HT1500B

1550nm Direct Modulation Optical Transmitter

PRODUCT DESCRIPTION

External modulation technology for HT1500B 1550nm transmitter, with the laser working in direct current, has the advantages of no laser chirp, low dispersion distortion, large extinction ratio, and high speed. 1550nm transmitter also has the disadvantages of high cost and high difficulty in manufacturing. Direct modulation will lead to high laser chirp (Laser's bias current is modulated by signal and the optical spectrum shifts and shakes). Laser chip will interact with dispersion effect caused by standard single mode fiber (SMF-28), which will generate serious distortion in the place of 1550nm. This kind of distortion will become more serious with the increase of transmission distance, bandwidth and channel number.

At present, international high performance direct modulation 1550nm transmitter has no obvious performance inferior while transmitting an analog and digital multiplexing full channel signal with transmission distance ≤ 15Km or transmitting digital load with transmission distance≤40Km.

HT1500B is a direct modulation 1550nm transmitter with high index and without AGC function. It adopts high linearity and low chirp DFB laser, built-in pre-distortion compensation and AGC, APC, ATC closed loop control, which improves the system index obviously. The 1550nm transmitter can be used in FTTx (≤ 10Km) of second-grade service area (Sub-HE), and can also be used in WDM narrow-band multiplexing and IP/QAM.

HT1500BC 1550nm transmitter: CATV wavelength.

PRODUCT FEATURE

- Low chirp, high linearity DFB laser
- Dual module RF driver, high efficient laser pre-distortion adjustment
- Perfect APC, ATC closed loop control
- Intuitionistic modulation status display
- Built-in dual back-up power supply, switch automatically
- Casing temperature auto-control, ensure the long life of the laser

MAIN APPLICATION

- Second service area (sub-headend) provides IPTV, VOD value-added service.
- Analog digital mixed transmit <15Km.
- Pure digital load <40Km.
- DWDM narrow band multiplex >70Km.

Technique index

Performance			Index	Supplement
Optic feature	Wavelength	(nm)	1548~1563	HT1500BC: CATV wavelength
			1530~1563	HT1500BU: ITU wavelength
	Linewidth	(MHz)	≤1	FWHM(Δλ)
	Side mode suppression ratio	(dB)	≥45	SMSR
	Extinction ratio	(dB)	≥20	Xp
	Equivalent noise intensity	(dB/Hz)	≤-160	RIN (20~1000MHz)
	Output power	(dBm)	6	Optional 3, 10
	Return loss	(dB)	≥55	
	optical fiber connector		FC/APC	Optional SC/APC
RF feature	Work bandwidth	(MHz)	45-862	
	Input level	(dBmV)	20	±2
	Flatness	(dB)	≤±0.75	45~862MHz
	Return loss	(dB)	>16	
	Input impedance	(Ω)	75	RF/INPUT
	RF test	(dB)	0±1	
Link feature	Transmit channel		PAL-D/59CH	NTSC/77CH
	CNR	(dB)	≥50	-1dBm receive
	CTB	(dB)	≤-63	
	CSO	(dB)	≤-57	
	SBS restrain	(dBm)	≥17	
General feature	Network management interface		RJ45, RS232	Support I.E. & SNMP
	Power supply	(V)	90~265 city power	-48VDC optional
	Power Consume	(W)	≤50	Single power works
	Work temp.	(°C)	-5~65	
	Storage temp.	(°C)	-40~85	
	Relative humidity	(%)	5~95	
	Size	(")	19×14.2×1.75	(W)x(D)x(H)

PRODUCT SERIES

Model	Distance (Km)	Output power (dBm)	CNR (dB)	CTB (dB)	CSO (dB)	SBS (dBm)
HT1503B-05	5	3	50	-63	-57	17
HT1506B-05		6	50	-63	-57	17
HT1510B-05		10	50	-63	-57	17
HT1503B-10	10	3	50	-63	-57	17
HT1506B-10		6	50	-63	-57	17
HT1510B-10		10	50	-63	-57	17
HT1503B-15	15	3	50	-63	-57	17
HT1506B-15		6	50	-63	-57	17
HT1510B-15		10	50	-63	-57	17

Test condition:

1. 47~550MHz, PAL-D/59CH.
2. -1dBm input receiver.

ORDER INFORMATION

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Product type		Output power		Quality		Wavelength		Transmission distance		Network management		Number of output port		Connector		Power supply	
HT	1550nm Direct modulation CATV optical transmitter	03	3dBm(2mW)	A	Top-class	C	CATV	05	5Km	0	Without	1	1 port	FA	FC/APC	22	220VAC
		06	6dBm(4mW)	B	Standard type	U	ITU	10	10Km	N	With	2	2 ports	SA	SC/APC	11	110VAC
		10	10dBm(10mW)					15	15Km			4	4 ports	LA	LC/APC	48	-48VDC
												8	8 ports				