



FIBER OPTIC  
CATV EQUIPMENT

## Optical Transmitter 1310nm

Model : W-CATX**13**xxmwxx



### Features

Optical transmitter: Adopts advanced ORTEL laser instrument, max output optical power reach 30mW

- Advanced optimized control technology makes the CNR,CTB,CSO and SBS indicators better.
- Adjustable SBS threshold 13,16 and 18 adapt to different needs
- Use low-noise, narrow line width, continuous-wave laser as light source
- Multi output power adapt to different needs
- Double power inside, auto switching
- Use imported external modulator
- Laser modulation(OMI) panel display
- Chassis Automatic Temperature Monitoring
- Advanced network management

### Specification

Type	Description									
	1310	1310	1310	1310	1310	1310	1310	1310	1310	1310
	2-	4-	6-	8-	10	-12	-14	-16	-18	-20
Optic Power mW	≥02	≥04	≥06	≥08	≥012	≥012	≥014	≥016	≥018	≥020
Optic Power dBm	3.06	.0	7.89	.0	10.0	10.8	11.5	12.0	12.3	12.8
Optic Wavelength nm	12901310									
Fiber Connector	FC/APCSC/APCSC/UPC (Selected by the Customer)									
Working Bandwidth(MHz)	FC/APCSC/APCSC/UPC (Selected by the Customer)									
Channels	45860									
CNR dB	59									
CTB dBc	51									
CSO dBc	≤-65									
RF Input Level(dB□V)	Not with pre-distortion					78±5				
	With pre-distortion					83±5				
Band Unflatness	≤0.75									
Power Loss(W)	≤30									
Power Voltage(V)	220V(110254)									
Working Tem(°)	045									

## External Modulation 1550nm

Model : W-CATX **15**ExxdBxx



### Features

- Advanced optimized control technology makes the CNR,CTB,CSO and SBS indicators better.
- Adjustable SBS threshold 13,16 and 18 adapt to different needs
- Use low-noise, narrow line width, continuous-wave laser as light source
- Multi output power adapt to different needs
- Double power inside, auto switching
- Use imported external modulator
- Laser modulation(OMI) panel display
- Chassis Automatic Temperature Monitoring
- Advanced network management

### Specification

Type		Description	
Optical performance	Laser Length (nm)	1550±10	
	Return Loss (dB)	2x7(typical)	2x5,2x9 or 1x7,1x5 optional
	Return Loss (dB)	≥60	
	Fiber Connector	FC/APC	SC/APC or E-2000 optional
	Bandwidth (MHz)	45-862	
RF performance	Input Level (dB)	80±5	AGC
	Flatness (dB)	≤±0.75	45-862MHz
	Return Loss (dB)	≥≥16	45-862MHz
	Input Impedance	75	
	Transmission Chanel	PAL-D/60ch	
Link performance	CNR (dB)	≥53	65Km fiber,0dBm receiving
	CTB (dB)	≤≤-65	
	CSO (dB)	≤≤-65	
	SBS Suppression(dBm)	≥16.0	13,16,18 optional

## Direct-modulated Optical Transmitter 1550nm

Model : W-CATX **15**lxxdBxx



### Features

- Advanced optimized control technology makes the
- CNR,CTB,CSO and SBS indicators better.
- Use low-noise, narrow line width,continuous-wave Laser as light source
- Multi output power adapt to different needs
- Double power inside, auto switching
- Use imported 1550nm Laser

### Specification

Type	Description	
	Unit	Optical Performance
Wavelength	nm	1550±10
Model	mW	STOF1550-1*5,1*6,1*7,1*9
Output Power	dBm	5, 6, 7, 9
Fiber Connector		FC/APC or SC/APC
Return Loss	dBm	≥60
<b>Others</b>		
User Interface	Front panel LCD display working status and alarm	
Power	Powered by STP2101	
Power Consumption	<40	
Size	483x385x44(19"x15"x1.75")	
Weight	7.5(Double power supply)	



