

## 1550NM EXTERNAL MODULATION OPTICAL TRANSMITTER

# FOR LONG DISTANCE APPLICATIONS MX-T8500HC SERIES

## **TECHNICAL SPECIFICATION**



#### **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 and Long-Distance Fiber Applications. Maxcom's 1550 optical amplifiers adopt world class pump lasers and American made OFS erbium-doped optical fiber components. These transmitters provide excellent APC, ACC and ATC control, superb design in ventilation and heat-dissipation and will ensure long life and a highly reliable operation of the pump laser.

Maxcom's 1550nm externally modulated technology for the optical transmitter has no laser chirp, low dispersion distortion, and a large extinction ratio, with excellent characteristics within 47~1000 MHz. The External Modulator does not generate CSO distortion after reasonable bias. It can be followed by EDFA's 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.

The Maxcom MX-T8500HC complies with 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 extremely advantageous to reducing 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  $\geq$  54dB, CTB  $\leq$  -65dB, CSO  $\leq$  -65dB, SBS: 13~20dBm adjustable. Laser adopts 1548~1563nm CATV standard wavelength, dual fiber output. Optimized for Long Haul Distances.

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 and MX-A5800 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 transmitters offer high performance, high reliability, , and is a superb choice for primary links and distribution network links in large and long distance CATV systems, head-end, hubs and OTN's.

Analog digital hybrid transmission >200Km (with dispersion compensation). Pure digital transmission (without dispersion compensation) >400Km, (with dispersion compensation) >700Km.



### **Technical index**



Performance			Index		Supplement
Optic feature	Operating wavelength	(nm)	1548~1563		MX-T8500HC
	Linewidth	(MHz)	Typ.=0.65		FWHM(Δλ) (-3dB)
	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)	47-1000		
	Input level	(dBmV)	18~28		AGC
	Flatness	(dB)	≤±0.75		47~1000MHz
	Return loss	(dB)	>16		47~1000MHz
	Input impedance	(Ω)	75		
	RF port		F-Female		
Link	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
reature	СТВ	(dB)	≤-65	≤-65	
	CSO	(dB)	≤-65	≤-65	
	SBS restrain	(dBm)	13~20		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)	-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)

Test conditions: CNR1: Tx to Rx, OdBm receiving. CNR2: 16dBm EDFA (NF4.5~5.5dB), 65km fiber, OdBm receiving.

<u>MX-T8525HC</u>	Transmitter, 1550 externally modulated long haul, SBS 13-20dBm adj dual
	outputs, Dual PS, SNMP, 2x5dBm outputs
<u>MX-T8527HC</u>	Transmitter, 1550 externally modulated long haul, SBS 13-20dBm adj, dual
	outputs, Dual PS, SNMP, 2x7dBm outputs
<u>MX-T8529HC</u>	Transmitter, 1550 externally modulated long haul, SBS 13-20dBm adj, dual
	outputs, Dual PS, SNMP, 2x9dBm outputs
<u>MX-T852AHC</u>	Transmitter, 1550 externally modulated long haul, SBS 13-20dBm adj, dual
	outputs, Dual PS, SNMP, 2x10dBm outputs
<u>MX-T852BHC</u>	Transmitter, 1550 externally modulated long haul, SBS 13-20dBm adj, dual
	outputs, Dual PS, SNMP, 2x11dBm outputs
<u>MX-T852CHC</u>	Transmitter, 1550 externally modulated long haul, SBS 13-20dBm adj, dual
	outputs, Dual PS, SNMP, 2x12dBm outputs
MX-T852DHC	Transmitter, 1550 externally modulated long haul, SBS 13-20dBm adj, dual
	outputs, Dual PS, SNMP, 2x13dBm outputs

Available with AC or -48 VDC Power Supplies





www.maxcomcorp.com

209-339-2333