SOFTEL

1550nm High Power Multi Ports PON EYDFA

Model: SPA-XX-TS Series

Technical Specifications

Contents

I.   Products Overview

SPA-XX-TS Series 1550nm high power fiber amplifier adopts two-stage amplification, the first stage adopts low-noise EDFA, the second stage adopts high-power EYDFA, the total output optical power can reach 37dBm. It can replace several or dozens of EDFA, which can greatly reduce the cost of network building and maintenance and reduce the space of head-end. Each output port is built in with CWDM to multiplex CATV signal and OLT PON Data flow. The device will play an increasingly important role in the process of continuous extension and expansion of optical fiber network. It provides a high stability but low cost solution for the triple-play and large area coverage of FTTH.

Optional dual fiber inputs, in fact, built-in with a set of complete optical switch system , which can be used as the backup of A and B optical path. When the main optical line fails or lower than the threshold value, the device will automatically switch to the standby optical line to ensure the continuous operating of the device. The product is mainly used in optical fiber ring network or redundant backup network, It is featured in short switching time (< 8ms), low loss (< 0.8dbm), and   can be forced manually switched.

Instead of the button-type operation way, it is equipped with a super comprehensive touch-sensitive display LCD, equipped with a intelligent exclusive operation interface, with easy-to-understand pictures, icons and layout, users can easily and conveniently operate the device without the manual.

The core components adopts the top brand pump laser and double cladding active fiber. The optimized optical circuit design and manufacturing process ensure the best optical performance. The perfect electronic controlled APC (automatic power control), ACC (automatic current control) and ATC (automatic temperature control) are adopted to ensure high stability and reliability of output power, as well as excellent optical performance.

MPU (microprocessor) with high stability and precision is adopted in the system. The optimized thermal structure design , good ventilation and heat dissipation design ensure the long life and high reliability of the device. Based on the powerful network management function of TCP/IP protocol, network monitoring and head-end management can be carried out for the status of multiple node equipment through RJ45 network management interface, supporting multiple power supply redundancy configurations, which improved the practicability and reliability of the device.

II.　Features

2.1 2 Adopting a full touch screen operating system, it can display　rich contents including each index in detail and intuitively, so that it is clear at a glance, simple operation, what you see is what you get, users can operate the device simply and conveniently without the manual. A maintenance button that rapid drops 6dB is added to the main menu. This function can rapidly reduce 6dBm in each port (≤18dBm output), and it can avoid the fiber core of

the patch to be burnt when it plugged in and out l. After maintenance, it Can quickly restore to the original working state.

2.2 It adopts the top brand pump laser and double cladding active fiber.

2.3 Each output port is built in with CWDM.

2.4 Compatible with any FTTx PON：EPON、GPON、10GPON.

2.5 Perfect APC, ACC, ATC and AGC optical circuit design ensures low noise, high output and high reliability of the device in the whole operating band (1545 ~ 1565nm). Users can switch APC, ACC and AGC functions according to actual needs.

2.6 It has the function of automatic protection of low input or no input. When the input optical power is lower than the set value, the laser will automatically shut down to protect the operating safety of the device.

2.7 Output adjustable, adjustment range : 0~-4dBm.

2.8 RF test in the front panel(optional).

2.9 The switching time of optical switch is short and the loss is small. It has the functions of automatic switching and forced manual switching.

2.10 Built- in dual power supply, automatically switched and hot plug supported.

2.11 The operating parameters of the whole machine are controlled by microprocessor, and the LCD status display on the front panel has many functions such as laser status monitoring, parameter display, fault alarm, network management, etc.; once the operating parameters of the laser deviate

from the allowed range set by the software, the system will alarm promptly.

2.12 Standard RJ45 interface is provided, supporting SNMP and WEB remote network management.

III. Main Technical Index

Category	Items	Unit	Index			Remarks
			Min.	Typ.	Max.	
Optical Index	CATV Operating Wavelength	nm	1545		1565	
	OLT PON Pass Wavelength	nm	1310/1490			
	Optical Input Range	dBm	-10		+10	
	Output Power	dBm			41	1dBm interval
	No. of OLT PON Ports				32	SC/PC
					64	LC/PC
	No. of COM Ports				32	SC/APC
					64	LC/APC
	CATV Pass Loss	dB			0.8	
	OLT Pass Loss	dB			0.8	
	Output Adjustment Range	dB	-4		0	0.1dB each step
	Output Ports Uniformity	dB			0.7	
	Output Power Stability	dB			0.3	
	Isolation between CATV	dB	40			

|		Unit				
	and OLT					
	Switching Time of Optical Switch	ms			8.0	Optional
	Insertion Loss of Optical Switch	dB			0.8	Optional
	Noise Figure	dB			6.0	Pin: 0dBm
	PDL	dB			0.3	(PDL)
	PDG	dB			0.4	(PDG)
	PMD	ps			0.3	(PMD)
	Remnant Pump Power	dBm			-30	
	Optical Return Loss	dB	45			
	Fiber Connector		SC/APC			FC/APC,LC/APC
General Index	RF Test	dBµV	78		82	Optional
	Network Management Interface		SNMP,WEB supported			
	Power Supply	V	90		265	AC
			-72		-36	DC
	Power Consumption	W			100	Dual power supply、Output 40dBm
	Operating Temp	℃	-5		+65	
	Storage Temp	℃	-40		+85	
	Operating Relative Humidity	%	5		95	
	Dimension	mm	370×483×88			W、L、H

