

# ROA-4500

## Inter-Stage EDFA for DCM



### Product Description

ROA-4500 optical fiber amplifier is special designed for long distance transmission. In the long distance transmission, CNR distortion and CSO distortion extremely appear in the CATV system induced by dispersion. Dispersion compensation module is coiled with dispersion compensating fiber to optimize the system performance.

The features of dispersion compensating fiber as follows: 1. High insert loss 2. Low nonlinear threshold. So placement is still a problem in CATV system. Placed before the fiber amplifier, due to the larger insertion loss, making the EDFA input power is low, induced system CNR degradation. Placed after fiber amplifier, easily induced the non-linear effect (e.g. such as SBS) for DCF low non-linear threshold and output power high in CATV system.

For solve above issues, RAYCATV developed the fiber amplifier special for dispersion compensation module insertion, which amplify input power below DCF non-linear threshold, then enter dispersion compensating module, finally enter the second stage amplifier, and send signal to transmission fiber.

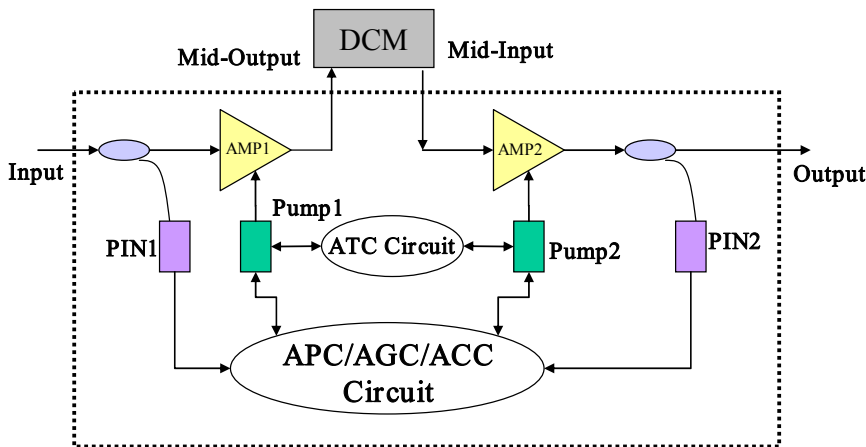
### Application

1. Analog CATV long distance transmission
2. Long Distance System with DCM Module
3. Loss Insertion System such as ADM Insertion

### Features

1. Solve the low CNR with DCM insertion.
2. Solve the low Non-Linear effect threshold of DCM.
3. Low Noise Figure: <4.5dB at 0dBm Input.
4. Ultra-Low CSO: <-70dBc.
5. Redundancy hot swap power: 110V/220V mixed with 48V.
6. High stability and reliability: MTBF>150000 hours.
7. Complete network management interface: Ethernet, RS-485, RS-232 interface.
8. Support Telnet and standard SNMP network management.
9. High Precise AGC and APC Circuit: Typical power control accuracy is  $\pm 0.05\text{dB}$ .
10. ITCS(Intelligent Temperature Control System ): Employ professional temperature control chip which make cooling and power loss reduce 30% than competitors.

## Block Diagram



## Datasheet

Parameter	Unit	Index
<b>Optical Parameter</b>		
Operating Wavelength	nm	1530~1562
Output Power	dBm	13~24
Input Power	dBm	-10~+10
Inter-stage insert loss	dB	15
First Stage Output Power	dBm	+12
Noise Figure	dB	4.5
Output Power Stability	dB	±0.05
Input Isolator	dB	30
Output Isolator	dB	30
Input Pump Leakage	dBm	-35
Output Pump Leakage	dBm	-45
Return Loss	dB	-45
Gain flatness	dB	0.3
Polarization Mode Dispersion	ps	0.5
<b>General Parameter</b>		
Operating Temperature	℃	-5~60
Storage Temperature	℃	-40~80
Humidity	%	10~85
Power Supply	V	110/220VAC, 48VDC
Power Consumption	W	18
Dimension	mm	483×381×44.5
Weight	kg	5