

BGL1000 Low power SNMP AGC FTTB Optical Receiver

PRODUCT DESCRIPTION

Guangtai BGL1000 product series, is a low power consumption, high index, with SNMP network management, AGC, full function FTTB optical receiver. 1000 series' shells are aluminum wall hung (without rain-proof), Nixie tube displaying parameters.

BGL1000 series have many kinds of configurations can be optional:

1. Operation bandwidth:

BGL1000-086 operation bandwidth 47~862MHz

BGL1000-100 operation bandwidth 47~1050MHz

2. RF output ports:

BGL1240, two RF output ports, each 100dBμV

BGL1144, one RF output port, with 104 dBμV

3. SNMP network management can be optional (BGL1000/N) , and can achieve remote control.

4. Built-in CWDM can be optional, multiplex 1310/1490nm data stream

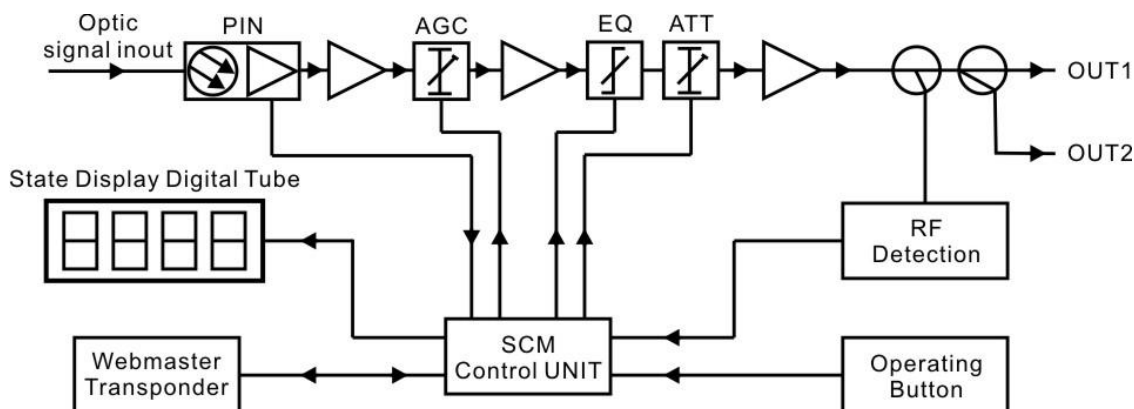
5. Built-in power supply or external power supply can be optional, external power supply is convenience to repair.



PRODUCT FEATURES

- ▶ Excellent AGC performance: Pin: $-7.0\text{dBm} \sim +2\text{dBm}$, $\Delta V_o : \leq \pm 0.5\text{dB}$
- ▶ Low noise (3.8% modulation, -8dBm receive, $\text{CNR} \geq 46\text{dB}$)
- ▶ Output level and slope can continuation adjustment
- ▶ High level output: one output port 104 dBμV (AGC, PAD=6dBm), max output level 110dBμV (PAD=0dBm)
Two output ports 100 dBμV (AGC, PAD=6dBm), max output level 106 dBμV (PAD=0dBm)
- ▶ SNMP network management optional, can achieve remote management and control
- ▶ Nixie tube displaying all kinds of technical parameters of the overall unit, convenience to construction and adjustment
- ▶ Adapts MMIC Amplifier, low power consumption

