

EDFA



1550nm High Power PON EDFA

User's Manual

MODEL: EDFA1550 Series

Contents

1. Features	2
1.1 Product Features.....	2
2. Installation	2
2.1 Before Installation.....	2
2.2 Installation.....	3
3. Set and Operation	3~7
3.1 Technical Parameters.....	3
3.2 Front Panel Guide.....	5
3.2.1 LCD Display.....	5
3.2.2 Laser In.....	5
3.2.3 Laser Out.....	5
3.2.4 Power.....	5
3.2.5 Laser IN Light.....	5
3.2.6 Laser OUT Light.....	5
3.2.7 Status Button.....	5
3.2.8 Function Switch.....	5
3.2.8.1 Model.....	6
3.2.8.2 Output Power.....	6
3.2.8.3 Bias Current.....	6
3.2.8.4 Laser Temp.....	6
3.2.8.5 Cooling or heating Current.....	6
3.2.8.6 +5V Test.....	6
3.2.8.7 -5V Test.....	6
3.2.8.8 SN.....	6
3.2.8.9 Address Code.....	6
3.3 Rear Panel.....	7
3.3.1 RS232 Port.....	7
3.3.2 RS485Port.....	7
3.3.3 RJ45 Port.....	7
3.3.4 Power Supply.....	7
3.3.5 Power Socket.....	7
4. Notes	7~8
5. Normal Trouble	8~9
6. Warranty Terms	9~10

1. Features

1.1 Products Features

1.1.1 Each output port for optical amplifier has built-in well-performed CWDM. Every external up-link optical port of optical amplifier can connect with OLT PON port very conveniently in the front panel

1.1.2 Double cooling system to protect the pump laser.

1.1.3 RJ45 Port for Plug-in SNMP system can realize remote management at any time.

1.1.4 Standard RS232 and RS485 Port.

1.1.5 Adopting JDSU, Bookham and Fitel laser.

1.1.6 LCD displays the parameters, functions and trouble alarm.

1.1.7 Switch power supply can work in the range of 90V ~ 265V AC or -48V DC .

2. Instillation

2.1 Preparation before shipment

2.1.1 Please check the machine if there is any damage.

2.1.2 Please check if the accessories are the complete.

2.2 Installation

2.2.1 Please keep space of 4.5cm in the shell for cooling.

2.2.2 Please check the power socket and make sure it is well earthed.

And the earthed impedance should be less than 4Ω , otherwise the amplifier maybe damaged or the signal quality maybe influenced.

2.2.3 Please make sure to put the power button OFF before connect the power cable.

2.2.4 Please make the fiber clear before connecting it.

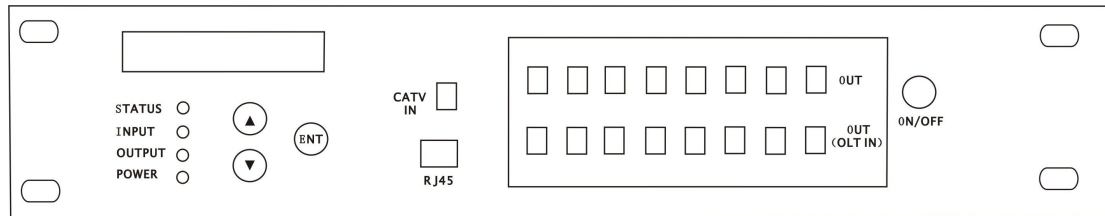
3. Set and Operation

Parameter Items	25	26	27	28	29	30	31	32	33	34	35	36
Output Power (dBm)	25	26	27	28	29	30	31	32	33	34	35	36
Output Power (mW)	320	400	500	640	800	1000	1280	1600	2000	2560	3200	4000
Input Power(dBm)	-3~10											
Wavelength (nm)	1530~1565											
Output Sability(dB)	$\leq \pm 0.2$											
PEDFArization Sensitivity (dB)	< 0.2											
PEDFArization model Dispersion (PS)	< 0.5											
Optical Return Loss (dB)	≥ 45											
Fiber Connetor	FC/APC、SC/APC											
Noise Figure (dB)	$< 5.0(0\text{dBm Input})$											
Network Management Port	RJ45(SNMP)、RS232、RS485											
Power Consumption (W)	50~100											
Working Voltage (V)	220VAC(90~265)、-48DCV											
Working Temp (°C)	-20~85											
Size (mm)	530(L)×486(W)×88(H)											
Weight (Kg)	8.0											

3.2 Products Series

Total Output (dBm)	Total Output (mW)	Output No	Each Outputs (dBm)
26	400	4	18.5
		8	15.0
27	500	4	19.5
		8	16.0
28	630	4	20.5
		8	17.0
29	800	4	21.5
		8	18.0
30	1000	8	19.0
		16	15.5
31	1250	8	20.0
		16	16.5
32	1600	8	21.0
		16	17.5
33	2000	8	22.0
		16	18.5
34	2500	16	19.5
		32	16.0
35	3200	16	20.5
		32	17.0
36	4000	16	21.5
		32	18.0
37	5000	16	22.5
		32	19.0

3.2 Front Panel Guide



3.2.1 VFD (LED) Screen

It dispels the parameters of the optical amplifier. There is several second's delay after the power connected. When the light turn from red to green, the machine begin to work. If the light is still red and the screen shows READY:KEY OFF, this means the power connected but no optical input.

