

SFT8500H

Advanced type

Externally Modulated 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, GEAPON 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 40~862MHz. 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.

SFT8500H 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 we optimized control technology with independent intellectual property, so it can reach high index of back to back CNR ≥ 54 dB, CTB ≤ -65 dB, CSO ≤ -65 dB, SBS: 13~18dBm 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.

SFT8500H, advanced type externally modulated optical transmitter with its 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.

- SFT8525H : 2 fiber output, each port ≥ 4.5 dBm, CNR ≥ 53.0 dB, SBS: 13~18dBm continuously adjustable, ITU wavelength adjustable.
- SFT8527H : 2 fiber output, each port ≥ 7.0 dBm, CNR ≥ 53.0 dB, SBS: 13~18dBm continuously adjustable, ITU wavelength adjustable.
- SFT8529H : 2 fiber output, each port ≥ 8.5 dBm, CNR ≥ 53.0 dB, SBS: 13~18dBm continuously adjustable, ITU wavelength adjustable.
- SFT85210H : 2 fiber output, each port ≥ 10 dBm, CNR ≥ 53.0 dB, SBS: 13~18dBm continuously adjustable, ITU wavelength adjustable.
- SFT8500HU: ITU standard wavelength adjustable. User can adjust and set the laser wavelength within ± 200 GHz (± 1.6 nm) at ± 0.05 nm space by LCD menu or buttons on the front panel. Apply to WDM network upgrade and expansion.



Product features

- High performance: Externally modulated technology, no laser chirp, low dispersion distortion, high extinction ratio, with excellent characteristic within 40~862MHz.
- 1+1 powers supply back, up hot-plug function available.
- 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 47~1080MHz.
- CNR ≥ 53 dB and excellent CTB, CSO index.
- SBS: 13~18dBm adjustable.
- ITU standard wavelength, ± 200 GHz (± 1.6 nm) adjustable.
- AGC/MGC mode is optional at spot. OMI can be optimized at spot.
- Perfect RS232 communication interface.
- Advanced SNMP network management function.
- 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 > 200 Km (with dispersion compensation).
- Pure digital transmission (without dispersion compensation) > 400 Km,
- Pure digital transmission (with dispersion compensation) > 700 Km.
- SFT8500HU 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 > 65 Km, CSO ≤ -65 dB. 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.

Model explanation

SFT852[Output power]**H**[Operating wavelength] - [Bandwidth] - [Network management] [Connector] - [Number of power supply] [Power Supply] [ITU Grid Ch. No.]

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	5	≥5.0 dBm
	6	≥6.0 dBm
	7	≥7.0 dBm
	9	≥8.5 dBm
	10	≥10.0 dBm
Quality	H	Advanced type
Operating wavelength	C	1548~1563 nm
	U	1528~1563 nm ITU wavelength adjustable
Bandwidth	086	47~860 MHz
	100	47~1000 MHz
	108	47~1080 MHz
Network management	0	No
	1	Built-in
Connector	FA	FA/APC
	SA	SA/APC
	LA	LA/APC
Number of power supply	S	Single PS
	D	Dual PS
Power supply	22	220 VAC
	11	110 VAC
	48	-48VDC
ITU Grid Ch. No.	23	1558.98 nm
	30	1553.33 nm
	37	1547.72 nm

Technical index

Performance		Index	Supplement	
Optic feature	Operating wave-length	(nm)	1548~1563 SFT8500HC	
			ITU-TG.692 SFT8500HU	
	Wavelength ADJ. range	(nm)	±1.6 (±200GHz)	SFT8500HU
	Wavelength ADJ. mode		±0.05nm stepping	SFT8500HU
	Wavelength stability	(Pm/°C)	-1~0	Tc=20~70°C
	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)
	Number of output port		2	
	Output power	(dBm)	10, 8.5, 7.0, 4.5	2×7, 2×9, 2×10, 2×5, 4×7, 6×7
Return loss	(dB)	≥50		
optical fiber connector		SC / APC	Optional LC / APC, FC / APC	
RF feature	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	
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)	13~18	Adjustable
General feature	SNMP network management interface		RJ45	
	Communication interface		RS232	
	Power supply	(VAC)	90~265	50 / 60Hz
		(VDC)	-48	30~72
	Power Consume	(W)	≤50	Single power works
	Work temp.	(°C)	-5~65	Machine temp. control automatically
	Storage temp.	(°C)	-40~85	
	Operating relative humidity	(%)	5~95	
	Size (W)x(D)x(H)		19×15.2×1.75 (") 483×386×44 (mm)	S-Type
			19×17.9×1.75 (") 483×455×44 (mm)	L-Type

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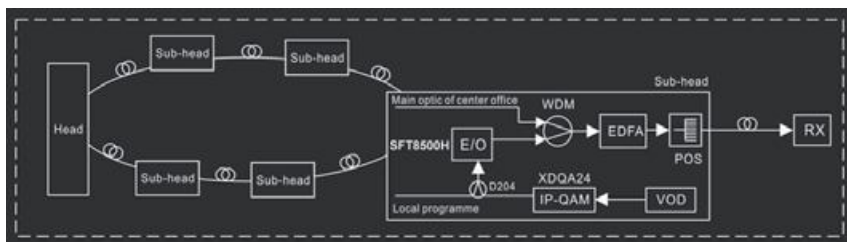
Product series

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
SFT8525HC	2	≥4.5	1548~1563	13~18 Adjustable	≥53	≥51.0	≤-65	≤-65
SFT8527HC	2	≥7.0			≥53	≥51.5	≤-65	≤-65
SFT8529HC	2	≥8.5			≥53	≥51.5	≤-65	≤-65
SFT85210HC	2	≥10			≥53	≥51.5	≤-65	≤-65
SFT8525HU	2	≥4.5	1528~1563nm ITU wave-length ADJ.		≥53	≥51.0	≤-65	≤-65
SFT8527HU	2	≥7.0			≥53	≥51.5	≤-65	≤-65
SFT8529HU	2	≥8.5			≥53	≥51.5	≤-65	≤-65
SFT85210HU	2	≥10			≥53	≥51.5	≤-65	≤-65

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

Network application

SFT8500H is typically used in the sub-station full optical relay for spotting local program and providing IPTV, VOA value-added business.



Applied in second transmission of sub-station (FTTx), supply with IP/QAM, VOD VAS

