



CHP Max5000™ 1 GHz Fixed Output Transmitters (CHP-GFXF-D, CHP-GFX-D) Technical Specification

Specifications

Carrier to Thermal Noise	(Value Line) CHP-GFXF-D-						CHP-GFX-D-		
	02	04	06	08	10	12	13	14	15
Output Power (dBm)	2.0	4.0	6.0	8.0	10.0	12.0	13.0	14.0	15.0
Fiber Length (km)	4.0	7.0	13.8	15.0	15.0	20.0	20.0	20.0	20.0
Optical Loss Budget (dB)	CNR (dB) for part fiber/part passive link, typical								
2	54.2	—	—	—	—	—	—	—	—
3	53.6	54.5	—	—	—	—	—	—	—
4	—	54	—	—	—	—	—	—	—
5	—	53.4	53.8	—	—	—	—	—	—
6	—	—	53.2	—	—	—	—	—	—
7	—	—	52.6	53.8	—	—	—	—	—
8	—	—	—	53.2	—	—	—	—	—
9	—	—	—	52.6	53.8	—	—	—	—
10	—	—	—	—	53.2	—	—	—	—
11	—	—	—	—	52.6	53.8	—	—	—
12	—	—	—	—	—	53.2	53.4	—	—
13	—	—	—	—	—	52.6	52.8	53.4	—
14	—	—	—	—	—	—	52.2	52.8	53.4
15	—	—	—	—	—	—	51.5	52.2	52.8
16	—	—	—	—	—	—	50.6	51.5	52.2
17	—	—	—	—	—	—	—	50.6	51.5
18	—	—	—	—	—	—	—	—	50.6

Notes:

1. Optical output power specified before transmitter's bulkhead.
2. CNR is measured using only CW analog carriers per SCTE test procedures. Performance shown is ambient. Subtract 0.5dB for performance over full temperature range.
3. Specifications measured using typical receiver with 0.85 mA/mW, 7 pA/Hz^{0.5} performance.

Specifications (continued)

	CHP-GFXF-D (Value Line)	CHP-GFX-D
Optical		
Optical Wavelength	1310 ± 10nm	1310 ± 10nm
Optical Output Power	2, 4, 6, 8, 10, and 12 dBm	13, 14, and 15 dBm
RF		
Analog Channel Range	54 to 550MHz	54 to 550MHz
Digital Channel Range	550 to 1002MHz	550 to 1002MHz
Response Flatness, P-V, typ.	1.0dB	1.0dB
Input Return Loss, min.	16 dB	16dB
Port-to-Port Isolation	>50dB, narrowcast to broadcast >42dB, broadcast to narrowcast	≥60dB from 54 to 870MHz ≥50dB from 870 to 1002MHz
ADC Range	± 1.5 dB	± 3.0dB
Powering		
Power Consumption	17.4W	17.4W
Performance		
Channel Plan	79 NTSC channels (up to 75 256-QAM channels)	79 NTSC channels (up to 75 256-QAM channels)
Analog Channel RF Input Power (Notes 1 and 2)	15 dBmV/ch	15 dBmV/ch
Digital QAM Channel RF Input Power	9 dBmV/ch	9 dBmV/ch
Composite Second Order (Notes 1 and 3)	-63 dBc	-65 dBc
Composite Triple Beat (Note 1)	-69 dBc	-70 dBc
Mechanical		
Optical Connector	SC/APC	SC/APC
RF Connector	F-type	F-type
RF Input Testpoint (Note 4)	-20 ± 1.25 dB	-20 ± 1.0dB
Dimensions (W x H x D) (Note 5)	single-slot width 1.25 x 3.4 x 18.5 in. (3.2 x 8.7 x 47.0 cm.)	
Weight	2.75 lbs (1.24kg)	
Environmental		
Temperature (Note 6)	Operational: 0 to 50°C (32 to 122°F); Storage: -40 to 70 °C (-40 to 158°F)	
Humidity, noncondensing, max	Operational: 85%; Storage: 95%	

Notes:

- Distortions are measured using only CW analog carriers per SCTE recommendation by standard RF test methods. Performance shown represents typical performance for ≥85% of production units tested over typical Corning SMF-28 fiber (or equivalent). For minimum CSO and CTB, subtract 2 dB from typical.
- OMI is 3.9% at 79 NTSC channel loading.
- CSO performance for NTSC channels is for the in-band (high-side) beats.
- Relative to main port with 0 dB pad and 0 dB EQ.
- Includes handles and connectors.
- Operational temperature measured at transmitter module's air inlet.

Ordering Information

						1	2	3	4	5				
C	H	P	-	G	F	X	x	-	D	-	x	x	-	S

1 Fixed Output Transmitter Type	
F	Value Line series 1GHz fixed output transmitter
blank	1GHz fixed output transmitter
a) Select "02", "04", "06", "08", "10", or "12" in #3-4 block, Optical Output Power	
b) Select "13", "14", or "15" in #3-4 block, Optical Output Power	

2 Optical Output Wavelength	
D	1310nm dual-input rear fiber access

3-4 Optical Output Power		
02	Value Line fixed output power of 2 dBm	
04	Value Line fixed output power of 4 dBm	
06	Value Line fixed output power of 6 dBm	
08	Value Line fixed output power of 8 dBm	
10	Value Line fixed output power of 10 dBm	
12	Value Line fixed output power of 12 dBm	
13	Fixed output power of 13 dBm	a
14	Fixed output power of 14 dBm	a
15	Fixed output power of 15 dBm	a
a) GFX "13", "14", and "15" have ADC control button on the front		

5 Optical Connector	
S	SC/APC

Contact your ARRIS sales professional for the availability of the Value Line transmitters and to discuss how our 1GHz products can add value to your network.