HIGH VISION

PON+CATV WDM EDFA

EDFA COMBINER 16x20 dBm

Content

1. Overview

1.1 overview

FWAP-1550H-16XN series PON CATV EDFA Combiner is a newest PON+CATV FTTH/FTTB triple into one of optical transmitter system equipment, realized combine function of the amplification of optical signal OLT and CATV 1550nm. The optcial input number: 1 port of CATV + 16ports PON input ports, 16ports outputs of 1550nm/1490nm/1310nm combine output. With low noise, high gain, wide bandwidth, high pumping efficiency and stable performance, widely used in CATV systems. With the increasing transport nodes CATV systems, FTTH and FTTB popularity. When used as a cascade EDFA in CATV system, the system C / N will seriously deteriorated, thus requiring EDFA with high saturated output power and low distortion. And EDFA saturated output power is usually between 13dBm ~ 23dBm, the output power limit is about 27dBm. In addition, EDFA gain fiber single-mode single-clad fiber, the pump light is coupled into the fiber core directly, while the fiber core diameter is very small, which requires single-mode pump light. Single-mode semiconductor laser output power of only a few hundred milliwatts, but limited area of the pump, high-power pump light can not be coupled, thereby seriously affecting the fiber laser output power. Faced with this situation, in recent years developed a new type of double-clad fiber internationally. Use cladding pumping technology to overcome the above-mentioned disadvantages of single-clad fiber, so that the output power increased 1-2 level, which greatly promoted the development of high power fiber amplifiers. I through nearly two years of efforts to overcome multiple technical difficulties and then developed for CATV system power erbium ytterbium co-doped double-clad high power fiber amplifier (YEDFA) in order to adapt to the current FTTH, FTTB network demands.

This series of products using JDSU, Lumics, the world's leading semiconductor companies produce high-power multimode pump laser as the pump source. Machine equipped with optical power output stabilizing circuit and laser thermoelectric cooler temperature stabilization control circuit to ensure the best performance and long life stable machine and lasers. Microprocessor software working state of the laser to monitor the operating parameters by a digital panel (LCD) display. Once the laser operating parameters deviate from the permissible range set by the software, the microprocessor will automatically shut off the laser power supply, the red light flashes prompted alarm, digital panel prompts cause of the malfunction. A detailed report of the device parameters, please refer to "Operating Instructions."

1.2 Features

1.2.1) High quality: adopt multimode large power pump laser, power is optimized reasonably by software, and can most unlimited reduce NF of EDFA, it is comparable with EDFA. The feature can make system achieve excellent CNR.
1.2.2) Reliability: The 19 "2U standard rack, built-in high-performance plug-in dual power supply, it can work at 85 ∽ 265Vac City Network Voltage, As well as an optional DC48V power supply (reservations required); chassis cooling can be automatic control by temperature.

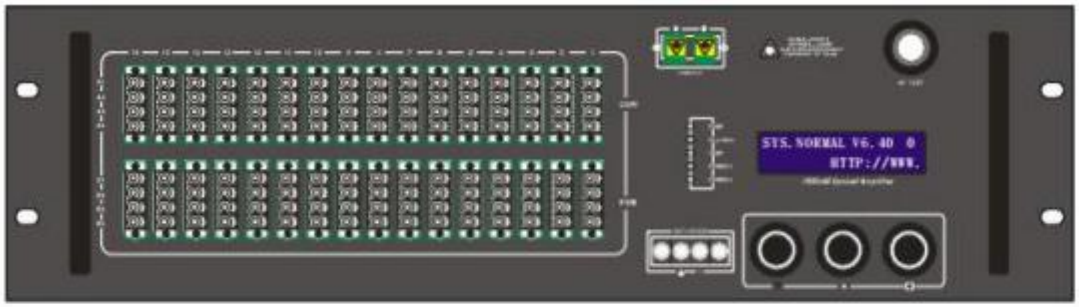
1.2.3) Intuition: The pump laser is the most expensive machine components, machine equipped with microprocessor monitors the working state of the laser, the panel LCD window displays the operating parameters.

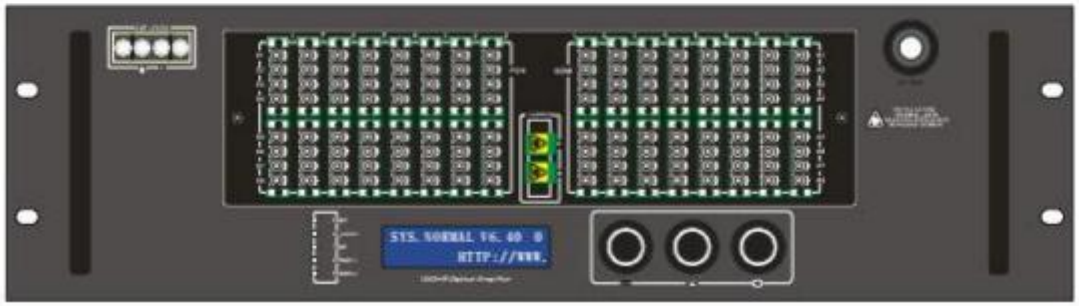
1.2.4) Network type: Select All-piece status monitoring transponder guarantees to meet the national standard and be compatible with the SCTE HMS standard, it enables network management to monitor capabilities.

