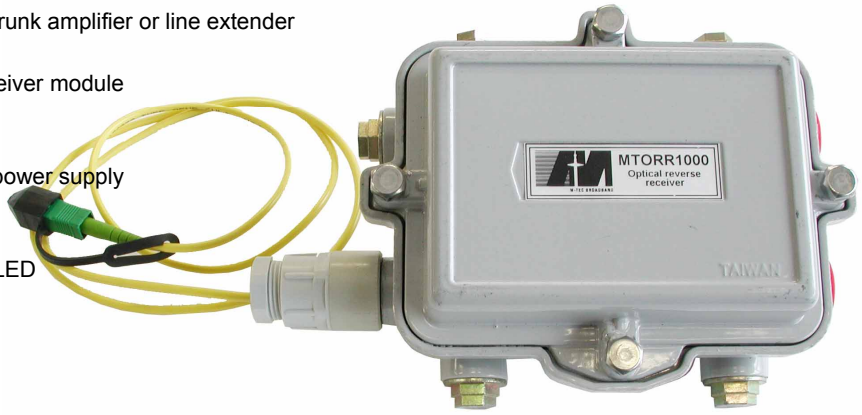
BRIDG-IT
ORR 1000
Optical Reverse Receiver
5 - 305 MHz

Features

- Direct compatibility with any trunk amplifier or line extender
- Simple installation
- High performance optical receiver module
- Adjustable RF output level
- Operating up to 305 MHz
- Highly efficient switch mode power supply
- SC-APC input connector
- Optical power test point
- Optical power monitoring by LED
- No alignments required
- Various powering modes



Description

The M-TEC optical returnpath receiver ORR 1000 is a low cost, high performance receiver which can be implemented conomically in all new and existing cable TV system architectures. Its compact, weatherproof design allows any CATV amplifier to be upgraded for fiber optic use, connected to the amplifier Return-Input Port through the MTOFT 1000 forward Transmitter. The receiver has been designed for simplicity of installation and operation.

No expensive optical test equipment is needed. Only a voltmeter and a standard field strength meter are required. The input pigtail of the receiver is connectorized. The RF signals are amplified by a low noise hybrid amplifier.

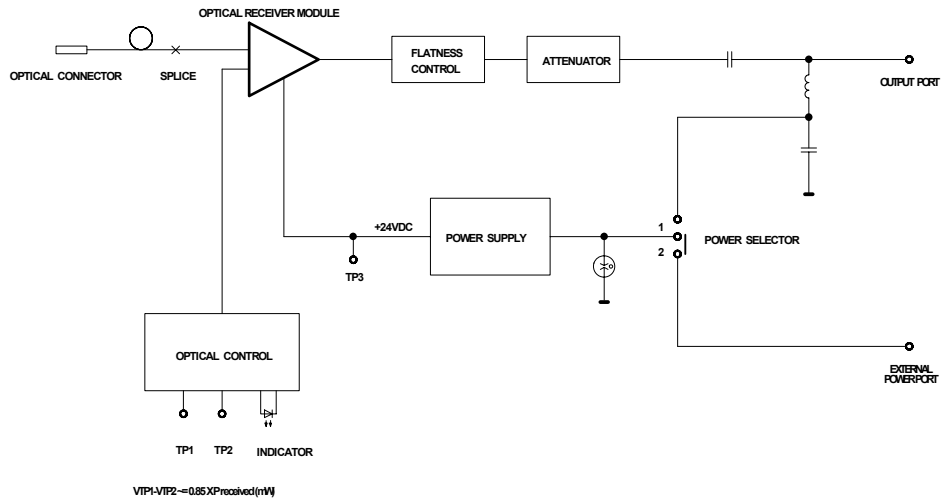
The RF output signal is optimized by plug-in attenuators to interface directly with the distribution system.

The printed circuit board of the receiver has a DC-volt test point to monitor the optical input level.

The optical power in mW is related to the voltage reading. A LED is also provided to monitor the presence of optical power. The unit has a built-in, highly efficient switch mode power supply which can accept 30 to 60 VAC.

The output signal of the optical receiver module is fed to a flatness network which provides a flat response over the entire bandwidth. This flat response is fed to a fixed attenuator to optimize the output signal level to interface directly with the distribution system. The unit is powered via a seperate power port or via the RF-out port. The power supply feed can be chosen internally.

Block Diagram



M-TEC NV Industriepark Noord C1 Zandvoortstraat 1 B-2800 Mechelen – Belgium ■
Tel. : +32 15 63 21 00 ■ Fax : +32 15 63 21 11 ■ info@mtecbroadband.com ■ www.mtecbroadband.com

Order Information

MT	ORR	10	–	XX	YY	ZZ
					Connector	
				00	**FU** = FC/UPC	00
					SU = SC/UPC	
					F8 = FC/APC8°	
					F9 = FC/APC9°	
					S8 = SC/APC8°	
					S9 = SC/APC9°	
					LC = LC/UPC	
					MU = MU	
					E2 = E2000	

Specifications

Optical Input	
Wavelength	1290 - 1600 nm
Detector	PIN diode
Max. optical input power	+3 dBm (2 mW)
Optical input range	-6 to +3 dBm
Fibre type	monomode 9/125 μm
Return loss	≥ 40 dB without connector
LED indicators	
When received optical power:	Pr > -7 dBm ± 1 dBm **(1)**
Test points	
Optical power	TP1 - TP2 **(7)** VTP1 - VTP2 = 0,85 x Pr (mW) Pr = 0 dBm ; VTP1-VTP2= 850mV. Pr = -3 dBm ; VTP1-VTP2= 425mV. Pr = -6 dBm ; VTP1-VTP2= 212mV.
DC Output voltage 24 V	TP3
RF output	
Bandwidth	5 - 305 MHz
Flatness	±1 dB
Output level (1)	25 dBmV for Pr = - 3 dBm **(1)** and OMI = 5,5% **(2)**
Impedance	75 ohm
Return loss	≥ 16 dB **(3)**
Gain control	JXP-* pads **(4)**
In	7 pA / $\sqrt{\ }$ Hz
Second order (2)	≤ -70 dB **(5)**
Third order (3)	≤ -80 dB **(6)**
Mechanical	
Size W x H x D	150 x 120 x 75 mm
Weight	650 gr
All ports	5/8 “
Power requirements	
Voltage	30 - 60 Volts. Sine- or square wave. 50 Hz
Power consumption	6 Watts.
DC voltage	24 Volts
DC current	270 mA
Powering via:	RF output port or separate powering port
Environmental	
Operating temperature	-20 to +60 °C

Notes:

(1) Pr = received optical power.
(2) OMI = Optical mod. index.
(3) With 3dB pad or higher.
(4) Standard values: 0/3/6/9 dB
(5) Two laser test, each laser with a 40% modulation index: f_p=20,25 MHz; P_p=0,5 mW and f_q=34 MHz; P_q=0,5 mW. Measured at f_p+ f_q=54,25 MHz.
(6) Three laser test, each laser with a 40% modulation index: f_p=125,25 MHz; P_p=0.33 mW, f_q=110,25 MHz; P_q=0.33 mW and f_r=135,25 MHz; P_r=0.33 mW. Measured at f_p+ f_q- f_r=100,25 MHz
(7) All values –0%; + 15%