1550nm CATV Erbium Doped Fiber Amplifier · MX-A5400 Series

Technical Specification
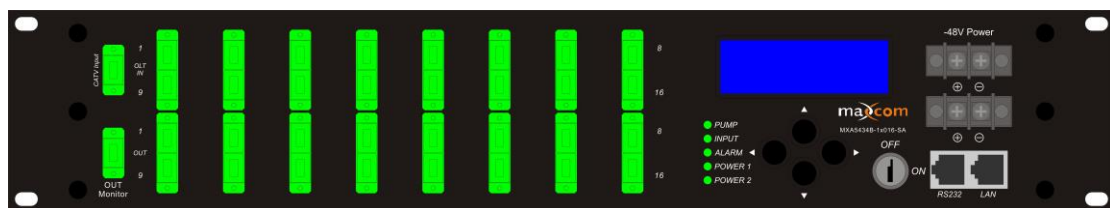

Version A (1 RU)

Version B (2 RU)

CONTENT

1.0   PRODUCT DESCRIPTION

The Maxcom MX-A5400 Erbium Doped Fiber Amplifier (EDFA) has been designed for CATV, FTTH and HFC applications. The EDFA is suitable for long haul transmission networks or FTTH distribution networks. This optical amplifier is packaged in a 19" rack mount housing to provide a complete optical communications solution. Maxcom offers our MX-A5400 platform which can be ordered with 8, 16, 32, 64, 128, 256 and 512 output ports and various output powers.

The output power available is from 16.5 dBm to 23 dBm.

The MX-A5400 series is a high-power multi-port EDFA with a gain spectrum band within 1540~1563nm. It is designed for the application of a single channel or 1~8 continuous ribbon channels (ITU wavelengths). This series of EDFA offers a flexible and low-cost solution for a CATV systems large coverage area.

The MX-A5400 series EDFA's are a high performance, multiple optical output EDFA's designed for analog and digital CATV QAM signals. Maxcom's 1550 optical amplifiers and EDFA's adopt world class pump lasers and American OFS erbium-doped optical fiber components. Excellent APC, ACC and ATC control, superb design in the ventilation and heat-dissipation ensure long life and a highly reliable operation of the pump laser.

The LCD at the front panel offers equipment status and warning alarms. The laser will switch off automatically if optical power is lost, which offers security protection for the laser

MX-A5400(A) EDFA: 1RU chassis, total output power up to 18.5 dBm, offers 8 optical outputs.

MX-A5400(B) EDFA: 2RU chassis, total output power up to 22 dBm, offers up to 32 optical outputs.

(C) version is 3RU with up to 256 ports and the (D) version with up to 5612 output ports available with multiple outputs (see ordering matrix)

The EDFA is designed to extend a 1550 nm CATV system fiber without the need to convert back to RF. Combined with our MX-T8500 series externally-modulated laser transmitter, system ranges of over to 200 km are possible when using multiple EDFA's.

Typically, a fiber CATV system operates in single wavelength that has no strict requirement on gain flatness. The MX-A5400 booster amplifier is featured with low NF and high-saturated output power. It is applicable for Primary Headends, Secondary Headends, Hubs, OTN's and line relay, as well as other optical communication networks. The MX-A5400 is applied commonly and widely compatible with other EDFA's and Transmitters in a CATV system.

2.0   PRODUCT FEATURE

1. 1540~1563nm operating bandwidth for optical amplifier
2. 500~80,000mW (27~49dBm) high output power
3. Low noise figures (Typ ≤4.5dB, Max ≤5.0dB)
4. Built-in low noise pre-amplifier, substantially decrease the CNR, MER degradation of the system
5. high performance, high reliability
6. 8~256 output ports
7. Optional dual optical input, built-in 2 × 1 optical switch
8. Dual power supply option, 1+1 backup
9. RS232, SNMP
10. Efficient space, flexible installation and simple operation
11. Excellent P/P ratio

