designed for multiple dwelling and multiple tenant RFoG applications, delivers advanced bi-directional, interactive RF services over a passive fiber optic distribution network. It can be deployed with an existing PON ONT, enabling all voice, video and data services on a common fiber infrastructure. An integrated WDM provides the fiber connectivity to the BPON, GPON, or EPON ONT. It can also be deployed as a stand-alone RFoG ONU, delivering RF services today with capacity to add the adjacent PON ONT as service requirements change. The MicroNode 1550 RFoG ONU provides the freedom and flexibility to work with any PON system that uses industry standard optical wavelengths, and serves as the optical transport layer for RF video, DAVIC, and DOCSIS technologies. The MDU MicroNode RFoG ONU provides bi-directional services over extended RF frequencies (up to 1GHz) while being compatible with both RF headend and RF customer premises equipment and preserving today's operating processes. The 1500 series of MicroNodes provides higher RF output power with adjustable slope and gain settings for multi-dwelling applications, removing the requirement for a distribution amplifier at the customer premise. The 1550 series also provides remote management capabilities with parametric monitoring and operational access. Alloptic's MicroNode 1550 RFoG ONU: flexibility to grow your network to meet customer demand now and in the future.

## Benefits

- Reduces network costs via elimination of HFC nodes
- Flexible configuration allows for a single model for different deployment scenarios, minimizing costs and complexity of installation and inventory management.
- Allows deployment of fiber optic distribution network while leveraging existing RF and DOCSIS investments
- Compatible with industry standard BPON, GPON and EPON systems, with integrated WDM to feed a co-located PON ONT
- Compatible with existing RF headend and CPE equipment
- High performance, ultra low noise burst mode enables use of full RF spectrum for the return path, resulting in increased available bandwidth
- Low maintenance and high reliability of an all-fiber network
- On-site service calls not required for monitoring and service disconnect/reconnects
- Ultra low ingress noise performance
- High RF power output, removing requirement of distribution amplifier at the customer premise
- Pluggable diplexer for future band-split upgrades
- Supports remote parametric monitoring and operational access

## Features

- Extended spectrum RF video
- Analog & digital video formats
- Universal HFC set top box, cable modem and headend support
- Transparent return path capability (protocol and modulation format agnostic)
- Optical AGC with positive RF up-slope
- Supports MDU/MTU applications without amplifiers



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## Specifications

### Physical

- 2.8" H x 7.2" W x 8.4" D  
7.2cm H x 18.2cm W x 21.4cm D
- Weight: 4 lbs / 1.8 kg

### Optical Interface

- 2 recessed SC/APC female fiber connector

### Customer Interface

- 75 ohm coax "F" connector
- 75 ohm coax "F" connector RF test point

### Downstream Characteristics

- Input wavelength: 1540-1565nm
- Input power range: +1 to -6dBm
- Loss of optical power alarm: < -11dBm
- RF Output @ 550MHz:  
+36 to +45dBmV/ch ±1dBmV,  
selectable in 3 dB increments
- Frequency response:  
MNTH1556: 50MHz to 1GHz  
MNTH1557: 88MHz to 1GHz
- Flatness: ±1dB
- Up-tilt 50MHz/88MHz to 1GHz:  
3, 6 or 9dB, selectable
- CNR @ -4dBm input power: 48
- CSO @ +1dBm input power: 60
- CTB @ +1dBm input power: 60

### Return Path Characteristics

- Class 1 laser
- Wavelength: 1610 ±10nm
- Output power: +2dBm to +4dBm
- Input dynamic range:  
0dBmV to +30dBmV
- Frequency response:  
MNTH1556: 5MHz to 42MHz  
MNTH1557: 5MHz to 65MHz

### Flexible Installation

- Operate on a single PON fiber architecture
- Stand alone or co-resident with Alloptic ONT
- Temperature-hardened

### Management Channel

- MNTH1556: 92MHz forward and return path
- MNTH1557: 80MHz forward and return path

## Ordering Information

Part #	Description
MNTH1556	MicroNode 556 RFoG ONU (42MHz/1610nm RP)
MNTH1557	MicroNode 557 RFoG ONU (65MHz/1610nm RP)

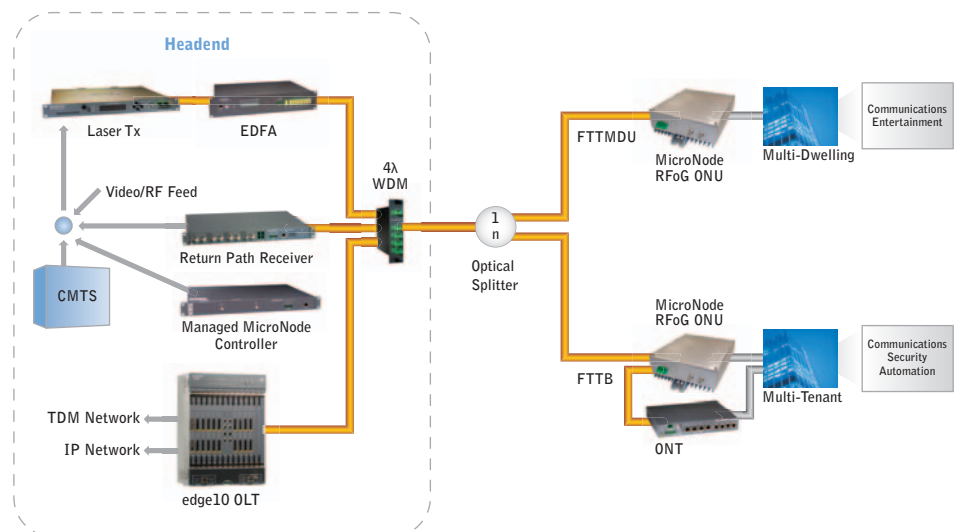
## Power and Environmental

- Operating temperature: -20°C to +55°C
- Humidity: 5% to 95% non-condensing
- Power input voltage:  
100 - 240V ±10% AC
- Power consumption: 15 watts max

## Standards and Certifications

- UL listed, CE mark certified
- Meets or exceeds FCC part 15b
- IEC 608251:1993+A1:1997+A2:2001
- 2004/108/EC
- EN55022, EN55024, EN50083,  
EN61000-3 and EN60950
- RoHS
- SCTE 55-1, 55-2
- Compatible with DAVIC & DOCSIS
- SCTE IPS SP910

## MDU MicroNode™ RFoG ONU Applications



[www.alloptic.com](http://www.alloptic.com)

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