

OMNISTAR GX2-DM2000 SERIES

1550NM BROADCAST/NARROWCAST TRANSMITTER

GX2-DM2000/10/xx Multi-wavelength Transmitters

The Omnistar GX2-DM2000 series of 1550nm of transmitters incorporate the industry-leading linearization to encompass multiple system applications at a very low cost. The 1550nm direct modulation transmitters traditionally target narrowcast / targeted services applications with up to 300 MHz of QAM channels. The superior performance of the GX2-DM2000 allows implementation in traditional applications and also offers Full-Band applications from 52 - 1003 MHz. Full-Band applications include Analog + QAM channel loading from 52 - 1003 MHz as well as Full QAM loading from 52 - 1003 MHz. The GX2-DM2000 offers the ability to start with a small amount of analog channels and scale to an all-digital QAM network without having to change the transmitter. The GX2-DM2000 also offers a multi-wavelength option to easily segment networks that have fiber limitations to save operators time and money.

The DM2000 solution offers high performance allowing operators to segment nodes in the network by utilizing multi-wavelength technology, which conserves fiber. Using the DM2000 to multiplex transmitters with different wavelengths onto a single fiber, operators can segment nodes in the network up to eight times. Some applications allow operators to remove EDFA amplifiers from their systems for even additional savings when they migrate to an all-digital network. Contact your Motorola Representative for specific channel loading and system application.



The GX2-DM2000/10/xx series of transmitters are available in all 40 standard Dense Wavelength Division Multiple ITU grid wavelengths.

Benefits Include:

1. Provides full performance 52 – 1003 MHz forward bandwidth
2. Multi-wavelength downstream solution for multitude of applications
3. Separate Broadcast and Narrowcast inputs
4. Internal Dispersion Compensation of up to 60 km in 1 km steps
5. Single transmitter module to service a variety of system needs

System Applications

These are examples of system configurations that can be achieved using the DM2000 series transmitter.

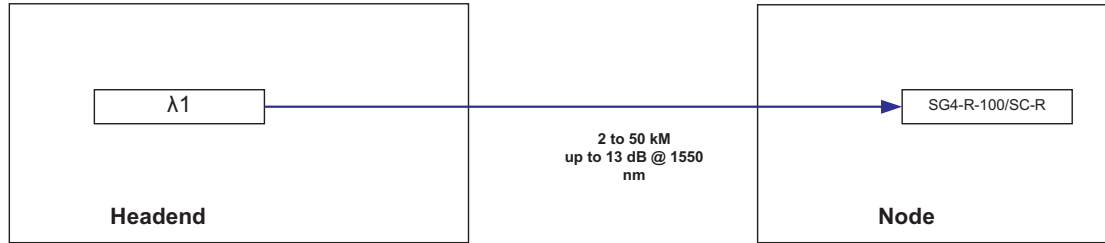


Figure 1 - Single Downstream Fiber Deep: Up to 30 Analog + Digital Loading

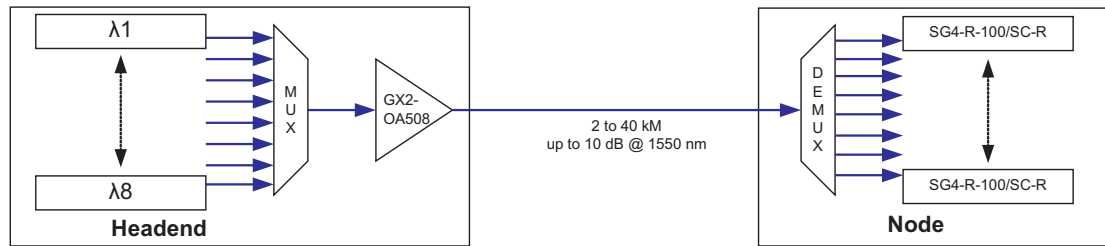


Figure 2 - Multi-Wavelength Downstream Fiber Deep: Up to 8 Wavelengths with up to 30 Analog + Digital Loading