3.0   MAIN APPLICATION

- AM CATV
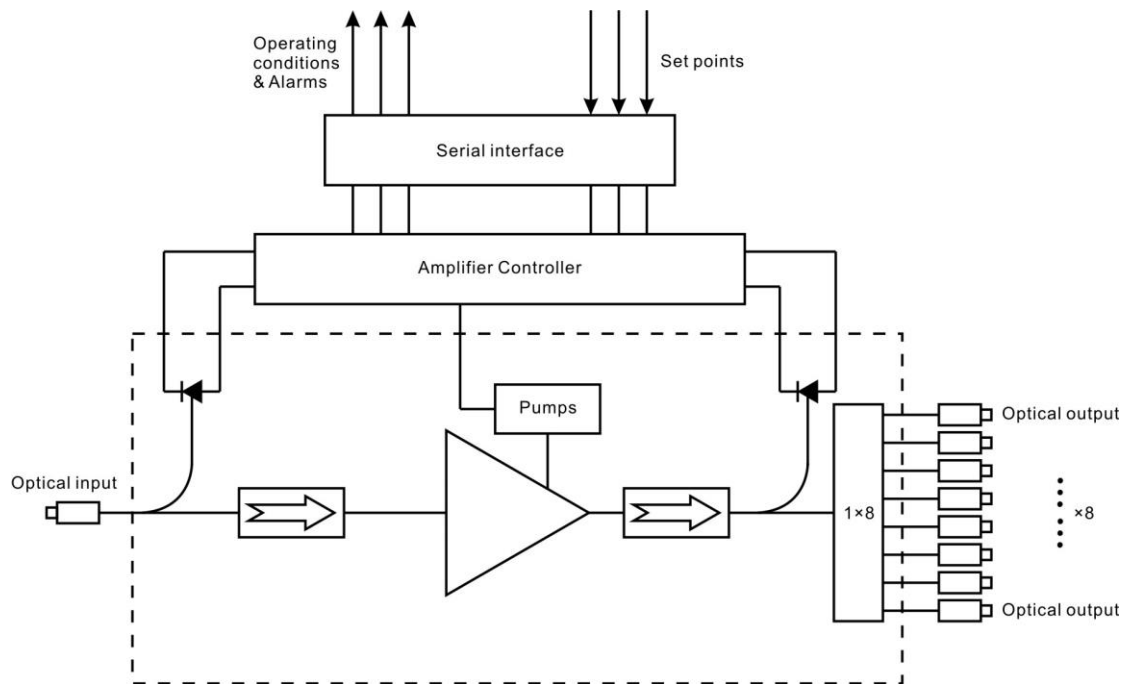- Digital CATV
- RFOG
- FTTx PON

Technical index

Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	Operating wavelength range	(nm)	1540		1563	CATV
	Input power	(dBm)	-10	≥+3	+10	
	Total output power *(1)	(dBm)	27		29	1U
			30		40	2U
	Number of output ports		8		8	1U, SC/APC standard, LC/APC optional
			8		32	2U, SC/APC, LC/APC
	Each port output power	(dBm)	16.5		23	
	Difference of output power	(dB)	-0.5		+0.5	
	Noise figure (Pin=0dBm)	(dB)			6.3	
	Polarization dependence loss	(dB)			0.3	
	Polarization dependence gain	(dB)			0.4	
	Polarization mode dispersion	(ps)			0.3	
	Input/output isolation	(dB)	30			
	Pump power leakage	(dBm)			-30	
	Echo loss	(dB)	55			APC
General feature	Network management interface			RJ45		SNMP
	Series interface			RS232		
	Power supply	(V)	90		265	120VAC standard
			30		72	-48VDC optional
	Power consume	(W)			150	
	Operating temp.	(°C)	-5		65	
	Storage temp.	(°C)	-40		80	
	Operating relative humidity	(%)	5		95	
	Size (W)×(D)×(H)	(")	19×14.5×1.75			1RU (19")
		(")	19×15.4×3.5			2RU (19")

Remark 1: Output power can be customized by user. Final output dependent of # of ports.

4.0 OPTIC/ELECTRICAL SCHEMA

1, Optical port mode 08 (8 ways optical output example)

5.0 Product series samples

Model number MX-	Total output power	Number of output port	Each port output power	Connector
A5427A-08	27dBm(500mW)	8	16.5	SC/APC, LC/APC
A5428A-08	28dBm(630mW)	8	17.5	SC/APC, LC/APC
A5429A-08	29dBm(800mW)	8	18.5	SC/APC, LC/APC
A5430B-08	30dBm(1000mW)	8	19.5	SC/APC, LC/APC
A5431B-08	31dBm(1260mW)	8	20.5	SC/APC, LC/APC
A5432B-16	32dBm(1600mW)	16	18.0	SC/APC, LC/APC
A5433B-16	33dBm(2000mW)	16	19.0	SC/APC, LC/APC
A5434B-16	34dBm(2500mW)	16	20.0	SC/APC, LC/APC
A5435B-16	35dBm(3200mW)	16	21	SC/APC, LC/APC
A5436B-16	36dBm(4000mW)	16	22	SC/APC, LC/APC
A5437B-16	37dBm(5000mW)	16	23	SC/APC, LC/APC
A5438B-32	38dBm(6300mW)	32	20	LC/APC
A5439B-32	39dBm(8000mW)	32	21	LC/APC
A5440B-32	40dBm(10000mW)	32	22	LC/APC

Model Number Ordering Matrix

MXA	5	4	□□	□ -	□ X	□□□ -	□□ -	□ /	□□ -	M□□
Product Series	Operating Wavelength	Production Type	Total Output Power (dBm)	Exterior	Number of Input Ports	Number of output ports	Optical Connector type	Power Option	Power Supply	Output optical port monitor
Model Series	5 1540-1563nm	4 FTTxPON EYDFA	27 27	A 1RU	1 Single Input (without switch)	8 8 ports	LA LC/APC	S Single PS	11 110VAC	00 Without
			28 28	B 2RU	2 Dual Input (With Switch)	16 16 ports	SA SC/APC	D Dual PS	48 -48VDC	M0 With Output Port Monitor
			29 29	C 3RU		32 32 ports		P Dual PS Hot Pluggable	41 -48VDC & 110VAC	
			30 30	E 5RU		64 64 ports				
			31 31			128 124 ports				
			32 32			256 256 ports				
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			49 49							

*Note - Some options only available of certain chassis or models
Please consult with your Maxcom Rep for ordering options

Remark: Please contact us for customization of EDFA if special output power and/or
If additional output port configurations are required.

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