WE-1550-HT2 Outdoor 1550nm Optical Amplifier

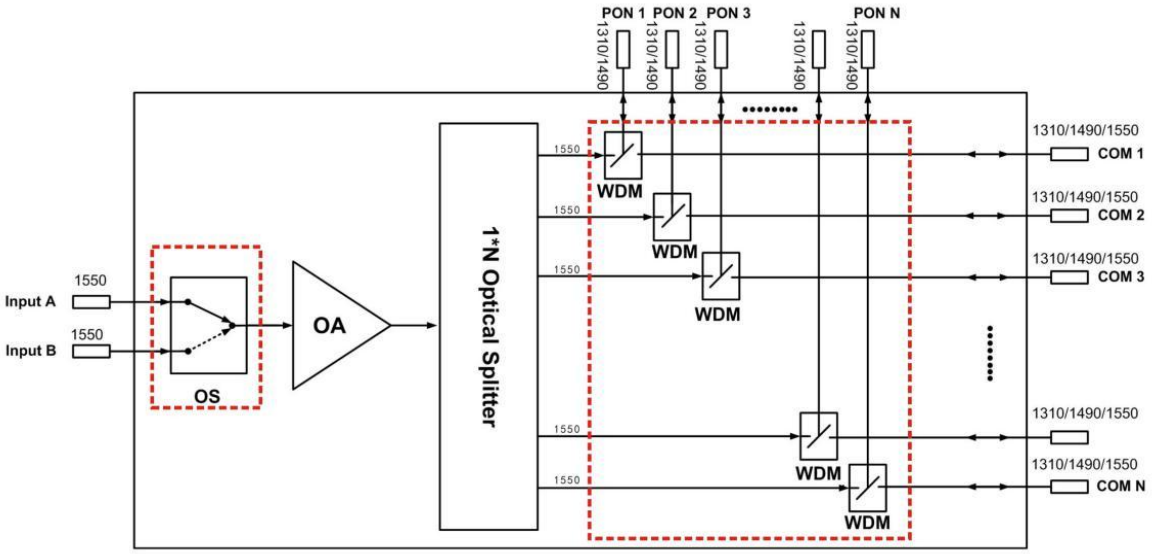
1. Product Overview

The WE-1550-HT2 optical amplifier uses high-performance Er-Yb co-doped double-clad fiber and low noise pump laser. With reliable circuit design and efficient heat dissipation, it is able to operate in the temperature ranging from -30°C to +65°C that can be applied in harsh outdoor environment. The equipment can be equipped with optical switch, CWDM or RF detection to be suitable for transmission of CATV RF signal and IP signal in FTTH network.

2. Performance Characteristics

- Adopt Er-Yb co-doped double-clad fiber.
- 8, 16 or 32 output ports are optional.
- Optional optical switch, CWDM or RF detection.
- Constant power mode or constant current mode can be set.
- Support WEB network management.
- Parameter monitoring of optical power and pump laser.
- Fan alarm function and hot swap available.
- Support hot swap of the air inlet dust screen.
- Single or dual power supplies are optional and hot swap available.
- Low noise figure: less than 5.5dB at 0dBm input.
- Standard SNMP for remote control and management.
- Operating temperature range: -30~ +65°C.

3. Block Diagram

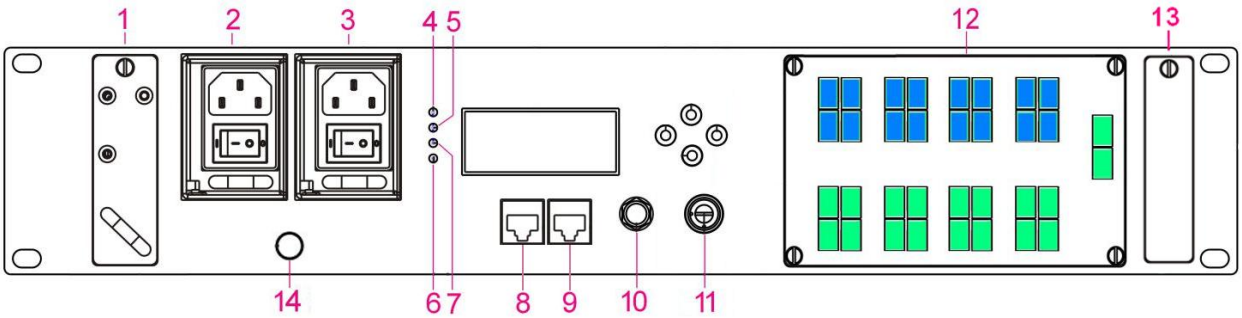


Note: The part in dashed box is optional.

