

SFT8500T

Top-class ITU wavelength adjustable Externally Modulated Optic transmitter



Product description

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

1550nm externally modulated optic transmitter technology has no laser chirp, low dispersion distortion, and great extinction rate, with excellent characteristic within 40~862MHz. External Modulator doesn't generate CSO distortion after reasonable bias. It can be connected by amplifiers when applied in large area coverage of over-long trunk and local networks. Adopting WDM, it can multiplex optical channels with multi-wavelength through one fiber. 1550nm optic transmitter CATV follows the current development trend of triple-play and fiber to home.

SFT8500T is a series of 1550nm externally modulated optic transmitter achieving the highest standards of today. The whole-unit's optical source adopts narrow line width (Typ.=0.3MHz), low noise and continuous wave DFB laser, which is propitious to reduce dispersion effect. Adopting ITU standard wavelength, users can adjust and set the wavelength on the front panel within the range of $\pm 200\text{GHz}$ ($\pm 1.6\text{nm}$) as $\pm 0.05\text{nm}$ stepping. SFT8500T EM optic transmitter is applicable for the network upgrading and expansion of WDM system. The whole unit signal modulation adopts CATV special LiNbO₃ external modulator of American JDS-U company and Huatai optimized control technology with independent intellectual property, so SFT8500T EM optic transmitter can reach high index of back to back CNR $\geq 54\text{dB}$, CTB $\leq -65\text{dB}$, CSO $\leq -65\text{dB}$, SBS: 13~19dBm continuous 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. All the optical port of EM optic transmitter can be installed in the front panel (The back panel is also available if needed).

SFT8500T, top type externally modulated optic transmitter with it's high index, high reliability and excellent cost performance, is applicable for the over-long trunk of large and middle CATV station head-end, WDM system and CFG dispersion compensation system.

- SFT8527T : 2 fiber output, each port $\geq 7.0\text{dBm}$, CNR $\geq 54.0\text{dB}$, SBS: 13~19dBm continuously adjustable, ITU wavelength adjustable.
- SFT8529T : 2 fiber output, each port $\geq 8.5\text{dBm}$, CNR $\geq 54.0\text{dB}$, SBS: 13~19dBm continuously adjustable, ITU wavelength adjustable.
- SFT85210T : 2 fiber output, each port $\geq 10\text{dBm}$, CNR $\geq 54.0\text{dB}$, SBS: 13~19dBm continuously adjustable, ITU wavelength adjustable.
- SFT85212T : 2 fiber output, each port $\geq 12\text{dBm}$, CNR $\geq 54.0\text{dB}$, SBS: 13~19dBm continuously adjustable, ITU wavelength adjustable.
- SFT85213T : 2 fiber output, each port $\geq 13\text{dBm}$, CNR $\geq 54.0\text{dB}$, SBS: 13~19dBm continuously adjustable, ITU wavelength adjustable.



Product features

- Externally modulated technology for SFT8500T optic transmitter, no laser chirp, low dispersion distortion, high extinction ratio, with excellent characteristic within 40~862MHz, used in the over-long trunk of large and medium sized cable television head-end.
- 1+1 powers supply back, up hot-plug function available.
- Narrow line width (Typ.=0.3 MHz), low noise, and DFB continuous wave laser, be propitious to reduce dispersion effect.
- The work bandwidth for SFT8500T optic transmitter is up to 47~862MHz.
- CNR $\geq 54\text{dB}$ and excellent CTB, CSO index.
- SBS: 13~19dBm, continuous adjustable.
- ITU standard wavelength adjustable, users can adjust and set the wavelength on the front panel with $\pm 0.05\text{nm}$ stepping in the range of $\pm 200\text{GHz}$ ($\pm 1.6\text{nm}$), used in the network upgrading and expansion of WDM system.
- AGC/MGC mode is optional at spot; OMI can be optimized at spot.
- Perfect RS232 communicate interface.
- Advanced SNMP network management function.
- Casing temperature auto-control.

