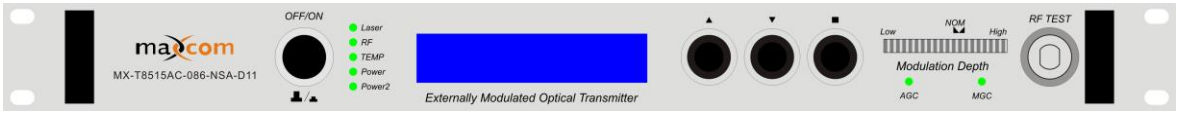
Ver. 1.0sb

1550nm External Modulation Optical Transmitter • MX-T8500AC Series

Technical Specification



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PRODUCT DESCRIPTION

The MX-T8500AC Series 1550nm Externally Modulated Optical Transmitters are designed for analog and digital CATV QAM signals. Maxcom's 1550nm optical amplifiers adopt world class pump lasers and American made OFS erbium-doped optical fiber components. These units provide excellent APC, ACC and ATC control, superb design in the ventilation and heat-dissipation which ensure long life and a highly reliable operation of the pump laser.

Our 1550nm externally modulated technology for the optical transmitter has no laser chirp, low dispersion distortion, and a large extinction ratio, with excellent characteristics within 47~862MHz (1000 MHz available). The External Modulator does not generate CSO distortion after reasonable bias. It can be followed by an RFOG EDFA (Multiport EDFA, such as the Maxcom MX5400 or MX5800 series) when used in large area coverage and local networks. Adopting WDM, multi-wavelength optical channels can be added and transmitted through one fiber, complimenting current developments and trends relative to triple-play, fiber to home, and xPON networks.

The Maxcom MX-T8500AC adheres to current international industry techniques and standards. The unit's light source occupies a narrow bandwidth (Typ = 1MHz), low noise, continuous wave DFB laser, which is propitious to reduce the influence of dispersion. The unit's signal modulation adopts CATV special LiNbO3 external American modulators and uses optimized control technology with independent intellectual property , thus allowing it to reach high indexes of back to back CNR ≥ 52dB, CTB ≤ -65dB, CSO ≤ -65dB, SBS: 13 dBm. Lasers adopt 1548~1563nm CATV standard wavelength.

The LCD at the front panel offers equipment status and warning alarms. The laser will switch off automatically if optical power is lost, which offers security protection for the laser.

When combined with EDFA optical amplifiers, such as the MX-A5100, MX-A5400 MX-A5800 Series, the Model MX-T8500AC allows system operators to cost-effectively transport a full slate of wideband video and data services and to distribute signals to many remote optical receiver/node locations, by utilizing the lower fiber attenuation characteristic of the 1550nm optical window. It is also designed to operate seamlessly with optical receivers and nodes from most leading manufacturers.

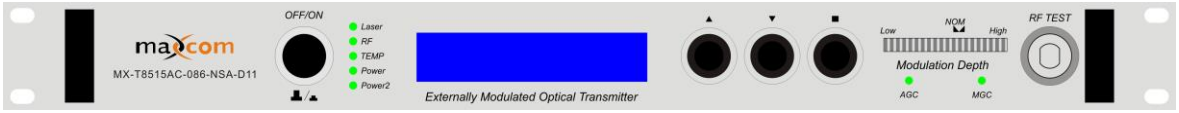
The MX-T8500AC is an advanced type externally modulated optical transmitter with high index, high reliability and excellent cost performance, is applicable for distribution network links in large CATV systems, head-end, hubs and OTN's.

PRODUCT FEATURES

- High performance: Externally modulated technology, no laser chirp, low dispersion distortion, high extinction ratio, with excellent characteristics within 40~862MHz.
- Narrow bandwidth (1MHz), lower noise, DFB continuous wave laser, is propitious to reduce the influence of dispersion.
- The standard operating bandwidth is 47~870MHz (1GHz avail)
- CNR ⩾ 52dB and excellent CTB, CSO index.
- SBS: 13 dBm fixed.
- Optional ITU standard wavelengths avail on additional models.
- AGC/MGC mode is selectable. OMI can be optimized on unit.
- RS232 communication interface.
- Advanced SNMP network management function.
- 1+1 power supply backup, automatic switching.
- Auto-control chassis temperature.
- Excellent P/P ratio.

