

# Chromadigm-IR



## CIR - Integrated RFoG Transmitter:

### Applications:

- ▶ RFoG/FTTx
- ▶ RF video overlay for PON

### Features:

- ▶ Error-free QAM transport with very high OMI
- ▶ Superior CNR, CSO & CTB
- ▶ Integrated EDFA
- ▶ Up to eight output ports at 18 dBm each
- ▶ 1610nm RFoG return reflect ports
- ▶ Express ports for EPON, 10G EPON, GPON, & xGPON
- ▶ Redundant load-sharing - AC or DC power supplies
- ▶ Space-efficient 19" 1RU

### Key Benefits:

- ▶ Compact 19" 1RU transmitter with integrated EDFA for multiple 18 dBm outputs is ideal for centralized RFoG deployments
- ▶ Integrated filters for 1610nm RFoG return & all PON wavelengths to eliminate external WDM & multiple connections
- ▶ Chromadigm high performance patented technology advantage:
  - ▶ Chirp cancellation for distance independent performance
  - ▶ Clipping mitigation circuitry for error-free QAM performance
  - ▶ High Optical Modulation Index (OMI) for superior MER performance with lower RFoG optical receive levels
- ▶ + 20 dBm SBS threshold over 20 km

The Chromadigm integrated transmitter (CIR) is a 1RU transmitter for RFoG & other applications where only a single wavelength is required. It incorporates the advanced features available in ATX's revolutionary full band multi-wavelength transmitter (CHS series) such as clipping mitigation & chirp cancellation for superior performance.

The CIR is a 1 GHz single ITU wavelength transmitter capable of high SBS suppression. An integrated EDFA provides the option of two, four or eight outputs at +18 dBm each. Each output can be configured to include 1610nm reflect ports for the upstream RFoG return & express ports for all PON wavelengths to eliminate external space requirements & multiple optical connections increasing network reliability.

The chassis is equipped to support two modular power supply modules working in a load share configuration with the option of a universal AC or -48 VDC powering for high network reliability.

Status monitoring is provided through a local craft interface, CLI & SNMP MIB.



CIR - Integrated RFoG Transmitter (front view)



CIR - Integrated RFoG Transmitter (rear view)

## CIR - Integrated RFoG Transmitter:

### CIR - Integrated RFoG Transmitter Specifications

SPECIFICATIONS <sup>(1)(2)(3)</sup>		CIR - INTEGRATED RFoG TRANSMITTER
<b>TRANSMITTER PERFORMANCE<sup>(1)(2)(3)</sup></b>		
CARRIER-TO-NOISE (CNR)		> 51 dB
COMPOSITE TRIPLE BEAT (CTB)		> 70 dB
COMPOSITE SECOND ORDER (CSO)		> 63 dB
PRE-FEC BER		1E-9
<b>OPTICAL OUTPUTS</b>		
WAVELENGTH		ITU CHs 21-37
NUMBER OF OUTPUT PORTS		2, 4 or 8
OUTPUT POWER PER PORT		18 dBm
<b>RF INPUT</b>		
BANDWIDTH		50-1002 MHz
AGC MODE	BROADCAST RF INPUT RANGE	15-21 dBmV
	RECOMMENDED BC INPUT (80 CHs ANALOG)	18 dBmV
	RECOMMENDED QAM CHs INPUT	12 dBmV
MGC MODE	BROADCAST RF INPUT RANGE	15-21 dBmV
	RECOMMENDED BC INPUT (80 CHs ANALOG)	15 dBmV
	RECOMMENDED QAM CHs INPUT	9 dBmV
<b>POWER</b>		
POWER CONSUMPTION		30-60W
AC VOLTAGE SUPPLY RANGE		85-240 VAC
DC VOLTAGE SUPPLY RANGE		-42 to -56 VDC
<b>ENVIRONMENTAL</b>		
OPERATING TEMPERATURE		0°C to +50°C (+32°F to +122°F)
STORAGE TEMPERATURE		-40°C to +85°C (-40°F to +185°F)
HUMIDITY		Max. 85% Non-condensing
<b>PHYSICAL</b>		
DIMENSIONS		1.75"H x 19.0"W x 21.0"D (4.45H x 48.26W x 53.34D cm)
WEIGHT		20.0 lbs (9.1 kg)
RF CONNECTORS		Type F
OPTICAL CONNECTORS		SC/APC
NETWORK MANAGEMENT		SNMP V4
<b>USER INTERFACE</b>		
<b>FRONT PANEL</b>		
DISPLAY		LCD with Menu Switch Keys
RF TEST POINT	RF TEST POINT LEVEL RELATIVE TO RF INPUT	-20 dB
	TEST POINT FLATNESS WITH RESPECT TO INPUT	± 0.8 to ± 1.0 dB
CRAFT INTERFACE		RS-232
<b>REAR PANEL</b>		
<b>RF INPUTS &amp; OPTICAL OUTPUT CONNECTORS</b>		
<b>LAN PORT</b>		
<b>HOT-SWAPPABLE FAN</b>		
<b>DB-9 CONNECTOR FOR ALARM CONTACTS</b>		
<b>NOTES:</b>		
(1) Measured with a reference receiver using a network analyzer with appropriate levels from 50-1002 MHz.		
(2) With 77 NTSC channels, up to 40 km of fiber (version dependent), 0 dBm received power into an analog receiver with noise current density < 7 pA/sqrt (Hz); with field DMux optical isolation > 30 dB.		
(3) Specified over temperature & lifetime.		

### Ordering Information

CIR	Number of Ports			ITU Channel	Number Express Ports			Power
	H	H	H		E	E	E	
	Output Power				Connector Type			
	1	H	9		0 = No E Port	E	L = LC/APC	A = AC
	2	H	16		1 = 1610nm	E	C = SC/APC	D = DC
	4	H	18		2 = 1610 + 1310/1490nm	E		
	8	H	20			E		



Specifications subject to change without notice.