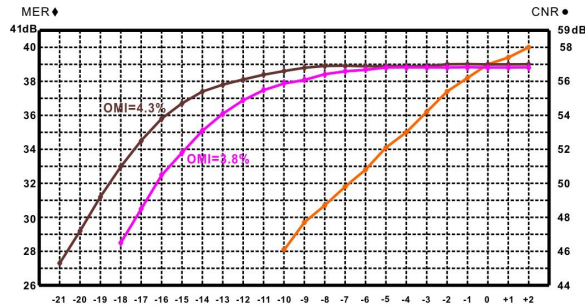


7.0 PRODUCT SERIES

Model	Input wavelength	CATV Operating wavelength	Data pass wavelength	Fiber connector	Form
P9128G	1310 or 1550nm	1260~1620nm	-	SC/APC	A -Type
P9128G/WF	1310, 1490/1550nm	1540~1563nm	-	SC/APC	
P9128G/WD	1310, 1490/1550nm	1540~1563nm	1310/1490nm	LC/APC	B -Type

8.0 CNR, MER DEGRADATION TABLE



Note: 1. CNR Test conditions: 59CH PAL-D, OMI = 3.8%

2. MER test conditions: The Original Signal: MER = 39.0dB, BER < 1.0E-9,

Test Frequency: 47~862MHz Full Channel, (The Curve is: 858.00MHz).

Red curve: OMI=3.8%

Brown curve: OMI=4.3%

3. Digital television Receiving Low Light, appropriate to increase the system modulation (OMI), can greatly improve the MER degradation.

9.0 MODEL EXPLANATION

P 9 1 28 G / □ □ - □ - □ □

FTTx receiver	Work bandwidth	RF output ports	Output level(Pin=+2~-8dBm)	G	CWDM	Exterior	Optical Connector
H FTTx	9 47~862MHz	1 1port	28 28dBmV(88dBuV)	AGC	NC Without	A 38*80*20 mm	LA LC/APC
P FTTx					WD Built-in WDM		LP LC/UPC
B FTTx					WF Built-in Filter	B 50*88*22 mm	SA SC/APC SP SC/UPC

10.0.NOTE

- The power adapter for this equipment: Input 220V, output DC 12V(0.6A)
- Keep the optical connector clean, the bad link will cause too low RF output level
- The built-in RF adjustable attenuator(PAD) of equipment can debug suitable level for system users .User

Should not adjust by themselves, to avoid the device damage.

P9128G、P9128G/WD、P9128G/WF

FTTH CATV AGC Optical Receiver

( Pin=+2~-8dBm、Vo≥88dBuV )

47~862MHz



P9128G-A

User Manual

Ver. 2.6 en

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### 1.0 PRODUCT DESCRIPTION

Huatai P9128G, operating bandwidth of 47 ~ 862MHz, with AGC function (Pin = + 2 ~ -8dBm, Vo = 88dBμV), is a suitable for low-power fiber to the home (FTTH) applications, high-performance, cost-effective CATV optical receiver. Whether the machine is used analog television or digital television, have high reception sensitivity and excellent intermodulation distortion index. Due to the built-in optical AGC, at high optical power receiver , played limiting output, so P9128G in the received optical power over a large dynamic range of +2 dBm ~-20dBm , and have excellent features:

Analog TV, Pin =-10dBm , Vo ≥ 82dBμV, CNR ≥ 43dB.

Digital TV, Pin =-15dBm , Vo ≥ 83.4dBμV, MER ≥ 36.7dB.

Digital TV, Pin =-20dBm, Vo ≥ 73.2dBμV, MER ≥ 29.2dB.

Triple play, fiber to the home, using the H9122 can save a lot of optical fiber amplifier power resources. For operators, can greatly reduce the cost of building the network .

P9128G optical port mode of the following three selection:

P9128G : operating wavelength 1260~1620nm. A - Type

P9128G/WD: Built-in CWDM, suitable for single-fiber triple wavelength system,CATV

operating wavelength 1550nm, passwavelength 1310/1490nm, can conveniently connect the ONU of EPON, GPON. B - Type

P9128G/WF: built-in 1310/1490nm filter,suitable for single-fiber triple wavelength system, CATV operating wavelength 1550nm.