FUNCTIONAL BLOCK DIAGRAM



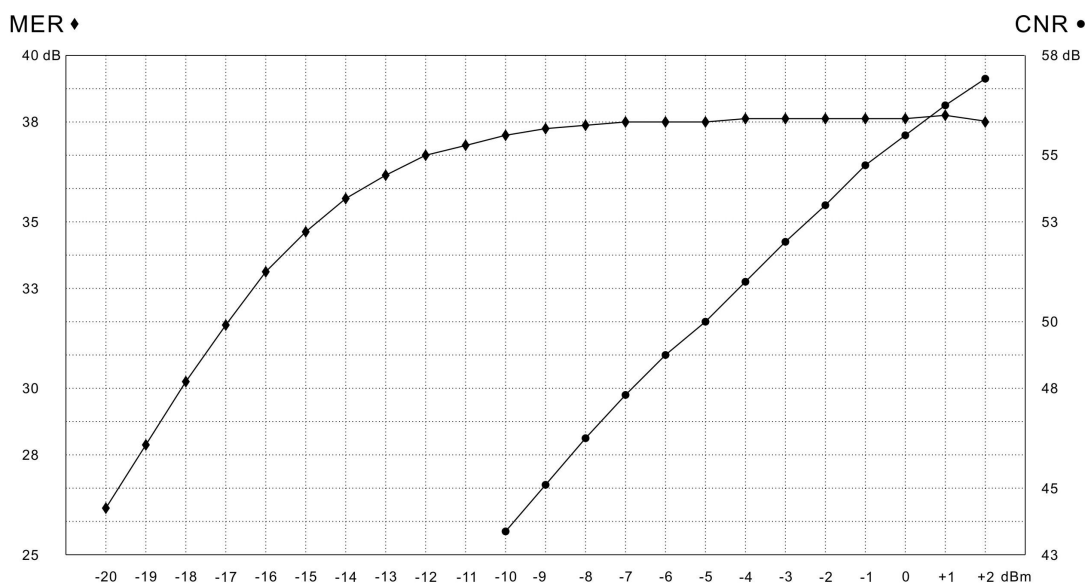
TECHNICAL INDEX

Performance			Index	Supplement
Optical feature	CATV Operating wavelength	(nm)	1260~1620	Without CWDM
			1540~1563	BGL1000/WF, BGL1000/WD
	Input wavelength	(nm)	1310,1490/1550	
	Pass wavelength	(nm)	1310,1490/1550	
	Channel Isolation	(dB)	≥40	
	Responsivity	(A/W)	≥0.85	1310nm
			≥0.9	1550nm
	Optical AGC control	(dBm)	-7~+2	$\Delta V_o \leq \pm 0.5\text{dB}$
	Receiving power	(dB)	-10~+2	Analog TV
			-16~+2	Digital TV
RF feature	Optical return loss	(dB)	≥50	
	Optical fiber connector		LC/APC	Optional SC/APC, FC/APC
	Work bandwidth	(MHz)	47~862	BGL1000/x-086
			47~1050	BGL1000/x-100
	Flatness	(dB)	≤±0.75	BGL1000-086 (47~862MHz)
			≤±1.0	BGL1000-100 (47~1050MHz)
	Nominal Output level (PAD=6dBm)	(dBμV)	100	BGL1144
			104	BGL1240
	Max Output level (PAD=6dBm)	(dBμV)	106	BGL1240
			110	BGL1144
	RF number of output port	(ps)	1	BGL1240
			2	BGL1144
	AGC feature	(dB)	≤±0.5	Pin:-7.0~+2.0dBm
	Output level adjust	(dB)	-20~0	
	EQ ADJ	(dB)	0~15	
	Return loss	(dB)	≥16	47 ~ 862MHz
			≥12	47~1050MHz
	Output impedance	(Ω)	75	
	RF port		F-Female	

Analog TV connect feature	Test channel		59CH(PAL-D)	47~550MHz Analog
			Digital QAM	550-862MHz
	OMI	(%)	3.8	
	CNR1	(dB)	53.5	Pin=-2dBm
	CNR2	(dB)	47.8	Pin=-7dBm
	CTB	(dB)	≤63	Pin=-2dBm
	CSO	(dB)	≤67	Pin=-2dBm
	HUM	(dB)	≤60	
Digital TV connect feature	Test channel		<10 CH	Analog
			Digital QAM	550-862MHz
	MER	(dB)	38 (Remark1)	Pin:-7.0~2.0dBm
			33.5	Pin=-16.0dBm
	BER	(dB)	<1.0E-9	Pin :+2.0~-20dBm
General feature	Power supply	(V)	AC(130~265)V	Built-in power
			DC:8V, 0.75A	External power
	Power Consume	(W)	≤8	
	Work temp	(℃)	-40~60	
	Storage temp	(℃)	-40 ~ 65	
	Relative humidity	(%)	5 ~ 95	
	Size(W)×(D)×(H)	(mm)	174×123×42	Built-in power
			118×123×42	External power

Remark: 1. CATV test signal: MER: 38.3dB, BER: <1.0E-9

CNR, MER DEGRADATION CHART



Remark: 1. CNR Original signal:59CH PAL-D, OMI=3.8%
2. Digital TV test signal: MER=38.3dB、BER<1.0E-9

ANALOG TV TEST DATA (PIN=+2.0DBM~-10.0DBM)