4. Technical Parameters

Item	Unit	Technical Parameters	Note
EDFA Part			
Operating wavelength	nm	1545～1565nm	
Optical input power	dBm	-10～+10	
Optical output power per port	dBm	Max:20	
Output power stability	dB	≤ ±0.3	
Noise figure	dB	≤ 5.5	0dBm input
Return loss	dB	≥50	
Pump leakage power	dB	≤ -30	
Polarization Dependent Gain	dB	＜0.4	
Polarization Mode Dispersion	Ps	＜0.5	
Optical power adjustable range	dB	3	Step 0.1dB
Optical connector type		SC/APC, LC/APC, E2000	
Optical output power mode		Constant power / constant current	User configurable
Optical input signal loss		Automatic protection	
Built-in WDM (Optional)			
Operating wavelength	nm	1310/1490	
PON port insertion loss	dB	≤ 0.8	
Isolation	dB	≥ 30: 1310&1490～ 1550 nm	
Built-in Optical Switch (Optional)			
Number of input ports		2	
Insertion loss	dB	≤ 1.0	
Switching time	ms	≤ 500	
General Characteristics			
Storage temperature range	ºC	-30~+70	
Operating temperature range	ºC	-30~ +65	
Operating relative humidity	%	Max 95% no condensation	
Power voltage	V	DC: -72~ -36 AC: 100~240/50-60Hz	Output DC 5.4V 10A
Total power consumption	W	50	
Protection level		IP40	
Dimensions	mm	483 (L) x 240 (W) x 88 (H)	2U standard height
Weight	Kg	6	

5. Structure Description



No.	Item	Note
1	Fan module	Support hot swap.
2	Power supply module 1	Support hot swap.
3	Power supply module 2	Support hot swap.
4	Power Indicator	Yellow: single power supply Green: dual power supplies Red light flashes: power alarm
5	Optical input power indicator	Green: optical power is between -10dBm and +10dBm. Red light flashing: optical power alarm
6	Optical output power indicator	Green: optical output power is normal. Red light flashing: optical output power alarm
7	Pump working status indicator	Green: the pump is working properly. Red light flashing: The machine has a fault alarm. For details, see the alarm menu.
8	RS232 interface	
9	RJ45 interface	
10	RF test port	Output port for test; optional.
11	Pump laser switch key	ON: On, OFF: Off. Before the device is powered on, please confirm the key is in the OFF position. After the device passes the self-test, turn the key to the ON position according to the hint information.
12	Optical signal connectors	Be different with different configuration. Please refer to the print.
13	Dustproof screen	Can be replaced on site
14	Ground stud of the chassis	Chassis to ground

6. Operation Instructions of the Display Menu

▲▼ key: The cursor can be moved left or right or up and down, and the selected module or menu is highlighted.

Enter key: Press **Enter** to enter the next submenu or set the parameters in the submenu. Press **Enter** to confirm.

ESC key: Exit or return to the previous menu.

Startup screen

XXXXXX	logo
XXXXXX	model
XXXXXX	startup countdown/lock status

Standby screen

In: xx.x out: xx.x Unit: dBm	Optical input or output power Unit

Parameter display submenu

Input Power: dBm	Input power, accurate to 0.1 dBm
Output Power: dBm	Output power, accurate to 0.1 dBm

PreEDFA Power: dBm	The first stage amplification. EDFA optical output power, accurate to 0.1 dBm
Pump1 Bias: mA	Bias current of pump1, accurate to 1 mA
Pump1 Temper: ℃	Temperature of pump1, accurate to 0.1°C
Pump1 Tec: mA	Cooling current of pump1, accurate to 1 mA
Pump2 Bias: mA	Bias current of pump2, accurate to 1 mA
Pump2 Temper: ℃	Temperature of pump2, accurate to 0.1°C
+5V Read: V	+5V power supply voltage , accurate to 0.1 V
System Temper: ℃	Device temperature, accurate to 0.1 °C
SN:	Serial number
Ip Addr:	Ip address
Mask:	Subnet mask
Gateway:	Gateway
Mac:	Physical address
Trap Addr1:	trap1 address
Trap Addr2:	trap2 address
NTP Addr1	NTP server1 address
NTP Addr2	NTP server2 address
UTC offset	UTC offset
Software Version	Firmware version number

Parameter set sub menu

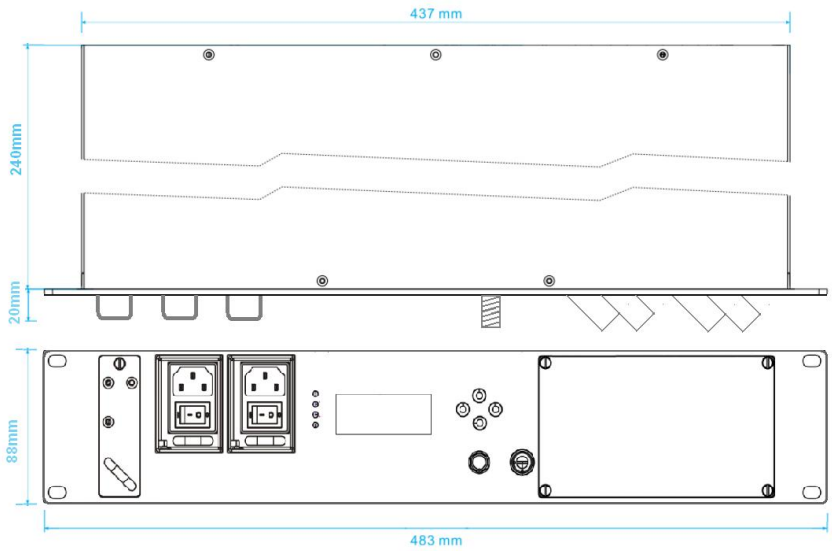
Low Input Threshold	Set low alarm threshold of optical input power, range: -10.0～10.0dBm
High Input Threshold	Set high alarm threshold of optical input power, range: -10.0～10.0dBm
Set EDFA Mode	APC or ACC
Set Output Power	Set optical output power
Set IP Addr	Set IP address
Set Mask	Set subnet mask
Set Gateway	Set gateway
Set Trap1 Address	Set trap1
Set Trap2 Address	Set trap2
Set NTP Server1	Set NTP server1
Set NTP Server2	Set NTP server2
Set Buzzer Switch	Set buzzer switch
Restore Factory Config	Restore the factory default configuration, set content as shown above.

