



# BRIDG-IT MORT 8000

## Multiple Optical Reverse Transmitter

### Features

- ▶ Simple installation (plug-in module, hot swappable)
- ▶ Quadruple RF input, quadruple optical output
- ▶ Support for 4 independent 5 to 305 MHz upstream paths
- ▶ Compatible with RF stacker 4 x 5..65 MHz
- ▶ Standard wavelengths: 1310 nm operation, or 1510, 1530, 1550 and 1570 nm, other options available
- ▶ Adjustable OMI (Optical Modulation Index) level
- ▶ Remote monitoring via RS-485 communication standard
- ▶ Front panel test point
- ▶ Mountable in the 3 unit high UPL 8000 19" rack
- ▶ Front controls
- ▶ Rear connections
- ▶ Built-in pilot enables AGC controlled links, in combination with e.g. MORR 8000
- ▶ Broadband detection circuit enables monitoring the incoming RF power



### Description

The M-TEC MORT 8000 multiple optical reverse transmitter is a 10TE wide plug-in module, which can be installed in the M-TEC UPL 8000 19" rack. It has been designed for simplicity of installation and operation.

This high channel capacity module features low noise and low distortion RF driver circuits and high performance DFB laser diodes. The received RF input signals are optimized for further conversion by means of the RF drivers. The laser driver circuits bias the laser diodes to their proper optical operating level, while stability is guaranteed by means of automatic power control circuits. The DFB laser module includes an integrated opto-isolator to reduce the optical power reflected back into the laser, preventing increased laser noise. The implemented design as described above, ensures the highest carrier-to-noise ratio (CNR) and minimal distortion towards the user.

The RF input level can be monitored via the -20 dB test point. Two front panel pushbuttons enable adjustment of the OMI level.

Remote monitoring and controlling of the module is possible via the 9-pin SUB-D data link and RS-485 communication standard. All settings can be remotely checked and changed. Abnormal operating condition alerts can automatically be fed back to the operator.

### Block Diagram

Please refer to the final page of this datasheet.

## Order Information

MT	MORT	8	-	W	XX	Y	ZZ
				<b>Wavelength</b>	<b>Connector</b>	<b>Optical Options</b>	<b>Options</b>
				A = 1470-1490-1510-1530	FU = FC/UPC	0 = none	00 = none
				B = 1510-1530-1550-1570	SU = SC/UPC		
				C = 1550-1570-1590-1610	F8 = FC/APC8°		
				D = 1x 1310	F9 = FC/APC9°		
				E = 2x 1310	S8 = SC/APC8°		
				F = 3x 1310	S9 = SC/APC9°		
				G = 4x 1310	LC = LC/UPC		
				X = custom	MU = MU		
					E2 = E2000		

## Front Panel User Interface

LED indicators	
λ1	Channel λ1 selected = Red
λ2	Channel λ2 selected = Red
λ3	Channel λ3 selected = Red
λ4	Channel λ4 selected = Red
OMI	OMI adjustment enabled = Red
Controls	
SELECT	Channel λ1, λ2, λ3 or λ4 selection pushbutton
UP	OMI level UP pushbutton
DOWN	OMI level DOWN pushbutton
Test Points	
RF input test point level	-20 dB

## Specifications

RF Input		Optical Output Laser Dependent Parameters		
		1310 nm	1470...1610 nm	
Bandwidth	5-305 MHz	Laser type (3)	DFBII	DFBI
Level	15 dBmV ± 3 dB	Second Order (4)	≤ -55 dB	≤ -45 dB
Impedance	75 ohm	Third Order (4)	≤ -75 dB	≤ -55 dB
Return loss	≥ 20 dB	Carrier to noise ratio (5)	56 dB	54 dB
Channel isolation 5-65 MHz	≥ 60 dB	Power Requirements		
Channel isolation 65-305 MHz	≥ 50 dB	DC voltage	24 V	
Connector type	F	Max. DC current	400 mA	
Optical Output		Max. power consumption	10 W	
Standard wavelengths	1310 nm, or 1510/1530/1550/1570 nm	Powering via	9-pin SUB-D	
Other wavelengths available	1470/1490/1510/1530 nm 1550/1570/1590/1610 nm	Environmental		
Wavelength accuracy (1)	± 3 nm	Operating temperature	-10 to +50°C (14 to 122°F)	
Wavelength drift	0.09 nm/°C	Mechanical		
Output power per wavelength	2 mW	Size (height * width * depth)	128 mm * 51 mm * 370 mm	
Flatness	± 1 dB	Weight	1265 g	
Default OMI	2.5% per channel	Monitoring		
Fiber type	monomode 9/125 μm	Communication standard	RS-485	
Optical isolation	≥ 30 dB			
Connector type (2)	SC/APC8°			