Pin(dBm)	+2	-1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
Vo(dBμV)	100.4	100.2	100.8	100.0	99.7	100.2	100.3	100.2	100.1	100.3	99.1	97.2	95.0
CNR(dB)	57.3	56.5	55.6	54.7	53.5	52.4	51.2	50.0	49.0	47.8	46.5	45.1	43.7
CTB(dB)	62.4	62.8	63.0	63.1	63.1	63.1	64.7	63.5	66.0	66.4	63.7	65.7	66.6
CSO(dB)	62.5	63.1	63.8	67.4	67	70.7	69.9	68.5	66.3	69.5	64.7	63.1	67.5

Remark1. Test condition: 1. PAL-D59CH, OMI = 3.8%
2. Test type: BGL1240
3. Built-in PAD=6dB

DIGITAL TV TEST DATA (PIN=+2.0DBM ~ -20.0DBM)

Pin (dBm)	Vo (dBm)	MER	BER	
			POST	PRE
+2.0	101.8	38.0	<1.0E-9	<1.0E-9
+1.0	101.1	38.2	<1.0E-9	<1.0E-9
+0.0	101.7	38.1	<1.0E-9	<1.0E-9
-1.0	101.8	38.1	<1.0E-9	<1.0E-9
-2.0	101.7	38.1	<1.0E-9	<1.0E-9
-3.0	101.3	38.1	<1.0E-9	<1.0E-9
-4.0	101.1	38.1	<1.0E-9	<1.0E-9
-5.0	101.2	38.0	<1.0E-9	<1.0E-9
-6.0	101.1	38.0	<1.0E-9	<1.0E-9
-7.0	100.8	38.0	<1.0E-9	<1.0E-9
-8.0	100.8	37.9	<1.0E-9	<1.0E-9
-9.0	98.7	37.8	<1.0E-9	<1.0E-9
-10.0	96.9	37.5	<1.0E-9	<1.0E-9
-11.0	94.7	37.3	<1.0E-9	<1.0E-9
-12.0	92.8	37.0	<1.0E-9	<1.0E-9
-13.0	91.0	36.4	<1.0E-9	<1.0E-9
-14.0	88.7	35.7	<1.0E-9	6.6E-7
-15.0	87.0	34.7	<1.0E-9	3.7E-5
-16.0	85.1	33.5	<1.0E-9	2.2E-4
-17.0	83.2	31.9	<1.0E-9	4.9E-4
-18.0	81.1	30.2	<1.0E-9	8.0E-4
-19.0	79.0	28.3	<1.0E-9	1.1E-3
-20.0	76.9	26.4	<1.0E-9	1.5E-3

Remark: 1. Test signal: MER: 38.3(dB), BER: <1.0E-9.