## EDFA (Erbium Doped Fiber)

Model : W-CAED15ExxdBxx

### Features

- Sealed package module
- Use the world's leading companies' pump laser
- Improve the control circuit of thermoelectric cooling device temperature
- Improve the control circuit of output power
- Improve the software settings
- Front panel (LCD) display the working situation
- High-performance switching power supply can work on 110 ~ 254V
- Rear panel has RS-232 interface and 485 interface for network
- 19"IRU standard indoor rack

### Specification

Type	Description										
	SAFA 1013	SAFA 1013	SAFA 1013	SAFA 1013	SAFA 1013	SAFA 1013	SAFA 1013	SAFA 1013	SAFA 1013	SAFA 1013	SAFA 1013
Output Power (dBm)	13	14	15	16	17	18	19	20	21	22	23
Input Power (dBm)	-3 ~ 10										
Wavelength (nm)	1540 ~ 1560										
Output Power Stability (dB)	$\leq \pm 0.2$										
Polarization Sensitivity (dB)	$\leq \pm 0.2$										
Polarization Dispersion (PS)	$\leq 0.5$										
Return Loss (dB)	$\geq 45$										
Fiber Connector	FC/APC, SC/APC(optional)										
Noise Figure (dBmV)	$\leq 5.2$ (0dBm optical input)										
Network Interface	RS232										
Power Consumption(W)	45										
Work Voltage(V)	220V (110~240V)										
Work Temp	0~40										
Storage Temp	-40~+65										
Size(mm)	430x385x44(19"x15"x1.75")										
Weight (Kg)	7.5										

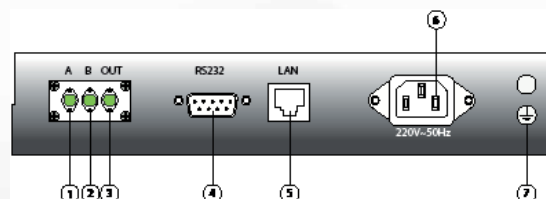
## Optical Switch

Model : W-CASW001XX

### Features

- Use imported high performance switch devices.
- Adopt advance 32 processor, working in perfect automatic monitoring systemic circuit. It can timely monitor input power accurately and control status of switch and setup to model of automatic switch and manually switch.
- Built-in blue LCD monitor on front panel, accurately show all working status parameters of LCD. - 19" 1U height standard rack mount, equipped standard IEEE802.3 10Base-T Ethernet network port and RS232 network port, can expediently realizes monitor through network.
- Support GB/T 20030-2005HFC Network control management

1. A way optical signal input
2. B way optical signal input.
3. Optical signal output: There is an invisible laser beam from the port when working, so should avoid face to body or eye from doing accidental harm.
4. RS232 interface: Used for working in all new network management parameters
5. LAN interface: correspond to standard IEEE802.3 10Base-T Ethernet network port,used for network management.
6. Supply input port.
7. Shell earth double-screw bolt: Used for connecting equipment with earth wire.







## Optical Receiver

Model : W-CARX001-xx

### Features

Advanced optical AGC control circuit is adopted to ensure output level and link index(C/CTB and C/CSO)be constant within the receiving optical power range from -8 dBm to +2 dBm. Stepping electric control of output level and output seleme is completed by built-in microcomputer automatic control unit with programmable RF power control chip. The running parameters of received optical power, RF attenuation, RF equilibrium quantity and direct current working volts will be displayed by added digital display circuit.

The PIN optical detector with high-sensitivity is adopted. GaAs MMIC amplifi er is used at preceding stage. And imported GaAs RF amplifier module at output stage to ensure excellent performance index.

Network monitoring will be achieved by the built-in national standard class II responder through Ethernet. There are special aluminum alloy shell, switching power supply with high reliability and strict anti-lightning system to ensure steady operation.