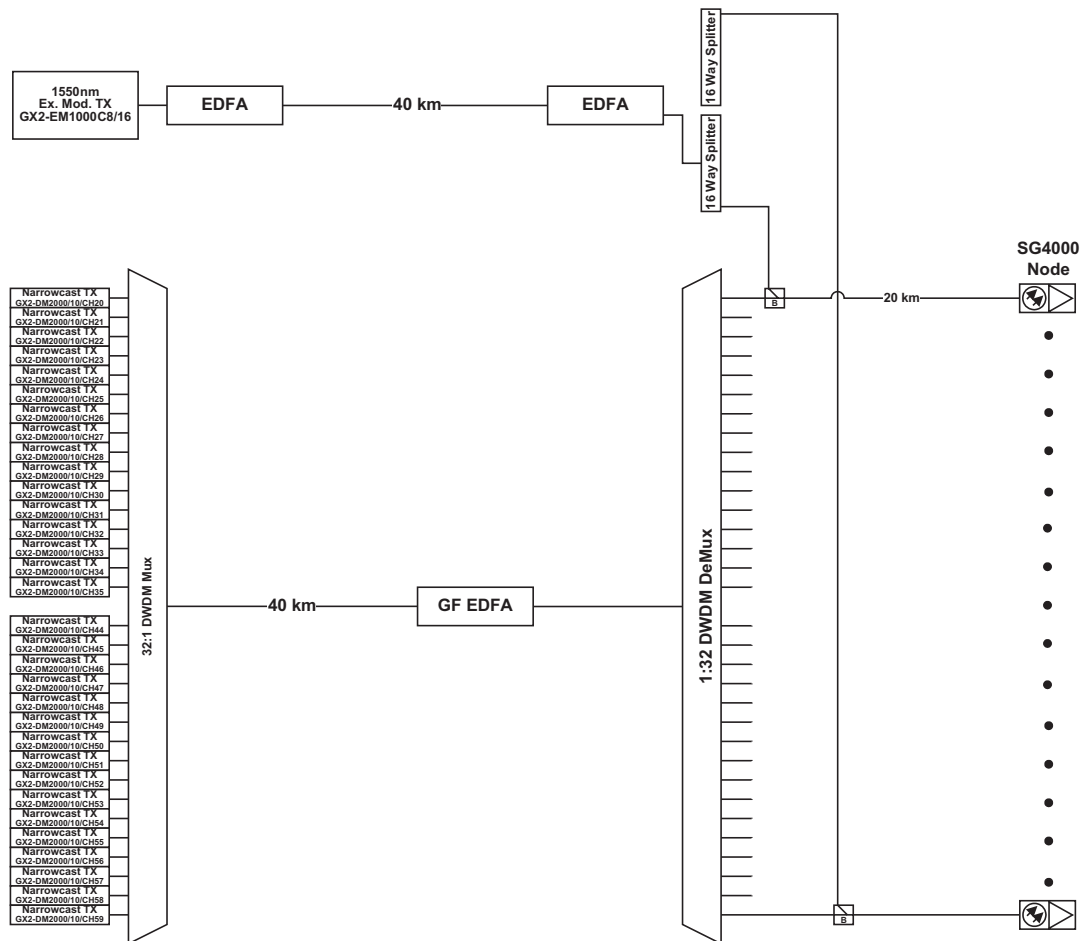


Figure 3 - Optical Broadcast / Narrowcast Overlay: 40 Wavelengths – up to 300 MHz Digital Loading

Performance – 30 Analog + Digital

Number of Wavelengths	Link Distance (km)	CCN (dB)	CSO (dB)	CTB (dB)
1	40	51	-61	-65

Notes: The loading on the transmitter is 30 Analog Channels plus 124 channels of 256 QAM.

Performance – Digital only

Number of Wavelengths	Link Distance	NPR (dB)	MER (dB)
1	40	> 40	> 38

Notes: The loading on each transmitter is 154 QAM channels from 52 to 1003 MHz of 256 QAM.