2. Channel negative nuclear :<10CH Analog TV , Digital QAM

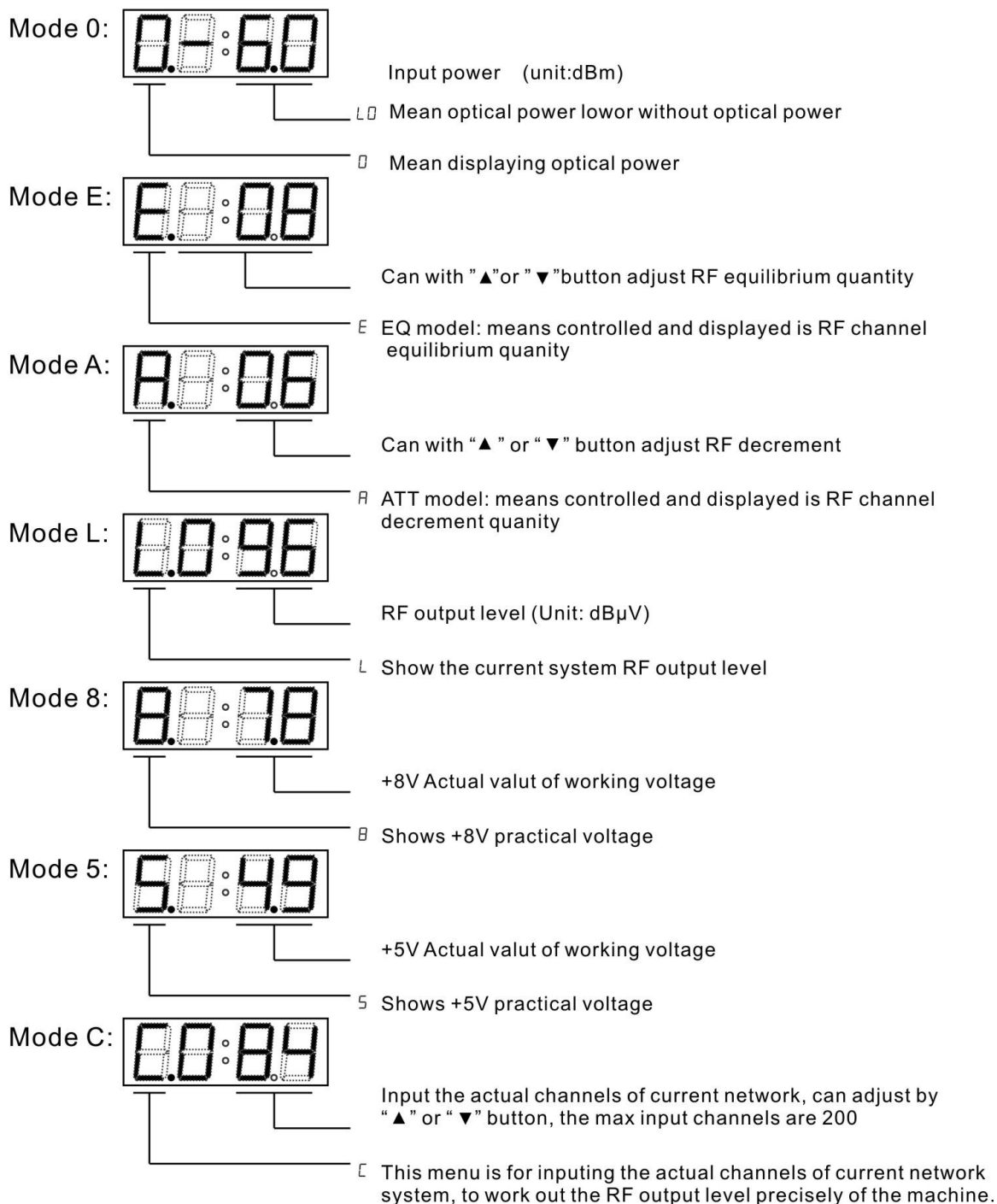
BGL1000 FUNCTION DISPLAY AND OPERATION

Mode: The control mode choice button , all 1 modes

▼ : UP button, increase the attenuation or equilibrium quantity on ATT or EQ mode.

▲ : Down button, Increase the attenuation or equilibrium quantity on ATT

Following diagram to explain for detailed:



PRODUCT SERIES

Type	Number of ouput port	Output level	SNMP	Work bandwidth	CWDM
BGL1240/O-086-NC	Dual ports	100 dBμV	Without	47~862MHz	Without
BGL1144/O-086-NC	Single port	104 dBμV			
BGL1240/N-086-NC	Dual ports	100 dBμV	With		
BGL1144/N-086-NC	Single port	104 dBμV			
BGL1240/O-086-WD	Dual ports	100 dBμV	Without		With
BGL1144/O-086-WD	Single port	104 dBμV			
BGL1240/N-086-WD	Dual ports	100 dBμV	With		
BGL1144/N-086-WD	Single port	104 dBμV			
BGL1240/O-100-NC	Dual ports	100 dBμV	Without	47~1050MHz	Without
BGL1144/O-100-NC	Single port	104 dBμV			
BGL1240/N-100-NC	Dual ports	100 dBμV	With		
BGL1144/N-100-NC	Single port	104 dBμV			
BGL1240/O-100-WD	Dual ports	100 dBμV	Without		With
BGL1144/O-100-WD	Single port	104 dBμV			
BGL1240/N-100-WD	Dual ports	100 dBμV	With		
BGL1144/N-100-WD	Single port	104 dBμV			

MODEL EXPLANATION

BGL 1 □ □ □ / □ - □ □ □ - □ □ - □ □ - □ □

Product series	Exterior	RF number of output port	Output level (Pin:-7~+2dBm)	Network management	Work bandwidth	CWDM	Power supply	Optical connector
MMIC Amplifier AGC SNMP Optical receiver	1 1series	1 1port	44 44dBmV(104dBμV)	O Without	086 47~862MHz	NC Without	IA Build-in power cord (American Standard)	LA LC/APC
	2 2series	2 2ports	40 40dBmV(100dBμV)	N With	100 47~1000MHz	WD Built-in CWDM	IE Build-in power cord (European Standard)	SA SC/APC
	3 3series					WF Built-in Filter	IC Build-in power cord (China Standard)	FA FC/APC
							OA External adapter (American Standard)	
							OE External adapter (European Standard)	
							OC External adapter (China Standard)	