A - Type

### 2.0 PRODUCT FEATURE

- Extra-low noise(3.8% modulate, -10dBm receive, CNR ≥ 43dB)
- Wide dynamic receiving optical power range: within Pin=-15, MER≥36dB
- Applicable GPON, EPON, compatible with any FTTx PON technology
- AGC characteristic superior light
- Within 47~862MHz bandwidth, all with excellent flatness feature (FL≤±0.75dB)
- Metal case, offer safeguard for optoelectronic sensitive devices
- Low consumption, high performance, high reliability
- Can save a large number of optical power resource, greatly reduce the network configuration cost
- Excellent cost performance in area

### 5.0 TEST DATA(Pin=+2.0dBm~-20dBm)

Pin (dBm)	Vo (dBμV)	MER	BER		Pin (dBm)	Vo (dBμV)	MER	BER	
			POST	PER				POST	PER
+2.0	98.4	39.0	<1.0E-9	<1.0E-9	-10.0	93.3	38.6	<1.0E-9	<1.0E-9
+1.0	99.0	39.0	<1.0E-9	<1.0E-9	-11.0	91.2	38.4	<1.0E-9	<1.0E-9
+0.0	100.3	39.0	<1.0E-9	<1.0E-9	-12.0	89.4	38.1	<1.0E-9	<1.0E-9
-1.0	101.2	39.0	<1.0E-9	<1.0E-9	-13.0	87.9	37.8	<1.0E-9	<1.0E-9
-2.0	101.0	39.0	<1.0E-9	<1.0E-9	-14.0	85.5	37.4	<1.0E-9	<1.0E-9
-3.0	100.9	38.9	<1.0E-9	<1.0E-9	-15.0	83.4	36.7	<1.0E-9	<1.0E-9
-4.0	101.3	38.9	<1.0E-9	<1.0E-9	-16.0	81.4	35.8	<1.0E-9	<1.0E-9
-5.0	100.7	38.9	<1.0E-9	<1.0E-9	-17.0	79.3	34.5	<1.0E-9	<1.0E-9
-6.0	100.9	38.9	<1.0E-9	<1.0E-9	-18.0	77.7	33.0	<1.0E-9	<1.0E-9
-7.0	99.6	38.9	<1.0E-9	<1.0E-9	-19.0	75.4	31.2	<1.0E-9	<1.0E-9
-8.0	97.7	38.9	<1.0E-9	<1.0E-9	-20.0	73.2	29.2	<1.0E-9	<1.0E-9
-9.0	95.2	38.8	<1.0E-9	<1.0E-9					

Remak : 1. The Original Signal : MER = 39.0dB, BER <1.0E-9  
 2. Test Frequency : The Curve is: 858.00MHz, OMI=4.3%

### 3.0 MAIN APPLICATION

- CATV FTTH
- Integration of three network
- FTTH PON

### 4.0 STATUS INDICATION

- RED: >+2dBm
- GREEN: +2~-16dBm
- ORANGE: -16~-20dBm
- RED: <-20dBm

### 6.0 TECHNICAL INDEX

Performance		Index	Supplement	
Optic feature	CATV Work wavelength	(nm)	1260~1620 P9128G (A-Type)	
			1540~1563 P9128G/WF,P9128G/WD (A & B )	
	Pass wavelength	(nm)	1310, 1490 P9128G/WD (B-Type)	
	Channel Isolation	(dB)	≥40 1550nm & 1490nm	
	Responsivity	(A/W)	≥0.85	1310nm
			≥0.9	1550nm
	Receiving power	(dBm)	+2~-10	Analog TV(CNR>43dB)
+2~-20			Digital TV(MER>29dB)	
Optical return loss	(dB)	≥55		
Optical fiber connector		SC/APC	P9128G, P9128G/WF	
		LC/APC	P9128G/WD	
RF Feature	Work bandwidth	(MHz)	47 ~862	
	Flatness	(dB)	≤±0.75 47~862MHz	
	Output level	(dBμV)	>88	AnalogTV (Pin=+2~-8dBm)
			>82	Digital TV (Pin=-15dBm)
	ALC(AGC) character (ΔVo)	(dB)	≤±1.0 Pin=+2.0~-8.0dBm	
	Output level adjust	(dB)	0~18 MGC	
	Return loss	(dB)	≥14 45 ~ 862MHz	
	Output impedance	(Ω)	75	
Output port number		1		
RF tie-in		F-Female		
Analog TV Link Feature	Test channel	(CH)	59CH(PAL-D)	
	OMI	(%)	3.8	
	CNR1	(dB)	54.4 Pin=-2dBm	
	CNR2	(dB)	45.1 Pin=-10dBm	
	CTB	(dB)	≤-65 Pin: 0~-10dBm	
	CSO	(dB)	≤-65 Pin: 0~-10dBm	
DigitalTV Link Feature	OMI	(%)	4.3	
	MER	(dB)	≥36 Pin=-16dBm	
			≥28 Pin=-20dBm	
BER	(dB)	<1.0E-9 Pin:+2~-20dBm		
General feature	Power supply	(V)	DC+12V ±1.0V	
	Power Consume	(W)	≤3 +12VDC,210mA	
	Work temp	(°C)	-20 ~ +55	
	Storage temp	(°C)	-40 ~ 85	
	Work relative temp	(%)	5 ~ 95	
	Size	(mm)	38×80×20	A -Type
50×88×22			B -Type	