ChromaFlex

Chromadigm
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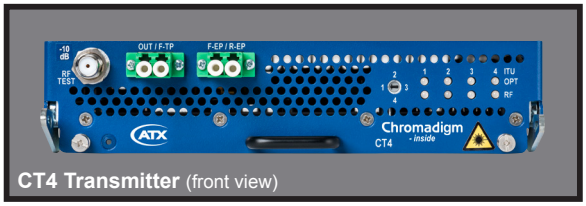
ChromaFlex Chromadigm CT4 DWDM Transmitter Modules:

Applications:

- High density node segmentation
- Hub eliminations
- Solving long distance applications with high performance
- RFoG service segmentation
- Fiber reclamation

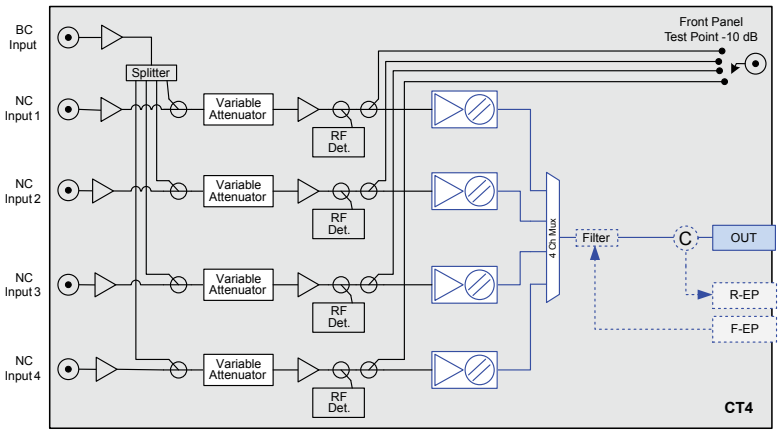
Features:

- 1.218 GHz
- Chirp-free transmitter for improved MER & distance independent performance
- Clipping mitigation for high OMI, superior MER & error-free pre-FEC BER performance
- Up to 40 standard ITU wavelengths per fiber with > 40 dB MER link performance
- Independent broadcast & narrowcast RF input ports
- SNMP v2c, Telnet or web GUI remote monitoring



CT4 Transmitter (front view)

Functional Schematic



The ChromaFlex CT4 full RF spectrum DWDM transmitter incorporates ATX's Chromadigm chirp cancellation & clipping mitigation technology which significantly advances the performance of analog optical DWDM systems. The Chromadigm hybrid transmitter technology supports a much higher Optical Modulation Index (OMI), improves transmitter MER, to reduce optical launch power requirements to avoid the degrading effects of four wave mixing & crosstalk. The technology allows full utilization of the optical spectrum, up to 40 consecutive 100 GHz spaced ITU channels while delivering exceptional MER & error-free pre-FEC BER performance.

The CT4 transmitter with its innovative technology sets the performance standard in DWDM full band systems offering a unique set of benefits:

- Chirp cancellation eliminates distance tuned pre-distortion, immunity to filter ripple induced distortions & improved MER performance
- Adaptive clipping mitigation for error-free QAM performance & a high OMI for superior MER performance
- Up to 40 standard ITU wavelengths
- Extended reach, over 100 km, to eliminate remote hubs

The CT4 includes an integrated multiplex filter to eliminate external connections & additional rack space consumption. A DMuxed version is also available. Separate broadcast & narrowcast RF input ports simplifies the combining of targeted services. An optical test point is provided along with available express port options for combining additional transmitter wavelengths or extracting bi-directional return path optical signals. The CT4 transmitter occupies two module slots in the ChromaFlex chassis.

ChromaFlex Chromadigm CT4 DWDM Transmitter Modules:

CT4 DWDM Transmitter Specifications

SPECIFICATIONS		CT4
OPTICAL PARAMETER		
WAVELENGTH		1530-1562nm CHs 20-59 with 100 GHz or 200 GHz Spacing Following Standard ITU Channel Assignments
OPTICAL POWER(1)		CT41N: 5.5 dBm, CT41X: 5.0 dBm Derate 1.5 dB for DMuxed Output Derate 0.5 dB for One Express Port Derate 1.0 dB for Two Express Ports
OPTICAL CONNECTOR		LC/APC
LASER RIN		< -155 dB/Hz
OPTICAL RETURN LOSS		> 50 dB
RF PARAMETER		
BROADCAST BANDWIDTH		50-1218 MHz
NARROWCAST FREQUENCY		50-1218 MHz
BROADCAST PORT RF INPUT LEVEL(2)(3)	75 ANALOG	+15 dBmV An
	30 AN + 125 QAM	+15/9 dBmV An/QAM
	155 QAM	+13 dBmV/QAM
	AGC RANGE	± 3 dB from Above
NARROWCAST PORT RF INPUT LEVEL		Same Minimum QAM Levels as Broadcast Port. No Analog in NC Port
AGC OFFSET RANGE		± 2.0 dB in 0.25 dB Steps
MGC OFFSET RANGE		± 3.0 dB Total
FLATNESS		± 0.75 dB from 50-1218 MHz
RETURN LOSS		> 16 dB up to 860 MHz, > 14 dB 860-1218 MHz
TEST PORT		-10 dB Below Input to Laser
RF ISOLATION		> 55 dB Between Individual NC Ports with Terminations
PERFORMANCE		
MER		155 QAM (Up to 40 WL & 40 km with 1 EDFA), > 40 dB
BER		< 1.0E-9 pre-FEC
MANAGEMENT		
LOCAL		Hand-held Display, CLI, GUI
REMOTE		SNMP Enterprise MIB, GUI, Telnet
ELECTRICAL & OPERATIONAL		
POWER CONSUMPTION		10W/λ, 40W Total
OPERATING TEMPERATURE		0ºC to +50ºC (+32ºF to +122ºF)
STORAGE TEMPERATURE		-40ºC to +65ºC (-40ºF to +149ºF)
HUMIDITY		5-85% Non-condensing
DIMENSIONS		ChromaFlex Two-slot Module, 1.7"H x 7.5"W x 14.4"D (4.3H x 19.0W x 37.0D cm)
WEIGHT		4.6 lbs (2.1 kg)

NOTES:
(1) Minimum output power per wavelength, Muxed output, without test point or express ports. Optional features only decrease the output level from this.
(2) n Analog = n NTSC analog channels from 54 MHz.
(3) n QAM = n ITU-T J.83 ANNEX B QAM 256, starting at 54 MHz or after highest analog channel.

Ordering Information

Part Number Format: CT41_ - _ _ _ _ _ - _ _ _
a bcdef ghi

CT41a - **bcdef** - **ghi**

Base Model	Start/Stop ITU Channel (ITU Channels 20-62 & Spacing)	Optical Ports: Number of Output Ports, Test Points, Express Ports & Reflector Port Type (Max. of 4)
a = X-Talk Version	**b = ITU Channel Group**	**g = Number of Output Ports & Test Points**
N = Normal	0 = Same ITU per TX	M = Muxed Single Output with LC/APC
X = Enhanced	1 = 100 GHz Spacing, Contiguous	**h = Express Port Types**
	2 = 200 GHz Spacing, Contiguous	0 = None
	cd = First ITU Channel	1 = One Forward Express Port
	ef = Last ITU Channel	**i = Return Reflector Port Type**
	Special: IIWG* = ITU Interoperable Wavelength Plans, * = 1-4 1 : 26, 24, 22, 21 2 : 39, 36, 33, 28 etc. Sxxxx = Special model. See custom description.	0 = None

Specifications subject to change without notice.

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