

+ Features

- Up to 4 wavelengths with optional integrated Mux and EDFA
- Total Output power levels of +4 to +18 dBm
- Space-Efficient 19" 1 RU
- Redundant Load-Sharing -48 DC Power supplies
- Universal AC powering Option
- Optional Integrated Express Port for Wavelength Expansion
- Superior CNR, CSO and CTB
- Error Free QAM Transport with Very High OMI

⚙ Applications

- DWDM Node Splitting, Up to 16 wavelengths on a single fiber
- Fiber Deep Networks with Minimal Fibers
- RFoG/FTTx Applications with Extended Reach
- RF Video Overlay for GPON Applications
- Long Haul Super-Trunking for Headend Quality at the Hub



Key Benefits

- Patented technology facilitates fiber deep architectures with unprecedented performance, cost and flexibility
 - 1550nm Chirp free multi wavelength transmitter that replaces expensive external modulation transmitters
 - Proprietary clipping mitigating circuitry for low Pre-FEC BER of 1E-9
 - High optical modulation index (OMI) of 5 % enables superior CNR, longer EDFA cascades and higher receiver RF output
- Transmission of up to 16 wavelengths on a single fiber with a full band 1 GHz spectrum of analog plus QAM.
- Ultra-low chirp allows error free transmission through cascaded passive components unlike O-band transport
- Distance independent transport that provides high CSO unlike other 1550 Direct modulation transmitters.
- Up to + 18 dBm SBS threshold available

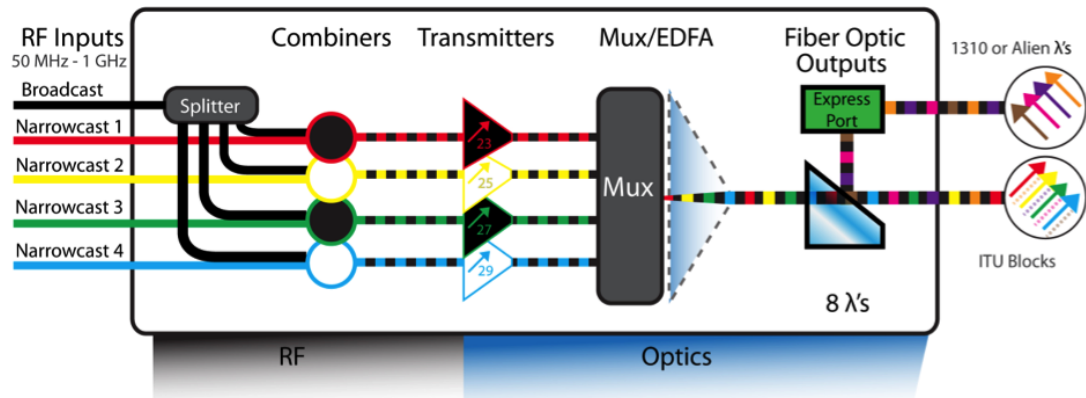
The InnoTrans **Chromadigm** transmitter is a revolutionary new product that allows transmission of sixteen ITU-T wavelengths on a single fiber in the 1550 nm(C-band) window.

Each wavelength can carry a full band 1 GHz spectrum (50 to 550 MHz of analog or QAM common to all the wavelengths, plus 75 Channels of Narrowcast 256-QAM from 550 to 1002 MHz). In addition, each wavelength is capable of carrying a unique QAM loading.

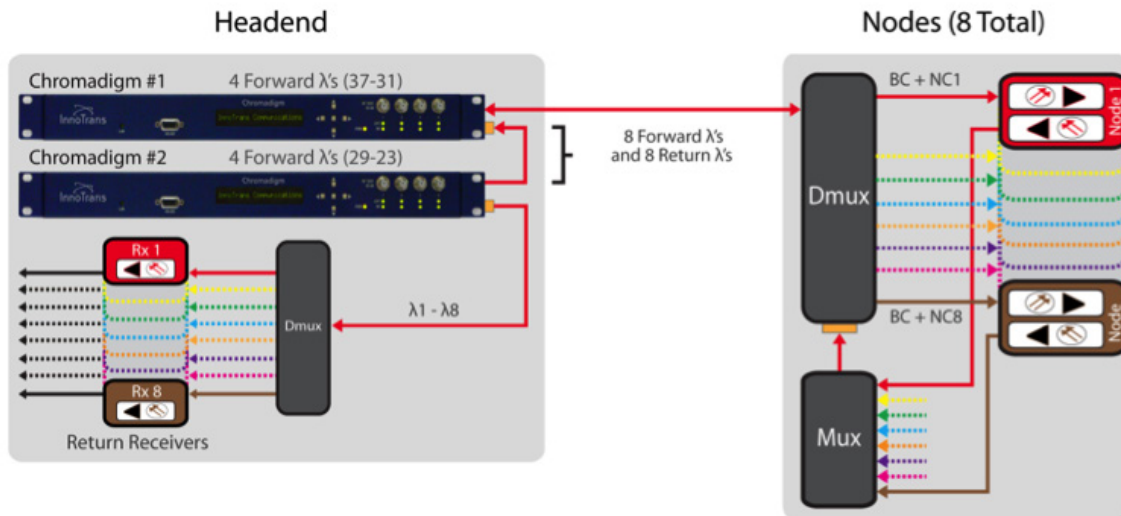
Deployments can be four, eight or 16 downstream wavelengths, along with four, eight or 16 upstream wavelengths on a single fiber. With its attractive price point and scalability, the Chromadigm obsoletes the single wavelength transport to the node, allowing the recovery of a large number of dark fibers for business and other services, enabling optimum utilization of the existing network.

