HT8500H

1550nm External Modulation Optical Transmitter

PRODUCT DESCRIPTION

1550nm externally modulated optical transmitter is the core equipment in the RFTV network system.RFTV is a unidirectional analogue and digital video broadcast. It adopts high efficiency modulation mode for RF carrier wave and its economy , flexibility and bandwidth validity is beyond comparison of IPTV. By adopting EPON, GEPON or P2P access mode to realize triple-play and FTTx, RFTV broadcasting network in 1550nm optical wavelength still plays an important role.

1550nm externally modulated technology for optical transmitter has no laser chirp, low dispersion distortion, and large extinction ratio, with excellent characteristic within 47~862MHz.

External Modulator doesn't generate CSO distortion after reasonable bias. It can be followed by amplifier when used in large area coverage of over-long trunk and local networks. Adopting WDM, multi-wavelength optical channels can be transmitted through one fiber. 1550nm optical fiber CATV follows the current development trend of triple-play and fiber to home.

HT8500H that accords with current international industry technique standard is a 1550nm Externally Modulated Optical Transmitter. The whole unit light source adopts narrow bandwidth (0.65MHz), low noise, continuous wave DFB laser, which is propitious to reduce the influence of dispersion. The whole unit signal modulation adopts CATV special LiNbO3 external modulator of American company and optimized control technology with independent intellectual property , so it can reach high index of back to back CNR ≥ 54dB, CTB ≤ -65dB, CSO ≤ -65dB, SBS: 13, 16, 18dBm adjustable . The whole unit is equipped with perfect RS232 communication interface, SNMP network management, 1+1 back-up power supply , hot-plug function available, chassis temperature auto-control.

HT8500H, Standard type externally modulated optical transmitter with it's high index, high reliability and excellent cost performance, is applicable for main links and distribution network links in large and middle CATV station head-end.

- •HT8525HC: 2 fiber output, each port ≥4.5dBm, CNR ≥ 53.0dB, SBS: 13, 16, 18dBm adjustable.
- •HT8527HC: 2 fiber output, each port ≥7.0dBm, CNR ≥ 53.0dB, SBS: 13, 16, 18dBm adjustable.
- •HT8529HC: 2 fiber output, each port ≥8.5dBm, CNR ≥ 53.0dB, SBS: 13, 16, 18dBm adjustable.
- •HT852AHC: 2 fiber output, each port ≥10dBm, CNR ≥ 53.0dB, SBS: 13, 16, 18dBm adjustable.
- •HT852BHC: 2 fiber output, each port ≥11dBm, CNR ≥ 53.0dB, SBS: 13, 16, 18dBm adjustable.
- •HT852CHC: 2 fiber output, each port ≥12dBm, CNR ≥ 53.0dB, SBS: 13, 16, 18dBm adjustable.
- •HT852DHC: 2 fiber output, each port ≥13dBm, CNR ≥ 53.0dB, SBS: 13, 16, 18dBm adjustable.
- •HT8500HU: ITU standard wavelength adjustable. User can adjust and set the laserwavelength within ±200GHz(±1.6nm)at ±0.05nm space by LCD menu or buttons on the front panel. Apply to WDM network upgrade and expansion.

PRODUCT FEATURE

- High performance: Externally modulated technology, no laser chirp, low dispersion distortion, high extinction ratio, with excellent characteristic within 47~862MHz.
- Narrow bandwidth (0.65MHz), lower noise, DFB continuous wave laser, is propitious to reduce the influence of the dispersion.
- The operating bandwidth is up to 47~1000MHz.
- CNR ≥ 53dB and excellent CTB, CSO index.
- SBS: 13, 16, 18dBm adjustable.
- ITU standard wavelength, ±200GHz (±1.6nm) adjustable.
- AGC/MGC mode is optional at spot. OMI can be optimized at spot.
- Perfect RS232 communication interface.
- Advanced SNMP network management function.
- 1+1 power supply backup, switch automatically.
- Casing temperature auto-control.
- Excellent P/P ratio.

MAIN APPLICATION

- Used in main links and distribution network links in large and middle CATV

station head-end.

Analog digital hybrid transmission >200Km (with dispersion compensation).

Pure digital transmission (without dispersion compensation) >400Km,

(with dispersion compensation) >700Km.

- HT8500HU ITU wavelength adjustable, applicable to the value-added service of DWDM fiber optic CATV system and CFG dispersion compensation system.
- It can be used in branch FTTH that has high system index demand. Point to Point>65Km, CSO ≤ -65dB. It can provide high qualified and reliable value-added service such as RFTV, IPTV and VOD for the secondary users. It can also avoid the limitation of CSO deterioration and transmission distance caused by laser chirp for adopting 1550nm direct modulated optical transmitter.

