
1550nm Outdoor Erbium- Doped Fiber Amplifier

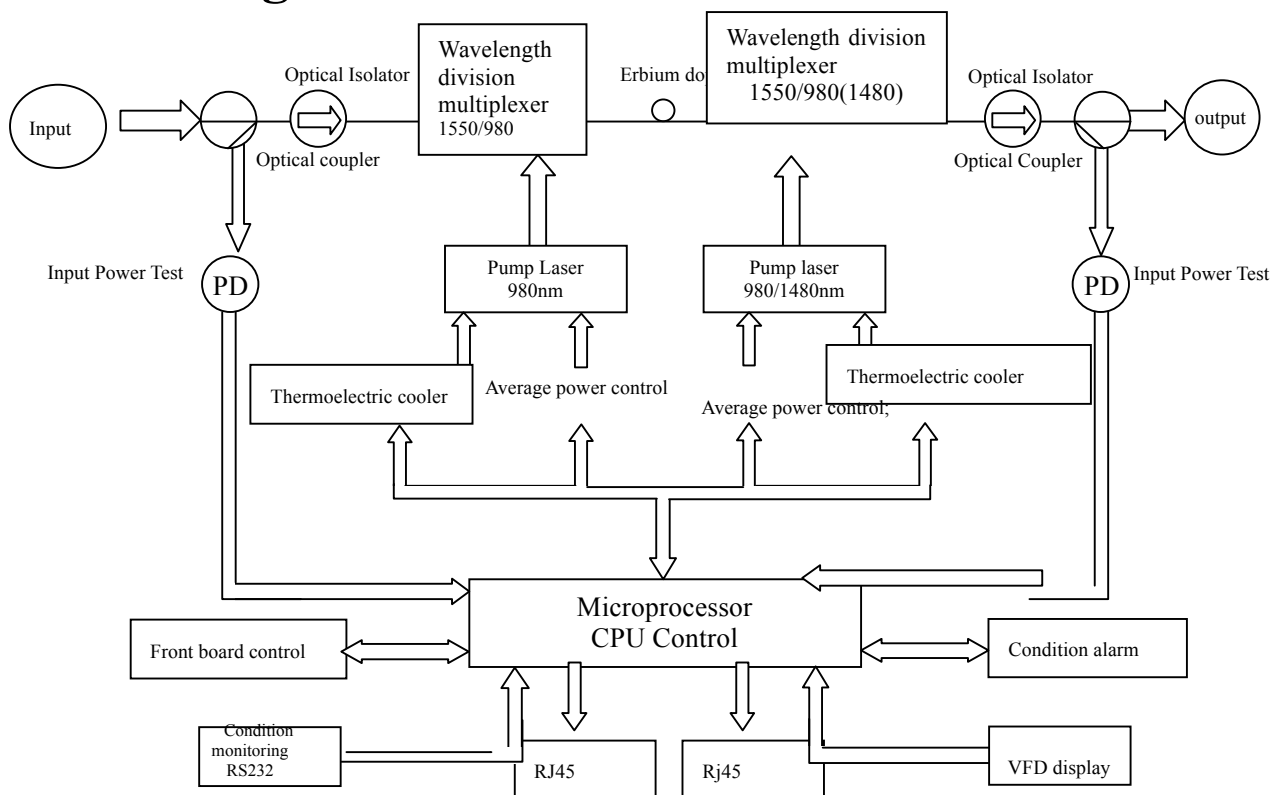


User's Manual

I. Features

- 1) Adopts JDSU, Fitel and Bookham Pump laser
- 2) Adopts OFS Erbium-Doped fiber.
- 3) Good water-proof design.
- 4) Double cooling system can protect the pump laser to work in a long time
- 5) RJ45 and RS 232 port, SNMP management system.
- 6) Good stability, VFD displays the working conditions, good trouble alarm system.

II. Diagram



III. Technical Parameters

Model	-14	-15	-16	-17	-18	-19	-20	-21	-22	-23	-24
Output Power (dBm)	14	15	16	17	18	19	20	21	22	23	24
Input power(dBm)	-3~+10										
Wavelength (nm)	1535~1565										
Output power stability (dB)	<±0.2										
Bias oscillation sensitivity (dB)	<0.2										
Bias oscillation dispersion (PS)	<0.5										
C/N	≥50										
CSO	≥63										
CTB	≥63										
Optical return loss(dB)	>45										
Fiber connector	FC/APC、SC/APC										
Noise ratio (dB)	<5.0(0dBm optical input)										
connector	RS232 orRS485										
Power loss (W)	50										
Working Voltage (V)	220V(110~240)、DC-48V										
Working Temp (°C)	0~40										
Storage Temp (°C)	-40~+65										
Size (mm)	430(L)×250(W)×160(H)										

IV. Important Notes

1. Please avoid the to face the output directly, avoid the eyes to see the output without protection.
2. Please turn off the power first then plug in or out the patch cord
3. EDFA has very small influence on CSO and CTB, but has big influence in C/N. The input optical power influence the C/N. High optical input gets higher C/N. Please see the following data. The minimum optical input should be 4dBm.

C/N and Optical Input

Optical In (dBm)	7	6	5	4	3	2	1	0	-1	-2	-3
C/N(dBm)	52.4	52.2	52.0	51.6	51.1	50.6	50.1	49.5	48.8	48.1	47.3

V. Normal Trouble Solution

Trouble 1:

The display in screen of the EDFA shows the correct output of the pump laser, but test result in the output is lower than showed, please check as the following steps.

1. Check the optical meter. Because of the high out of EDFA, please don't use Chinese optical meter to test the EDFA, the advised one is EXFO.
2. The output adaptor burnt.
3. The operator plug in and out the patch cord when the power on, this will burnt the output pigtail connector and make the output lower. The solution is to splice a new the pigtail connector.
4. Some operators use the bad quality patch cord and its fiber core is too long, after connected, it will hurts the pigtail of pump laser output. In this condition, in the first test, the output is correct, but in the second time, the output becomes lower. The solution is also to splice a new pigtail connector.
5. The wavelength of the input deviates far from 1550nm, it will make both the output port and screen show lower.
6. Too low input will make both the output and screen show lower.

VI. Precautions:

1. Before installation or operation of unit, please carefully go through the user's manual
2. EDFA should be serviced only by qualified personnel.
3. Before proceeding with installation and/or operation of transmitter, please assure that transmitter is well earthed.
4. EDFA are Class III laser products. Use of controls, adjustments, and procedures other than those specified herein may result in hazardous laser radiation exposure.

VII. Warranty Term

EDFA are covered by **ONE YEARS 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.

- Returned unit(s) must be prepaid and insured. COD and freight collect can not be acceptable.

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

The following situation is not covered by warranty:

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

Conversion of Optical Power

mW	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
dBm	0.0	3.0	4.8	6.0	7.0	7.8	8.5	9.0	9.5	10.0	10.4	10.8	11.1	11.5	11.8	12.0
mW	17	18	19	20	21	22	25	32	40	50	63	80	100	125	160	200
dBm	12.3	12.5	12.8	13.0	13.2	13.4	14	15	16	17	18	19	20	21	22	23
mW	250	320	400	500	640	800	1000	1280	1600	2000	2560	3200	4000			
dBm	24	25	26	27	28	29	30	31	32	33	34	35	36			

$$10 \times (\text{Log of value in mW}) = \text{value in dBm}$$