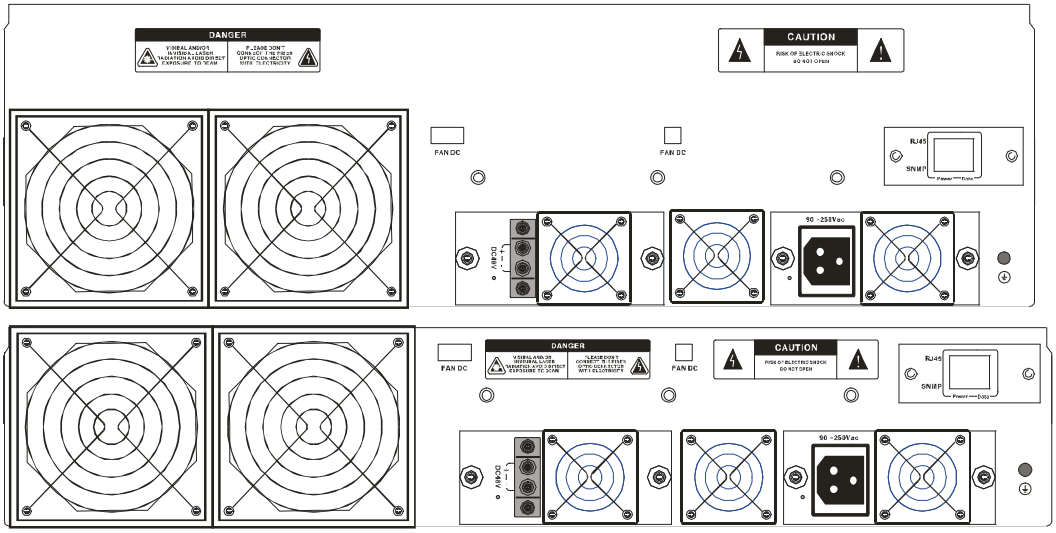
1.2.5）Integrated WDM, more concise in using of GPON.

2. product structure diagram

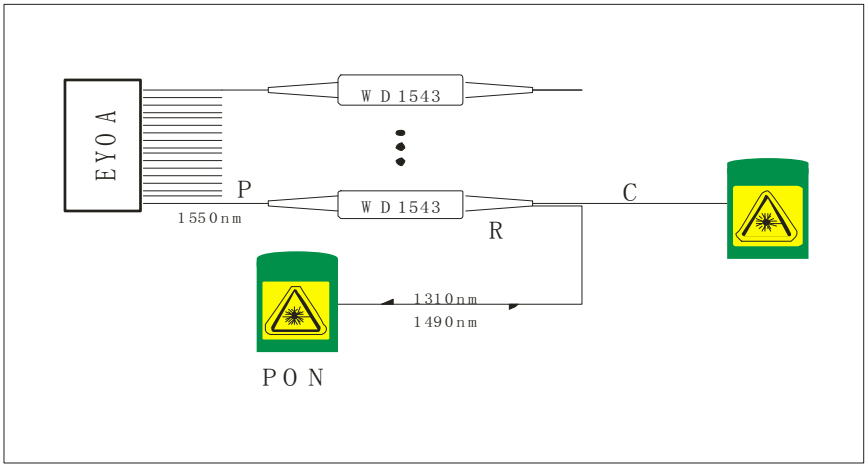
2.1 PON+CATV EDFA front panel, back panel diagram







2.2 schematic diagram



3. Modules main technical indexes

Model / Item	FWAP-1550H-16XN series
Operating wavelength (nM)	1540~1565
Input optical power(dBm)	-10~+10
Nominal input optical power (dBm)	+3
Noise figure (dB) (+3 dBm,@1550nM)	5.0~6.0
Gain flatness(dB)	＜±0.3
Stability of output optical power (dB)	＜±0.5
Polarization sensitivity (dB)	＜0.2
Polarization modal dispersion (ps)	＜0.5
Optical connector(IN)	SC/APC; SC/UPC
Optical connector(OUT)	SC/APC
Pump work quantity (N)	1∽5
Saturated output power (dBm)	20
Power supplies (Vac)	115~265(draw-out plug)
Power supplies (Vdc)	48(draw-out plug)－optional

Operating temperature (℃)	0~50
Size (mm)	2U (88 ×482.6×387)
WDM-PON with optical path	16 ports
PON port operating wavelength (nm)	1310/1490
PON port insertion loss (dB)	＜1
1550 port insertion loss (dB)	＜0.5