

# 9940 Four Outputs Optical Node

## PRODUCT DESCRIPTION

Optical node is the earliest manufacturing that adopts AUGAT aluminum die-casting to make 4 ports optical communication platform. The platform is gradable and has become the main device that widen HFC subscribers access network. It is widely used in FTTB, FTTC. Its RF output is driven by one power-doubling module. It can be installed with 2 receivers, 4 transmitters and 2 power supplies (main and back-up ), which can improve the system redundancy.

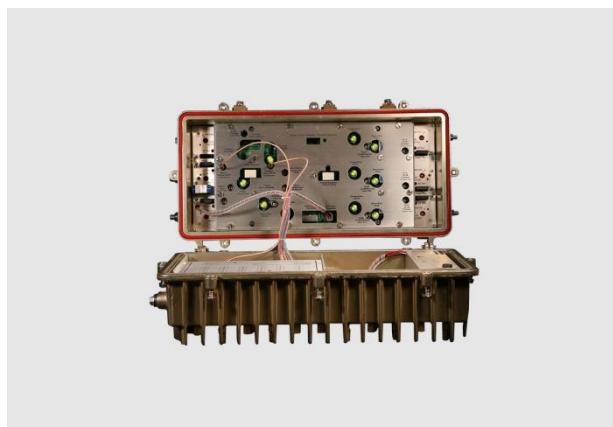
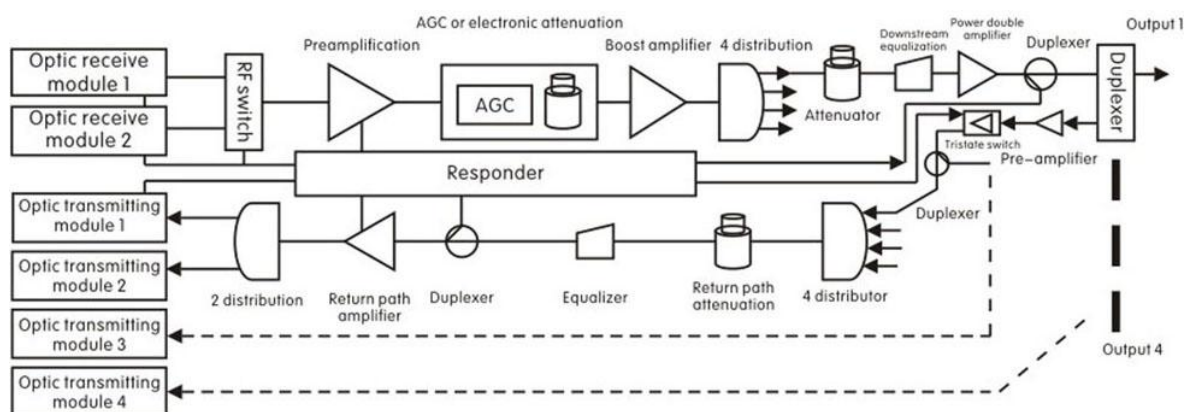
## PRODUCT FEATURES

- Large Aluminum housing with die-casting technology, surface passivation, good performance in heat-conducting, antismog.
- Separated 4 ports with high output level, each port can be managed remotely.
- Standard SNMP. Built-in responder. Remote management and configuration.
- 4 separated return channels can be configured with reverse noise restrain (tri-status switch), controlled remotely.
- The forward channel can be configured with 2 Optical receiving modules as redundant standby and dual optical receiving.
- 4 return path Optical transmitting modules are optional, adopting CWDM to return in single fiber.
- Dual back-up power supply optional, anti-surge. High reliable ability in anti-thunderbolt and anti-surfing.

## MAIN APPLICATION

- 9940-101(1 receive, 1 power)
- 9940-111(1 receive, 1 transmit, 1 power)
- 9940-121(1 receive, 2 transmit, 1 power)
- 9940-222(2 receive, 2 transmit, 2 power)
- 9940-242(2 receive, 4 transmit, 2 power)

## CIRCUIT BLOCK DIAGRAM



## TECHNICAL INDEX

### Downlink

Performance			Index	Supplement
Optical feature	Operating wavelength	(nm)	1260~1620	Typical application 1550nm $\pm$ 10nm
	Received power	(dBm)	+3~-5	
	Responsibility	(A/W)	1310nm $\geq$ 0.85	
			1550nm $\geq$ 0.9	
	Optical return loss	(dB)	$\geq$ 55	
	Optical fiber connector		SC/APC	
RF feature	Operating bandwidth	(MHz)	47~862	
	Flatness	(dB)	$\leq \pm 1.0$	
	Output level	(dB $\mu$ V)	112	
	Output level control	(dB)	0~18	
	Return loss	(dB)	$\geq$ 14	47 ~ 862MHz
	Output impedance	( $\Omega$ )	75	
	Number of output port		4	
	RF connector		F-Female	
Link feature	Test channel		PAL-D/59CH	NTSC/77CH
	OMI	(%)	3.8	
	CNR	(dB)	$\geq$ 51	Pin=0dBm
	CTB	(dB)	$\geq$ -65	
	CSO	(dB)	$\geq$ -60	
	HUM	(dB)	$\geq$ -60	
General feature	Power supply	(V)	60VAC	
	Power consume	(W)	$\leq$ 3	+12VC,190mA
	Operating temp.	( $^{\circ}$ C)	-20~60	
	Storage temp.	( $^{\circ}$ C)	-40~85	
	Relative humidity	(%)	5~59	
	Size (W) $\times$ (D) $\times$ (H)	(mm)	530 $\times$ 275 $\times$ 220	

## Uplink

Performance			Index	Supplement
Optical feature	Operating wavelength	(nm)	1310~1560	Typical application 1310nm
	Laser type		DFB	Option FP
	Output power	(dBm)	1	Option 2, 3, 4
	Optical return loss	(dB)	>55	
	Optical fiber connector		SC/APC	Option FC/APC
RF feature	Operating bandwidth	(MHz)	5~65	
	Input level	(dBμV)	75~85	
	Flatness	(dB)	≤±1.0	
	Return loss	(dB)	≥16	
	Impedance	(Ω)	75	

## Network management response part

Performance			Index	Supplement
Input frequency	(MHz)		112	108~119 optional
Output frequency	(MHz)		18	R5 frequency-band, 17.0~20.8MHz
Input level	(dBmV)		≥5	
Output level	(dBmV)		≥40	
Control output level range of downstream	(dB)		0~15	
Temperature test range	(℃)		-40~85	

## CWDM wavelength optional(return path Optical transmitter module)

ITU	ITU+1
1310nm	-
1470nm	1471nm
1490nm	1491nm
1510nm	1511nm
1550nm	1531nm
1570nm	1551nm
1590nm	1591nm
1610nm	1611nm