### Notes:

- (1) Wavelength accuracy at 25°C
- (2) Standard SC/APC8°, other connector types available on demand.
- (3) Standard laser type is DFBII for 1310 nm, and DFBI for other wavelengths.
- (4)  $f_1 = 35$  MHz;  $f_2 = 42$  MHz; OMI per channel = 10%  
⇒ Second Order =  $f_2 - f_1 = 7$  MHz; Third Order =  $2 \times f_1 - f_2 = 28$  MHz.
- (5) Typical performance for 2.5% OMI, at 600 kHz bandwidth, 5 dB loss including 13 km fiber.  
For worst case performance refer to the diagrams on the final page of this datasheet.

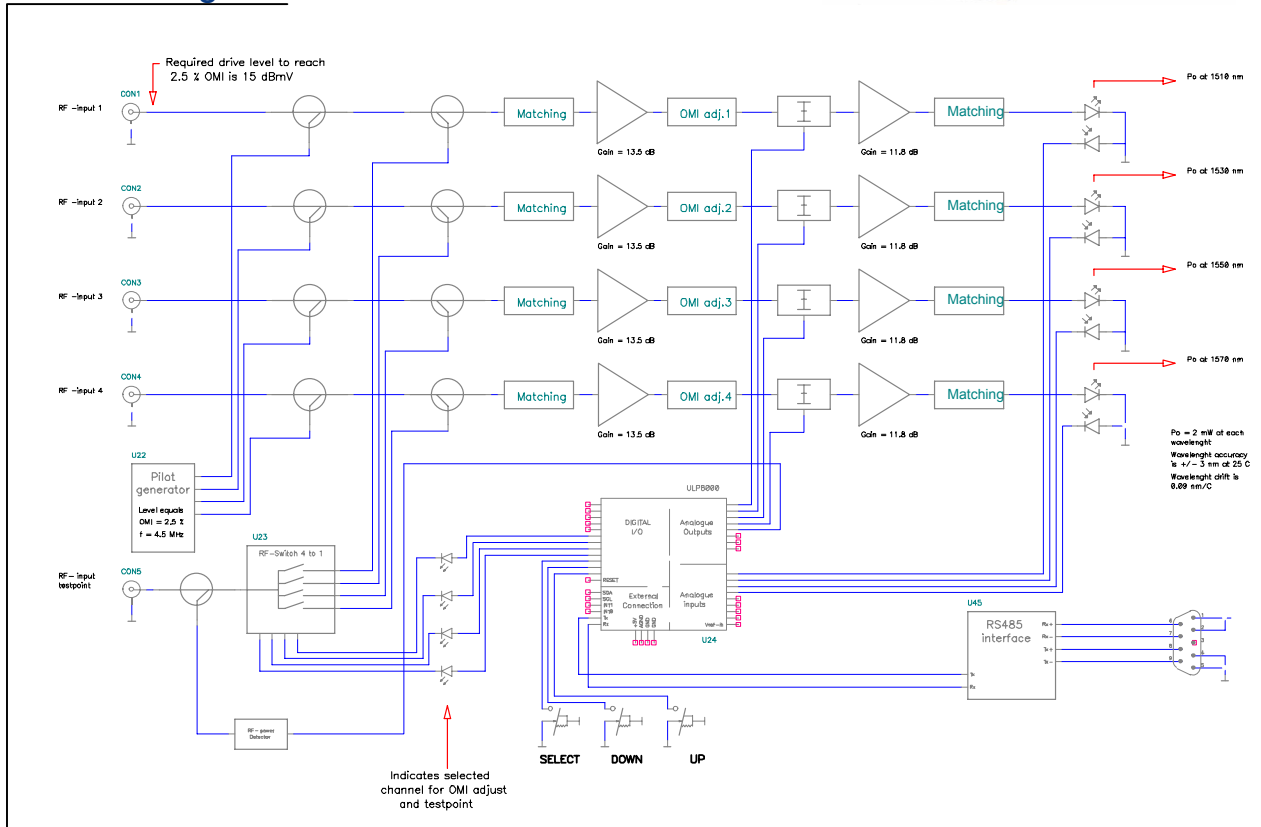


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### Block Diagram



## Diagrams

