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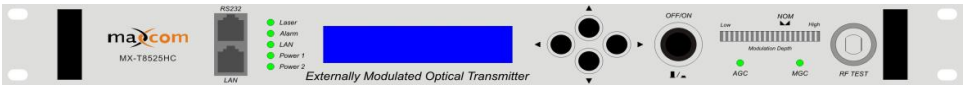
1550nm External Modulation Optical Transmitter • MX-T8500HC Series

Technical Specification



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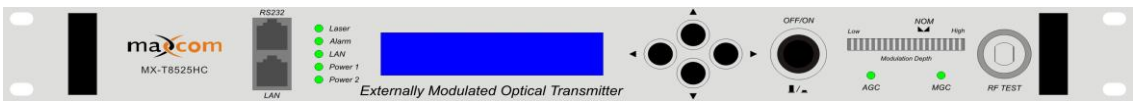

1.0 PRODUCT DESCRIPTION

The MX-T8500HC Series 1550nm High Performance Externally Modulated Optical Transmitters are a dual optical output transmitter designed for analog and digital CATV QAM signals. Maxcom's 1550 optical amplifiers adopt world class pump lasers and American OFS erbium-doped optical fiber components. Excellent APC, ACC and ATC control, superb design in the ventilation and heat-dissipation 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 40~862MHz. The External Modulator does not generate CSO distortion after reasonable bias. It can be followed by an EDFA when used in large area coverage and very-long trunk 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 and fiber to home.

The Maxcom MX-T8500HC adheres to current international industry techniques and standards. The unit's light source occupies a narrow bandwidth (0.65MHz), 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 modulator and uses optimized control technology with independent intellectual property , thus allowing it to reach high indexes of back to back CNR ≥ 54dB, CTB ≤ -65dB, CSO ≤ -65dB, SBS: 13~18dBm adjustable. Laser adopts 1548~1563nm CATV standard wavelength, dual fiber output.

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 and MX-A5400 Series*, the Model MX-T8500HC allows system operators to cost-effectively transport a full slate of wideband video and data services over very long distances, or alternatively allows them 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 transmitters, receivers and nodes from

most leading manufacturers.

The MX-T8500HC, advanced type externally modulated optical transmitter with high index, high reliability and excellent cost performance, is applicable for primary links and distribution network links in large and long distance CATV systems, head-end, hubs and OTN's.

2.0 PRODUCT FEATURES

- High performance: Externally modulated technology, no laser chirp, low dispersion distortion, high extinction ratio, with excellent characteristics within 40~862MHz.
- Narrow bandwidth (0.65MHz), lower noise, DFB continuous wave laser, is propitious to reduce the influence of dispersion.
- The operating bandwidth is up to 47~870MHz.
- CNR ⩾ 53dB and excellent CTB, CSO index.
- SBS: 13~18dBm adjustable.
- ITU standard wavelength avail on additional models.
- AGC/MGC mode is selectable. OMI can be optimized at unit.
- RS232 communication interface.
- Advanced SNMP network management function.
- 1+1 power supply backup, automatic switching.
- Auto-control chassis temperature.
- Excellent P/P ratio.

3.0 MAIN APPLICATION

- Used in primary links and distribution network links in large and medium CATV system head-ends.
  Analog digital hybrid transmission >200Km (with dispersion compensation).
  Pure digital transmission (without dispersion compensation) >400Km,
  (with dispersion compensation) >700Km.

4.0 Technical index

Performance			Index		Supplement
Optic feature	Operating wavelength	(nm)	1548~1563		MX-T8500HC
	Linewidth	(MHz)	Typ.=0.65		FWHM(Δλ) (-3dB fullwidth)
	Side mode suppression ratio	(dB)	≥45		SMSR
	Equivalent noise intensity	(dB/Hz)	≤-160		RIN (20~1000MHz)
	Output power	(dBm)	2×7		Optional 2×5, 2×9
	Return loss	(dB)	≥50		
	Optical fiber connector		SC/APC		
RF feature	Operating bandwidth	(MHz)	47-862		MX-T8500H-086
	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)	≥53	≥51.5	Back to back
	CNR2	(dB)	≥51.5	≥49.5	65Km optical fiber, 0dBm receive
	CTB	(dB)	≤-65	≤-65	
	CSO	(dB)	≤-65	≤-65	
	SBS restrain	(dBm)	13~18		Adjustable
General feature	SNMP network interface		RJ45		
	Communication interface		RS232		
	Power supply	(V)	90~265VAC		-48VDC optional
	Power Consume	(W)	≤50		Single power works
	Working temp.	(°C)	0~50		Auto temp. control
	Storage temp.	(°C)	-40~85		
	Operating relative humidity	(%)	5~95		
	Size	(")	19×14.5×1.75		(W)x(D)x(H)

5.0 PRODUCT SERIES

Model	Output Power (dBm)	Operating wavelength (nm)	SBS Restrain (dBm)	System index (59 routes PAL-D)			
				CNR1	CNR2	CTB	CSO
MX-T8525HC	Dual fiber 2×5	1548~1563	13~18 Adjustable	≥53	≥51.5	≤-65	≤-65
MX-T8527HC	Dual fiber 2×7			≥53	≥51.5	≤-65	≤-65
MX-T8529HC	Dual fiber 2×8.5			≥53	≥52	≤-65	≤-65

Test conditions:

CNR1: Tx to Rx, 0dBm receiving.

CNR2: 16dBm EDFA (NF4.5~5.5dB), 65km fiber, 0dBm receiving.

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