Parameter alarm submenu

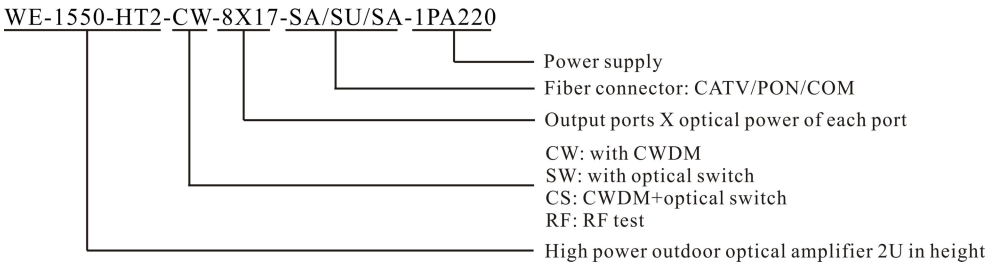
Input Status: xxx	xxx= Lolow:	Very low optical input power alarm
	xxx= Low:	Low optical input power alarm
	xxx= High:	High optical input power alarm
	Xxx= Hihigh:	Very high optical input power alarm
Output Status: xxx	xxx= Lolow:	Very low optical output power alarm
	xxx= Low:	Low optical output power alarm

	xxx= High:	High optical output power alarm
	Xxx= Hihigh:	Very high optical output power alarm
System Temperature: xxx	xxx= Lolow:	Very low device temperature alarm
	xxx= Low:	Low device temperature alarm
	xxx= High:	High device temperature alarm
	Xxx= Hihigh:	Very high device temperature alarm
Pumpx Bias: xxx	xxx= Lolow:	Very low bias current alarm of pump x
	xxx= Low:	Low bias current alarm of pump x
	xxx= High:	High bias current alarm of pump x
	Xxx= Hihigh:	Very high bias current alarm of pump x
Pumpx Temperature: xxx	xxx=Lolow:	Very low temperature alarm of pump x
	xxx= Low:	Low temperature alarm of pump x
	xxx= High:	High temperature alarm of pump x
	Xxx= Hihigh:	Very high temperature alarm of pump x
Pump1 Tec: xxx	xxx=Lolow:	Very low cooling current alarm of pump 1
	xxx= Low:	Low cooling current alarm of pump 1
	xxx= High:	High cooling current alarm of pump 1
	Xxx= Hihigh:	Very high cooling current alarm of pump 1
Power Supply Voltage: xxx	xxx= Lolow:	Very low +5V DC power supply alarm
	xxx= Low:	Low +5V DC power supply alarm
	xxx= High:	High +5V DC power supply alarm
	Xxx= Hihigh:	Very high +5V DC power supply alarm
Fan	Offline	Cooling fan is offline
Fan	Fan1 invalid	Fan1 is invalid
	Fan2 invalid	Fan2 is invalid
	Fan3 invalid	Fan3 is invalid
	Fan4 invalid	Fan4 is invalid
Invalid Power	Left	Left power supply is invalid
	Right	Right power supply is invalid

7. Dimension



8. Naming Specification



9. Attention

- Insure the package is not defaced. If you think the equipment has been damaged, please don't electrify to avoid worse damage or do harm to the operator.
- Before the equipment is power on, make sure the housing and the power socket is reliably grounded. The grounding resistance should be <4Ω, so as to effectively protect against surges and static electricity.
- Optical amplifier is professional equipment. Its installation and debugging must be operated by special technician. Read this manual carefully before operating to avoid damage to equipment caused by fault operation or accident harm to the operator.
- While the optical transmitter is working or debugged, there is an invisible laser beam from the optical output adapter on the front panel. Avoiding permanent harm to the body and eye, the optical output should not aim at the human body and people should not look directly at the optical output with the naked eye!
- The ventilation holes on the two sides shouldn’t be obstructed or the performance will reduce or the equipment will be damaged in serve case.
- When the fiber connector is not in use, it should be put on the dust jacket to avoid dust pollution and keep the fiber tip clean.

For the network management software manual and Web network management instructions, please ask the sales manager for them!