Excellent CNR, CSO and CTB with unmatched immunity to wavelength drift and filter ripple make Chromadigm unique and significantly superior to other approaches.

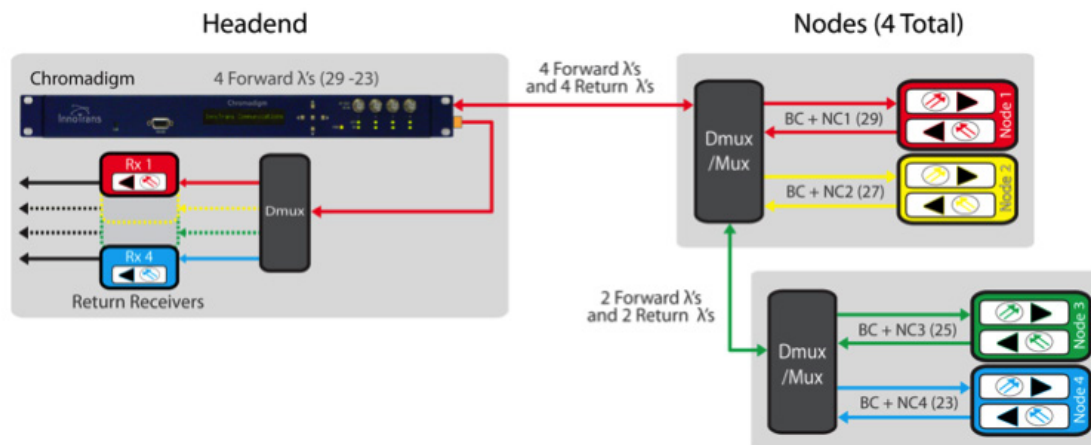
Chromadigm Block Diagram



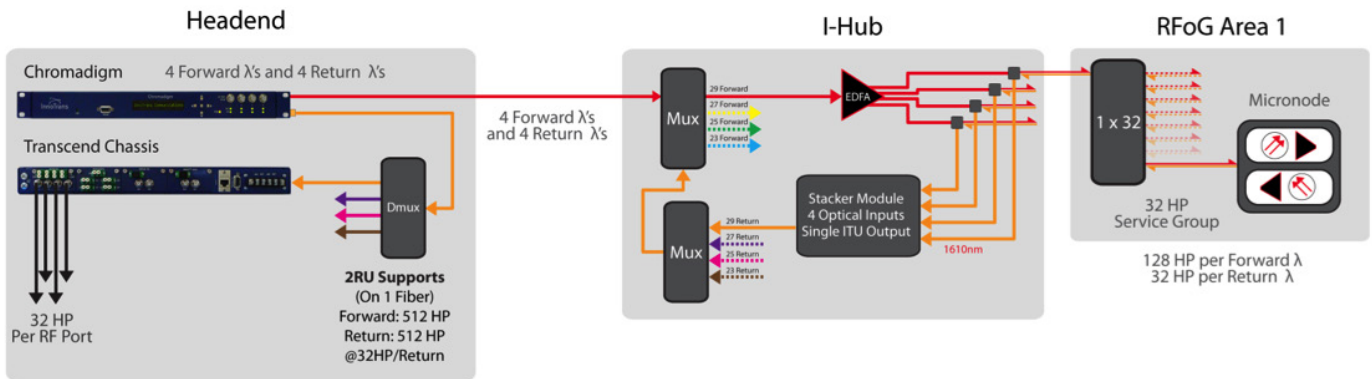
Node Plus



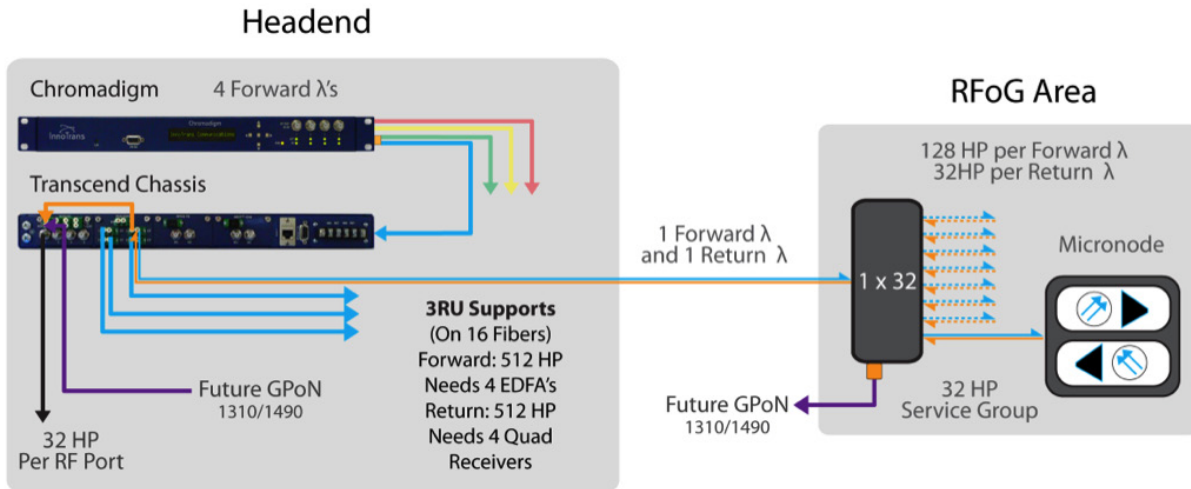
Node Split



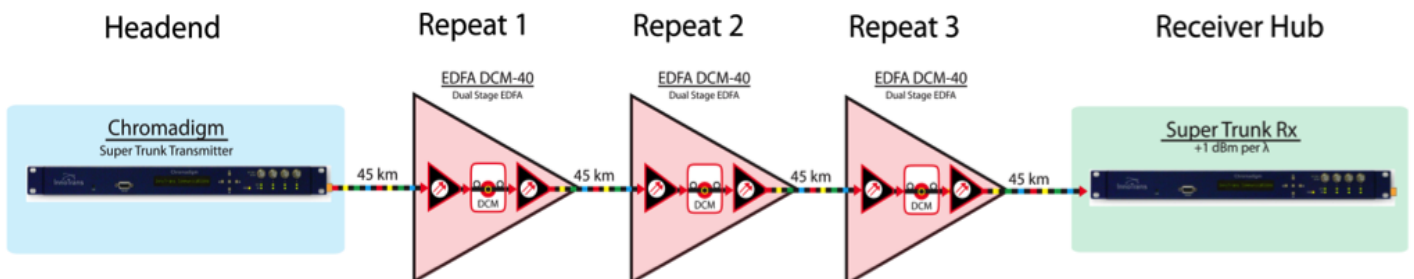
RFoG Field EDFA Repeat



RFoG Centralized



Headend to Hub Super-Trunk



Specifications^{1,2,3}

Transmitter Performance 1,2,3

Carrier-to-Noise (CNR)	>51 dB
Composite Triple Beat (CTB)	>70 dB
Composite Second Order (CSO)	>63 dB
Pre-FEC BER	1 E-9

Optical Outputs

Wavelength:	ITU CHs 21 to 62, 100 or 200GHz spacing
Number of Wavelengths	1 to 4
Output Power per wavelength	4 to 18 dBm

RF Input

Bandwidth	50 to 1002 MHz
AGC Mode	
Broadcast Port	15 to 21 dBmV
Narrowcast Port	6 dB below Broadcast
Recommended BC Input	18 dBmV
Recommended NC Input	12 dBmV
MGC Mode	
Broadcast Port MGC	15 dBmV
Narrowcast Port MGC	9 dBmV

Power

Power Consumption	30 to 80 W
AC Voltage Supply Range	85 to 240 VAC
DC Voltage Supply Range	-42 to -56 VDC

Environmental

Operating Temperature Range	0 to 50 C
Storage Temperature Range	-40 to +85 C
Relative Humidity	Maximum 85% non-condensing

Physical

Dimensions (WxHxD)	19" x 1.7" x 21" (1RU)
Weight	18 lbs
RF Connectors	Type F
Optical connector Type	SC/APC

Available Configurations

Number of Wavelengths and Output Power	ITU Wavelength 100 or 200 GHz Spacing
Single Output, 4 wavelengths, up to 12 dBm/Wavelength	ITU 21 to 62
Single Output, 2 wavelengths, up to 15 dBm/Wavelength	ITU 21 to 62
Single Output, 1 wavelengths up to 18 dBm/Wavelength	ITU 21 to 62

Network Management

SNMP V2

User Interface

Front Panel

LCD Display with menu switch keys

RF Test Point

RF test point level under AGC	-3 to -1 dBmV
Test point flatness with respect to input	±0.8 to ±1.0 dB

Craft interface

RS - 232

Rear Panel

RF Input and Optical Output connectors

LAN port

Hot Swappable fan

DB-9 connector for alarm contacts

Notes

- 1 Measured with a reference receiver using a network analyzer with appropriate levels from 50 to 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 demux optical isolation > 30 dB.
- 3 Specified over temperature and lifetime.

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