

Optical Specifications - Forward Path (Receiver)	
Receiver Wavelength Range	1530 - 1560 nm
Input Optical Power	+3 dBm to -6 dBm
RF Output Power Level	35 dBmV
Carrier to Noise Ratio (CNR)	50+ dB typ. @ 0 dBm Input Level
Composite Second Order (CSO) Distortion	-63 dBc max.
Composite Triple Beat (CTB) Distortion	-63 dBc max.
Forward-Path Frequency Range	54 / 87 / 105MHz to 1 GHz
Optical Specifications - Return-Path (Transmitter)	
Transmitter Wavelength	1310 nm ± 20 nm, FP type (standard) or CWDM DFB available
Output Optical Power Level	+2 dBm typ.
RF Input Turn On Power Level	25 dBmV typ.
Burst Mode Switch on Time	1.0 µs max.
MER of QAM64	34 dB min. at 20 MHz
Return-Path Frequency Range	5 MHz to 42 / 65 / 85 MHz
General Specifications	
Flatness in Frequency Range	±0.75 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	-40oC to +65oC
Power Supply	12 – 15 VDC 80 – 240 V, 43 – 63 Hz AC (AC adaptor)
Power Consumption	5 W max.
Housing Dimensions	7.5"(W) x 6"(L) x 4"(H)
Control / Monitoring	Voltage Monitoring: Optical Level 1V/ mW
Display	3 LEDs: Optical Input/Output and Power
Available DFB CWDM Wavelengths	
1310nm	
1490nm	
1510nm	
1570nm	
1590nm	
1610nm	



The Optilab MK-2 is a bi-directional outdoor analog Optical Network Unit (ONU) designed for Deep Fiber and RFoG applications. Available in Burst Mode or CW, the MK-2 uses Wavelength Division Multiplexing (WDM) technology to combine 1550 nm forward-path signals and 1310 nm or CWDM return-path signals on a single optical port. The MK-2 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 7 by using return-path lasers from 7 different CWDM wavelengths. Additionally, this versatile, compact mini-node is well-suited for a node splitting solution of a deep fiber system that enhances an existing HFC infrastructure.

- 1550 nm forward-path receiver
- Return-path LD: 1310 nm or other CWDM λ
- Available in CW or Burst mode
- Single optical fiber for forward / return path
- Low power consumption, compact and durable
- 12 VDC power adaptor included
- 3 year warranty standard

Block Diagrams