Technique index

Performance			Index		Supplement
Optic feature	Operating wavelength	(nm)	1548~1563		HT8500HC
			ITU-TG.692		HT8500HU
	Wavelength ADJ.range	(nm)	±1.6(±200GHz)		HT8500HC
	Wavelength ADJ.mode		±0.05nm stepping		HT8500HU
	Wavelength stability	(Pm/℃)	-1~0		Tc=20~70℃
	Linewidth	(MHz)	Typ.=0.65		FWHM(△λ), (-3dB fullwidth)
	Side mode suppression ratio	(dB)	≥45		SMSR
	Equivalent noise intensity		≤-160		RIN(20~1000MHz)
	Number of output port		2		
	Output power	(dBm)	13, 12, 11, 10, 8.5, 7.0, 4.5		2×5, 2×7, 2×9, 2×10,
	Return loss	(dB)	≥50		
	Optical connector		SC/APC		Optional FC/APC, LC/APC
RF feature	Work bandwidth	(MHz)	47~862		Optional 47~1000MHz
	Input level	(dBmV)	18~28		AGC
	Flatness	(dB)	≤±0.75		47~862MHz
			≤±1.5		862~1000MHz(Optional)
	Return loss	(dB)	>16		
	Input impedance	(Ω)	75		
	RF port		F-Female		
Link feature	Transmit channel		PAL-D/60CH	PAL-D/99CH	
	CNR1	(dB)	≥53.0	≥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, 16, 18		Adjustable
General feature	SNMP network management		RJ45		
	Communication interface		RS232		
	Power supply	(VAC)	90~265		50/60Hz
		(VDC)	-48		30~72VDC

	Power consume	(W)	50	Single power works
	Work temp.	(℃)	-5~65	Machine temp. control automatically
	Storage temp.	(℃)	-40~85	
	Relative humidity	(%)	5~95	
	size	(")	19×14.5×1.75	S-Type
			19×17.9×1.75	L-Type

产品系列

Model	Number of output pore	Output power of each port (dBm)	Work wavelength (nm)	SBS Restrain (dBm)	System index(59 routes PAL-D)			
					CNR1	CNR2	CTB	CSO
HT8525HC	2	≥4.5	1548~1563	13, 16, 18dBm Adjustable	≥53	≥51.0	≥-65	≥-65
HT8527HC	2	≥7.0			≥53	≥51.5	≥-65	≥-65
HT8529HC	2	≥8.5			≥53	≥51.5	≥-65	≥-65
HT852AHC	2	≥10			≥53	≥51.5	≥-65	≥-65
HT852BHC	2	≥11			≥53	≥51.5	≥-65	≥-65
HT852CHC	2	≥12			≥53	≥51.5	≥-65	≥-65
HT852DHC	2	≥13			≥53	≥51.5	≥-65	≥-65
HT8525HU	2	≥4.5	1528~1563nm ITU wavelength adjustable		≥53	≥51.0	≥-65	≥-65
HT8527HU	2	≥7.0			≥53	≥51.5	≥-65	≥-65
HT8529HU	2	≥8.5			≥53	≥51.5	≥-65	≥-65
HT852AHU	2	≥10			≥53	≥51.5	≥-65	≥-65
HT852BHU	2	≥11			≥53	≥51.5	≥-65	≥-65
HT852CHU	2	≥12			≥53	≥51.5	≥-65	≥-65
HT852DHU	2	≥13			≥53	≥51.5	≥-65	≥-65

Test condition:

CNR1: Tx to Rx, 0dBm receiving.

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

Model explanation

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Product type		Product series		Number of output port		Output power		Quality		Operating wavelength		Bandwidth		Network management		Connector		Number of power supply		Power supply		ITU Grid Ch. No.	
HT	Analogue optical transmitter	85	1550nm external modulation	2	Dual fiber output	5	5dBm	H	Standard type	C	1548~1563nm	086	47~862MHz	O	No	FA	FC/APC	S	Single PS	22	220VAC	00	1548~1563nm
						7	7dBm			U	1528~1563nm ITU wavelength	100	47~1000MHz	N	Built-in	SA	SC/APC	D	Dual PS	11	110VAC	23	1558.98nm
						9	8.5dBm									LA	LC/APC			48	-48VDC	30	1553.33nm
						A	10dBm															37	1547.72nm
						B	11dBm															xx	1528~1563nm
						C	12dBm																
						D	13dBm																