## Optical Receiver

Model : W-CARX002-xx

### Features

Excellent optical AGC control technique, when the input optical power range is -9~-2dBm, the output lever, CTB and CSO basically unchanged downlink working frequency extended to 1GHz, RF amplifi er part adopts the high performance low power consumption GaAs chip, the highest output level up to 106 dBuV

EQ and ATT both use the professional electric control circuit, makes the control more accurate, operation more convenient

Built-in the national standard II class network management transponder, support remote network management (optional)

Compact structure, convenient installation, is the first choice equipment of FTB CATV network

Built-in high reliability low power consumption power supply

### Specification

Type	Description		
	Unit	WR8602RJ	WR1002RJ
		Optical Performance	
Optical Input Range	dBm	-8 ~ +2	
Optical Return Loss	dB	≥45	
Optical Receiving Wavelength	nm	1100 ~ 1600	
Optical Fiber Connector Type		FC/APC,SC/APC(Or spedified by the user)	
Optical Fiber Type		Single-mode	
Generic Characteristic			
Frequency Range	MHz	45 ~ 862	45 ~ 1003
Supply Voltage	V	>AC (150 ~ 265) V	
Operating Temperature	℃	-40 ~ 60	
Power Consumption	VA	<10	
Dimension	mm	190 (L) X110 (W) X52 (H)	

## Optical Receiver

Model : W-CARX003-xx



### Features

The optical detector with low noise and high sensitivity is used for optical receiving. Import PHILIPS or MOTOROLA push-pull amplifier module is used as the forestage of RF amplifier circuit. And PHILIPS or MOTOROLA Power-Double module with excellent nonlinear index is used as the output port. (GaAs Power-Double module can be used if the users need.)

There are aluminium profile shell, switching power supply with high reliability and strict anti-lightning system in it to ensure the stable operation of the equipment.

### Specification

Type	Description			
	Unit	WR-8602H	WR-7502H	WR1002RJ
		Optical Performance		
Optical Input Range	dBm	-5 ~ +2		-8 ~ +2
Propose Use Range	dBm	-3 ~ +1		
Optical Return Loss	dB	≥45		
Optical Receiving Wavelength	nm	1100 ~ 1600		
Optical Fiber Connector Type		FC/APC,SC/APC(Or spedified by the user)		
Optical Fiber Type		Single-mode		
Generic Characteristic				
Frequency Range	MHz	45 ~ 750/862		45 ~ 1000
Supply Voltage	V	≥AC 135 ~ 250		
Operating Temperature	°C	-40 ~ 60		
Storage Temperature		-40 ~ 65		
Relative Humidity		Maximum 95% no condensation		
Power Consumption	VA	<15		
Dimension	mm	210 (L) x120 (W) x60 (H)		

## Indoor Amplifier

Model : W-CAAMP001



### Features

Microwave tube push-pull circuit with low noise or special CATV RF modules packaged in SOT-115 are used as forward channel whose output level is stable and nonlinear indicators are good; Microwave tube push-pull circuit are used as backward channel whose distortion is low and signal-to-noise ratio is high.

These equipments will work in the field rugged environment for a long time continuously, because of the aluminium alloy casing, good heat dispersing performances, beautiful looks, dependable linear power supply and lightning protection systems.

### Specification

Type	Description	
	Unit	Optical Performance
Nominal Gain	dB	32
Minimum Full Gain	dB	$\geq 32$
Optical Return Loss	dB	$\geq 16$
Noise Figure	dB	$\leq 10$
Flatness in Band	dB	$\pm 0.75$
Group Delay	ns	$\leq 10$ (112.25 MHz/116.68 MHz)
Generic Characteristic		
Frequency Range	MHz	5 ~ 30/65
Supply Voltage	V	AC (165 ~ 250) V
Characteristic Impedance	$\Omega$	75
Impulse Withstand Voltage (10/700 $\mu$ s)	kV	> 5
Power Consumption	VA	8
Dimension	mm	150(L) x 108(W) x 54(H)