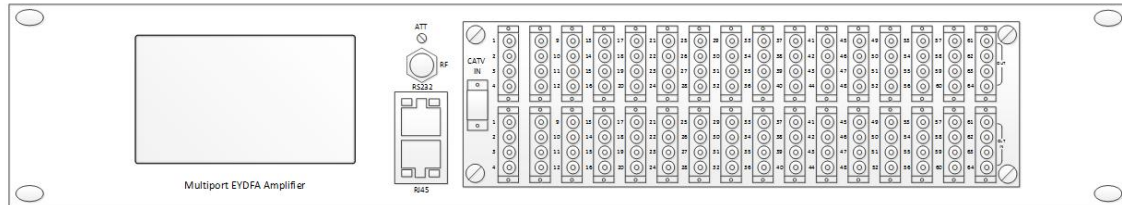|	Weight	Kg	7.5	

IV. Diagram

4.1 Single Input Model
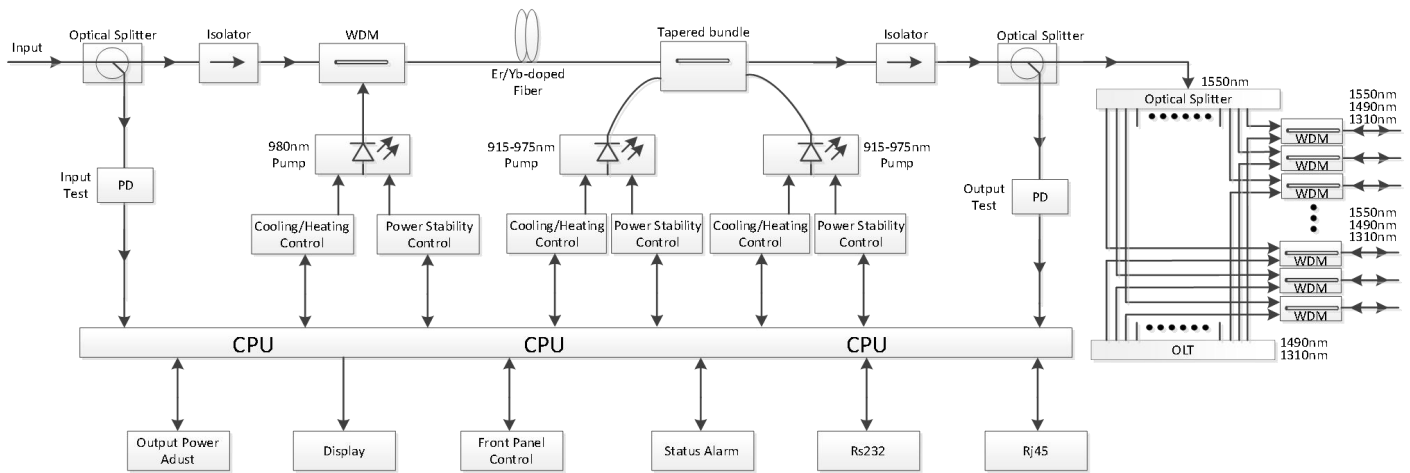
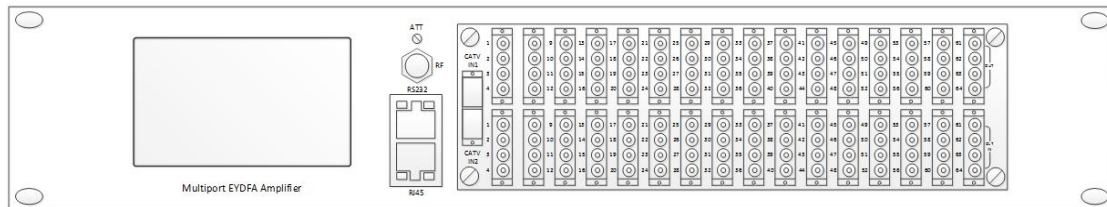## 4.2 Dual Inputs Model (With RF test point)
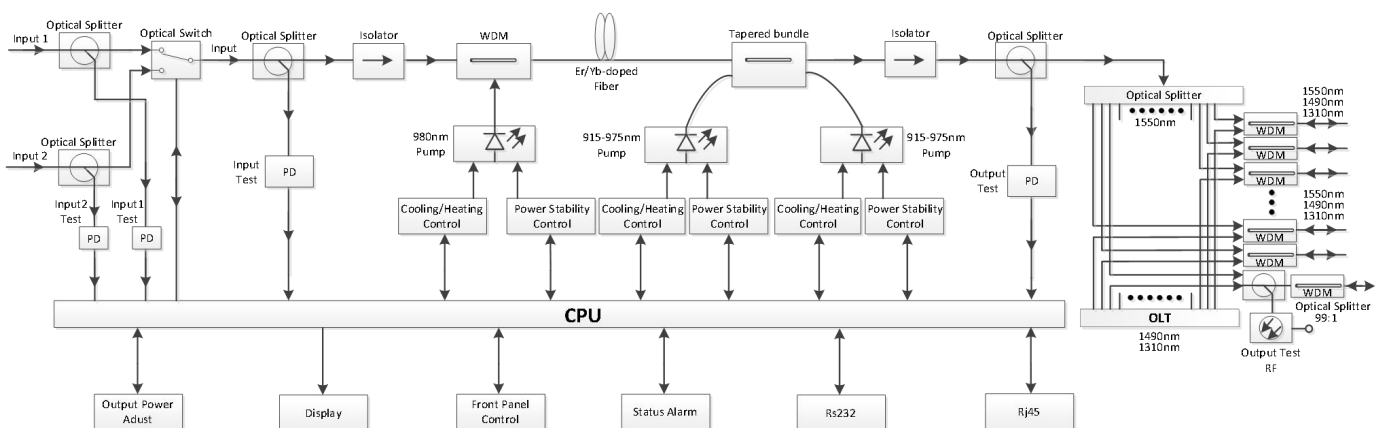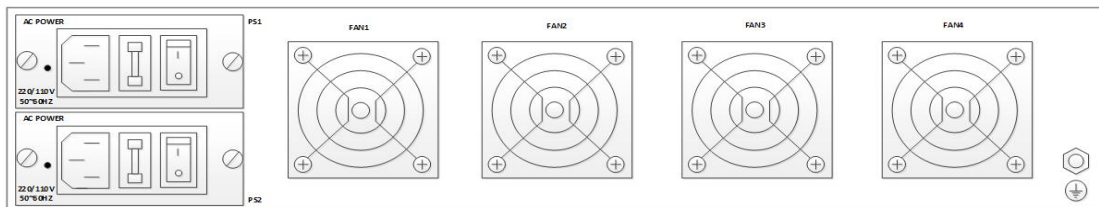
V.   Panel Instructions
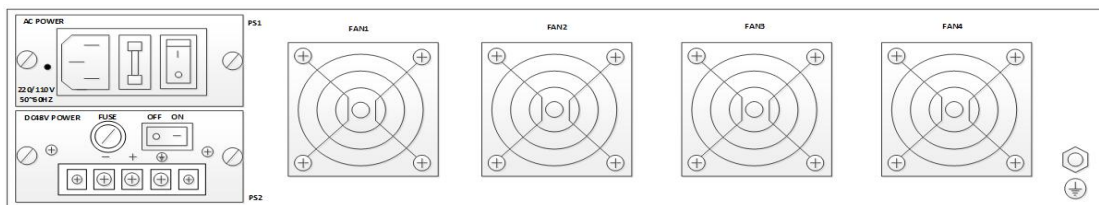
5.1 Front Panel

EYDFA Single Input

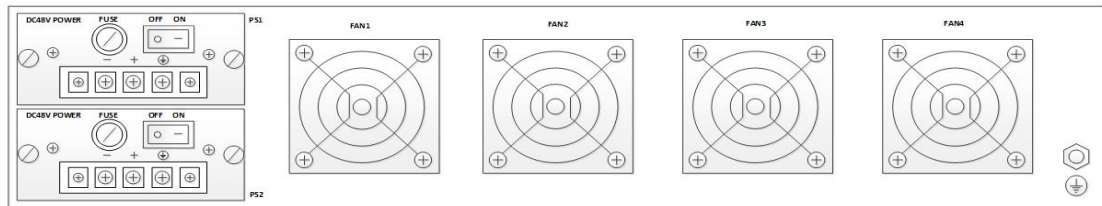EYDFA Dual Inputs (with Optical Switch)

5.2 Rear Panel

5.2.1 Dual 220V/110V

5.2.2 (Dual 220V/110V+-48V)

5.3.2：(Dual-48V)

VI. Applications

1. FTTH、FTTx PON, etc..

2. Network upgrading and capacity expansion based on existing optical fiber resource.

3. IP/QAM data business.