Performance – Narrowcast 100 MHz Digital overlay

Number of Wavelengths	Link Distance	NPR (dB) Peak	MER (dB)
1	60	47.5	40

Notes: The loading on each transmitter is 100 MHz of 256 QAM in the 52 to 1003 MHz band.

Performance – Narrowcast 300 MHz Digital overlay

Number of Wavelengths	Link Distance	NPR (dB) Peak	MER (dB)
1	60	42.5	35

Notes: The loading on each transmitter is 300 MHz of 256 QAM in the 52 to 1003 MHz band.

Ordering Information

Order Number	Model Name	Description
584961-020-00	GX2-DM2000/10/CH20-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 20, RoHS compliant
584961-021-00	GX2-DM2000/10/CH21-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 21, RoHS compliant
584961-022-00	GX2-DM2000/10/CH22-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 22, RoHS compliant
584961-023-00	GX2-DM2000/10/CH23-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 23, RoHS compliant
584961-024-00	GX2-DM2000/10/CH24-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 24, RoHS compliant
584961-025-00	GX2-DM2000/10/CH25-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 25, RoHS compliant
584961-026-00	GX2-DM2000/10/CH26-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 26, RoHS compliant
584961-027-00	GX2-DM2000/10/CH27-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 27, RoHS compliant
584961-028-00	GX2-DM2000/10/CH28-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 28, RoHS compliant
584961-029-00	GX2-DM2000/10/CH29-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 29, RoHS compliant
584961-030-00	GX2-DM2000/10/CH30-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 30, RoHS compliant
584961-031-00	GX2-DM2000/10/CH31-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 31, RoHS compliant
584961-032-00	GX2-DM2000/10/CH32-R	30 Analog + QAM Transmitter, forward path, directly modulated, 52MHz-1GHz, +10 dBm output power, ITU channel 32, RoHS compliant

Specifications

Optical

Optical Output Power	10 dBm minimum
Optical Wavelength, Channels	20 - 59
Optical Connectors	SC/APC
Laser Shutdown	Enable/Disable via GX2 Control Module
Internal Dispersion Compensation	60 kM in 1 kM steps

RF

Operational Bandwidth	52 to 1003 MHz
Broadcast Input Level	19 dBmV ± 0.5 dBmV/ch (30 NTSC Channels + 744 MHz digital at - 6 dBc)
Narrowcast Input Level	6 dBc above broadcast input levels
Flatness	1.0 dB max, peak to peak, 52 to 1003 MHz
Gain Control	15 dB, 0.25 dB steps
RF input test point	-20 dB ± 0.5 dB relative to main RF input port
RF Impedance	75 Ω
RF Input Return Loss	16 dB min, 52 to 1003 MHz (Broadcast and Narrowcast)
Narrowcast to Main path isolation	50 dB min, 52 to 1003 MHz

General

Dimensions	1.0 in W x 5.9 in H x 15.0 in D (2.5 cm x 15.0 cm x 38.0 cm)
Weight	2 lbs (1 kgs)
Mounting	GX2-HSG Equipment Shelf
RF Connector (Housing)	G Type Module to Housing F Type output
RF Connector (Test Point)	F Type
Operating Temperature Range	0° C to 50° C (32° F to 122° F)
Storage Temperature Range	-40° C to 80° C (-40° F to 176° F)
Power Consumption	12 W typical
Visual Interface	Tri-Colored Module Status LED
Data/Control	Serial Peripheral Interface (SPI) to Control Module

Specifications are subject to change.

For Services, contact your Motorola account executive for more information.

System Integration Services

Your Broadband System business and operational goals are complex. Using Motorola Mobility's System Integration Services can make achieving those goals a lot easier. Our expert team will plan, document, and deploy the services you need to accomplish your goals. And if flexibility is a concern, don't worry: we provide both horizontal (across multiple technologies) and vertical (engineering, labor, project management) system integration.

Services

Motorola's Applications Engineering Services team can provide you with best in-class technical training. Our award-winning staff can create instructor-led or web-based remote courses to meet your needs. For more information email inquiries to: wsharp@motorola.com.