3.2.2 CATV In

The optical input

3.2.3 Out

The Optical Output

3.2.4 Power

Turn to green after connected

3.2.5 Laser In

Green means the machine is working properly

3.2.6 Laser Out light

Green means output is properly, the light turn off if no optical out.

3.2.7 Status Light

Green light means the amplifier is working, red means no output or trouble, at the same time the screen will display the trouble information.

3.2.8 ENT button

Press this button to see the parameters in the screen.

3.2.8.1 Model number

3.2.8.2 OUTPUT This output is the value tested after the pump laser out

3.2.8.3 BIAS

The bias current of pump laser. If the value comes out of the set value, the machine will shine.

3.2.8.4 Laser Temp (TEMP)

The laser works between 20°C and 30°C, if the tested value comes out of this range, the machine will warm.

3.2.8.5 Cooling/Heating Current (HEATING)

This displays the working current of the pump laser(mA) when the pump laser is cooling or heating, The best working temp of the pump laser is 25°C, if higher or lower, the power laser will begin to heat or cool.

3.2.8.6 + 5V test (READS)

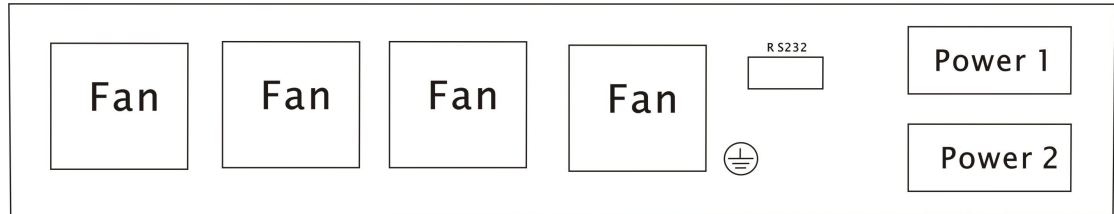
3.2.6.7 - 5V Test (READS)

3.2.8.8 SN: Series Number

3.2.8.9 Address Code

Can be set by RJ 45 port

3.3 Rear Panel Guide



3.3.1 RS232 Port

For local computer network management.

3.3.2 RS485 Port

For remote computer network management.

3.3.3 RJ45 Port

SNMP, for remote computer network management.

3.3.4 Power Switch

3.3.5 Power Socket

AC220V or DC-48V power input.

4. Notes

1. The main component of the amplifier laser is sensitive to the static electricity, so please keep the amplifier away from the static electricity. Furthermore, please keep it away from caustic things. Please keep the amplifier in temperature between -25°C and 65°C .
2. Because big power may damage the output port, so it is advised to split to more than 4 outputs.

3. Please don't now attempt to look into the optical connectors when power applied, eye damage may result.
4. Please don't block up the heating dispersion hole and keep the machine aired.
5. Please don't unfold the machine or remove any parts of the machine.
6. Please don't insert the connectors when the power is on.
7. Please don't test the EDFA more than 5 times.
8. Big power may damage the output port, so it is advised to split to more than 2 outputs.
9. Input power influences C/N, so advised input value is 4dBm.

Input and C/N

Input (dBm)	7	6	5	4	3	2	1	0	-1	-2	-3
C/N (dB)	52.	52.	52.	51.	51.	50.	50.	49.	48.	48.	47.

5. Solution to some ordinary problem

5.1 Power supply light STATUS: green

LED light LASER: red

VFD display: NO LASER INPUT

Reason: NO 1550nm optical input

Solution: Input 1550nm optical signal

5.2 In VFD screen it displays the output value from the pigtail from pump laser, if the tested value is lower than screen.

Reason: 1. The output of amplifier is out of the range of optical meter

2. the input optical power is out of the requested value(-3~10dB).

3. Too big loss in the test pigtail.

4. There is dust in the connectors.

5. The wavelength of the transmitter is big different from 1550nm will make the output value down.

Solution:

Use absolute alcohol to wash the all the connects and the test point of optical meter.

Note:

1. Don't use Chinese optical meter to test EDFA.

2. Don't test EDFA with pigtail again and again, it will hurt the fiber connector and make the factual power become smaller.

6. Warranty Terms

EDFA1550 Series optical amplifiers are covered by TWO YEAR LIMITED WARRANTY, which starts from the initial date of your

purchase. We provide its customer whole-life technical supports. If warranty is expired, repair service only charges parts (if required). In the event that a unit must be returned for service, before returning the unit, please be advised that:

1. Warranty mark pasted on the housing of unit must be in good conditions.
2. A clear and readable material describes model number, serial number and troubles should be offered.
3. Please pack the unit in its original container. If the original container is no longer available, please pack the unit in at least 3 inches of shock absorbing material.

NOTE: we do not assume responsibility for damage caused by improper packing of returned unit(s).

The following situation is not covered by warranty:

1. The unit fails to perform because of operators' faults.
2. Warranty mark is modified, damaged and/or removed.
3. Damage caused by Force Majuro.
4. The unit has been unauthorized alteration and/or repaired.
5. Other troubles caused by operators' faults.