Main application

- Used in the over-long trunk and distribution net in the large and middle cable television central station head-end.
- Analogue digital hybrid transmission > 200Km (with dispersion compensation).
- Pure digital transmission
 - (Without dispersion compensation) > 400Km,
 - (With dispersion compensation) > 700Km.
- VAS in DWDM fiber CATV system
- CFG dispersion compensates system.

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Externally Modulated Optic transmitter

Model explanation

SFT852[Output power]**T** – [ITU Grid Ch. No.] – [Optical Port Position] / [Connector]
– **HP** / [Power supply]

Product type	SFT	Analogue optical transmitter
Product series	85	1550 nm external modulation 47~862 MHz
Number of output ports	2	2 fiber output
Output power	7	≥7.0 dBm
	9	≥9.0 dBm
	10	≥10.0 dBm
	12	≥12.0 dBm
	13	≥13.0 dBm
Quality	T	Top-class
ITU Grid Ch. No.	23	1558.98 nm
	31	1552.52 nm
	37	1547.72 nm
	XX	15XX.XX nm
Optical Port Position	F	Front panel
	B	Back panel
Connector	FA	FA/APC
	SA	SA/APC
	LA	LA/APC
Power supply mode	HP	Dual PS, Hot plug
Power supply	22	220 VAC
	11	110 VAC
	48	-48VDC
	42	-48VDC&220VAC

Technical index

Performance		Index		Supplement
Optic feature	Operating wavelength	(nm)	ITU-TG.692 standard wavelength	
	Wavelength ADJ. range	(nm)	±1.6	±200GHz
	Wavelength ADJ. mode		±0.05nm stepping	
	Wavelength stability	(Pm/°C)	-1~0	Tc=20~70°C
	Linewidth	(MHz)	Typ.=0.35	FWHM(Δλ), (-3dB full width)
	Side mode suppression ratio	(dB)	≥45	SMSR
	Equivalent noise intensity	(dB/Hz)	≤-160	RIN (20~1000MHz)
	Number of output port		2	
	Output power	(dBm)	7.0, 8.5, 10, 12, 13	2×7, 2×9, 2×10, 2×12, 2×13,
	Return loss	(dB)	≥50	
RF feature	Optical fiber connector		SC / APC	Optional FC / APC, LC / APC
	Work bandwidth	(MHz)	47-862	
	Input level	(dBmV)	18~28	AGC
	Flatness	(dB)	≤±0.75	47~862MHz
	Return loss	(dB)	>16	
	Input impedance	(Ω)	75	
Link feature	RF connector		F-Female	
	Transmit channel		PAL-D / 60CH	PAL-D / 99CH
	CNR1	(dB)	≥54.0	≥52.5
	CNR2	(dB)	≥52.5	≥50.5
	CTB	(dB)	≤-65	≤-65
	CSO	(dB)	≤-65	≤-65
	SBS restrain	(dBm)	13~19	Adjustable
General feature	SNMP network management interface		RJ45	
	Communication interface		RS232	
	Power supply	(VAC)	90~265VAC	50/60Hz
		(VDC)	-48	30~72
	Power Consume	(W)	≤50	Single power works
	Operating temp.	(°C)	-5~65	Machine temp. control automatically
	Storage temp.	(°C)	-40~85	
	Operating relative humidity	(%)	5~95	
Size			19×15.2×1.75 (")	(W)x(D)x(H)
			483×386×44 (mm)	

Product series

Model	Number of output port	Output power of each port	Operating wavelength (nm)	SBS Restrain (dBm)	System index (59 routes PAL-D)			
					CNR1	CNR2	CTB	CSO
SFT8527T	2	≥7.0	ITU wavelength ±200GHz adjustable	13~19 Adjustable	≥54	≥52.5	≤-65	≤-65
SFT8529T	2	≥8.5			≥54	≥52.5	≤-65	≤-65
SFT85210T	2	≥10			≥54	≥52.5	≤-65	≤-65
SFT85212T	2	≥12			≥54	≥52.5	≤-65	≤-65
SFT85213T	2	≥13			≥54	≥52.5	≤-65	≤-65

Test condition: CNR1: Tx to Rx, 0dBm receiving. CNR2: 16dBm EDFA (NF4.5~5.5dB), 65km fiber, 0dBm receiving.