MAIN APPLICATION

- Used in Cable TV, FTTx, RFOG and xPON distribution network links in large and medium CATV system head-ends.
  Analog digital hybrid transmission and Pure digital transmission



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Technical index

Performance			Index		Supplement
Optic feature	Operating wavelength	(nm)	1548~1563		MX-T8500AC
	Linewidth	(MHz)	Typ.=1		FWHM(Δλ)
	Side mode suppression ratio	(dB)	≥45		SMSR
	Equivalent noise intensity	(dB/Hz)	≤-160		RIN (20~1000MHz)
	Output power	(dBm)	3, 4.5, 6, 7, 8.5		Optional
	Return loss	(dB)	≥55		
	Optical fiber connector		SC/APC		
RF feature	Operating bandwidth	(MHz)	47-862		Optional 47~1000MHz
	Input level	(dBmV)	18~28		AGC
	Flatness	(dB)	≤±0.75		47~862MHz
	Return loss	(dB)	>16		47~750MHz
	Input impedance	(Ω)	75		
	RF port		F-Female		
Link feature	Transmit channel		PAL-D/60CH	PAL-D/99CH	
	CNR1	(dB)	≥52	≥50.5	Back to back
	CNR2	(dB)	≥50.5	≥49.5	65Km optical fiber, 0dBm receive
	CTB	(dB)	≤-65	≤-65	
	CSO	(dB)	≤-65	≤-65	
	SBS restrain	(dBm)	13		Fixed
General feature	SNMP network interface		RJ45		
	Communication interface		RS232		
	Power supply	(V)	90~265VAC		-48VDC optional
	Power Consume	(W)	≤50		Single power supply
	Working temp.	(°C)	-5~65		Auto temp. control
	Storage temp.	(°C)	-40~85		
	Operating relative humidity	(%)	5~95		
	Size	(")	19×14.5×1.75		(W)x(D)x(H)

PRODUCT SERIES

Model	Number of output ports	Output Power(dBm)	Operating wavelength (nm)	SBS Restrain (dBm)	System index(59 routes PAL-D)			
					CNR1	CNR2	CTB	CSO
MX-T8513AC	1	≥3.0	1548~1563	13	≥52	≥50	≤-65	≤-65
MX-T8515AC	1	≥5.0			≥52	≥50.5	≤-65	≤-65
MX-T8516AC	1	≥6.0			≥52	≥51	≤-65	≤-65
MX-T8517AC	1	≥7.0			≥52	≥51	≤-65	≤-65
MX-T8519AC	1	≥9.0			≥52	≥51	≤-65	≤-65
MX-T8523AC	2	≥3.0			≥52	≥51	≤-65	≤-65
MX-T8525AC	2	≥5.0			≥52	≥51	≤-65	≤-65
MX-T8526AC	2	≥6.0			≥52	≥51	≤-65	≤-65
MX-T8527AC	2	≥7.0			≥52	≥51	≤-65	≤-65
MX-T8529AC	2	≥9.0			≥52	≥51	≤-65	≤-65
MX-T8513AU	1	≥3.0	1528~1563nm ITU wavelength adjustable		≥52	≥50	≤-65	≤-65
MX-T8515AU	1	≥5.0			≥52	≥50.5	≤-65	≤-65
MX-T8516AU	1	≥6.0			≥52	≥51	≤-65	≤-65
MX-T8517AU	1	≥7.0			≥52	≥51	≤-65	≤-65
MX-T8519AU	1	≥9.0			≥52	≥51	≤-65	≤-65
MX-T8523AU	2	≥3.0			≥52	≥51	≤-65	≤-65
MX-T8525AU	2	≥5.0			≥52	≥51	≤-65	≤-65
MX-T8526AU	2	≥6.0			≥52	≥51	≤-65	≤-65
MX-T8527AU	2	≥7.0			≥52	≥51	≤-65	≤-65
MX-T8529AU	2	≥9.0			≥52	≥51	≤-65	≤-65

Test condition: CNR1: Tx to Rx, 0dBm receiving.
CNR2: 13dBm EDFA (NF4.5~5.5dB), 50km fiber, 0dBm receiving.

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