

FTTH CATV optical receiver

CRO-51A

CRO-51A is RFTV broadcast receiver for FTTx optical fiber networks with built-in optical splitter.

This product adopts high sensitivity receiving components and special low noise circuit.



Main product features:

- very low noise (3.8% modulation, -10dBm receive level with CNR >45dB)
- receive optical power in range +3dBm to -12dBm with good linearity
- built-in splitter, for EPON application
- inside 47 ~ 862 MHz, all have good flatness FL=1.0dB
- metal shell, supply safeguards to opto-electrical sensing device
- high output level
- low power consumption

Specification:

Optical features	Operation wavelength	nm	1540-1560	
	Receiving Power	dBm	+3 ~ -12	
	Responsivity	A/W	1310nm	>0.85
			1550nm	>0.90
	Optical return loss	dB	>55	
Isolation	dB	1490/1550 >40		
RF features	Working bandwidth	Mhz	47 ~ 862	
	Flatness	dB	+/- 1.0	
	Output level	dB μ V	92 @ +3dBm	
	Output level adjust	dB	none	
	Return loss	dB	>12	
	Output impedance	Ω	75	
	RF tie-in		F British	
Link feature	Test channel		59Ch PAL-D	
	OMI		3.8%	
	CNR	dB	56,6 @ -2dBm	
			48,5 @ -8dBm	
	CTB	dB	-70 @ -2dBm	
	CSO	dB	-66 @ -2dBm	
	HUM	dB	< -60	
General feature	Power supply	V	DC +12V, +/- 1.0V	
	Power consume	W	Less 2W, 12V DC/100mA	
	Work. Temp.	$^{\circ}$ C	-20 ~ +50	
	Work. Temp.	$^{\circ}$ C	-40 ~ +85	
	Work. Relative hum.	%	5 ~ 59	
	Size (W x D x H)	mm	59x9x23	

Back panel:

PAD – attenuation control. Note: PAD control not effective in model CRO-51 (PAD effective in model CRO-51M, CRO-51AM).

RF OUT – output connector



Front panel:

FIBER IN: Dual LC/APC connector, input for fiber optic signal.

Left front port is input from EPON OLT, Right is output to EPON ONU.

Status indicator LOW: LED off = signal low below -13dBm

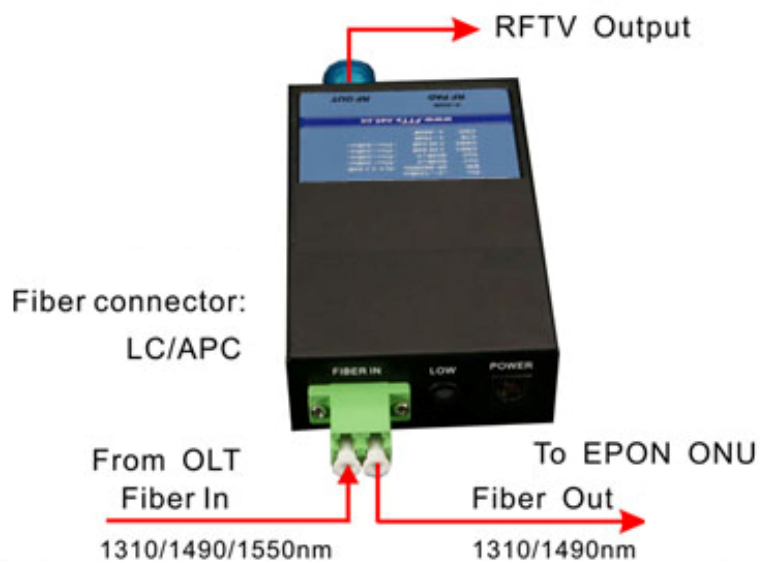
LED green = signal ok, -12dBm ~ +3dBm

LED red = too high, more than +3dBm

POWER: power input 12V DC.



Connection scheme:



Test measurement – dependency of RF output on fiber optic input power:

Power input (dBm)	+3	+2	+1	0	-1	-2	-3
Vo (dB μ V)	92,2	90,2	88,2	86,2	84,2	82,2	80,2
CNR (dB)	60	59	58,6	58,1	57,7	56,6	55,4
CTB (dB)	66	68	70	70	70	70	72
CSO (dB)	65	65	65	65	65	66	68

Power input (dBm)	-4	-5	-6	-7	-8	-9	-10
Vo (dB μ V)	78,2	76,2	74,2	72,2	68,2	66,2	64,2
CNR (dB)	53,2	51,9	50,8	49,3	48,5	46,4	45,2
CTB (dB)	70	68	68	66	65	65	64
CSO (dB)	66	65	65	65	63	63	62

Product series model:

- CRO-51 without built-in magnitude PAD
- CRO-51M with built-in magnitude PAD
- CRO-51A with built-in 1310~1490 nm splitter
- CRO-51AM with built-in 1310~1490 nm splitter and magnitude PAD