

GX2-GS1000 SERIES

**1550NM ALL QAM ULTRA-LONG DISTANCE
BROADCAST/NARROWCAST TRANSMITTERS**



GX2-GS1000 Multi-wavelength Transmitters

The OmniStar® GX2-GS1000 series of 1550nm Broadcast/Narrowcast Transmitters are specifically designed for ultra-long distance full-band systems with complete QAM loading to achieve an industry-leading distance over fiber with multiple wavelengths. This device is an ideal choice in DWDM transmitters to future proof networks. The GS1000 offers the ability to collapse physical hub locations and push fiber deeper into the network. The multi-wavelength options allow easy segmentation of networks that have fiber limitations to save operators time and money.

The GS1000 solution offers high performance, allowing operators to segment nodes in the network by conserving fiber through the use of multi-wavelength technology. Using the GS1000 to multiplex transmitters with different wavelengths onto a single fiber, operators can segment nodes in the network up to 16 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-GS1000 series of transmitters are available in a range of 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. 10 dBm SBS suppression per wavelength minimum in multi-wavelength applications
5. Superior BER and MER performance

System Applications

These are examples of system configurations that can be achieved using the GS1000 series transmitter.



Figure 1: Transmitter with No EDFA to Node

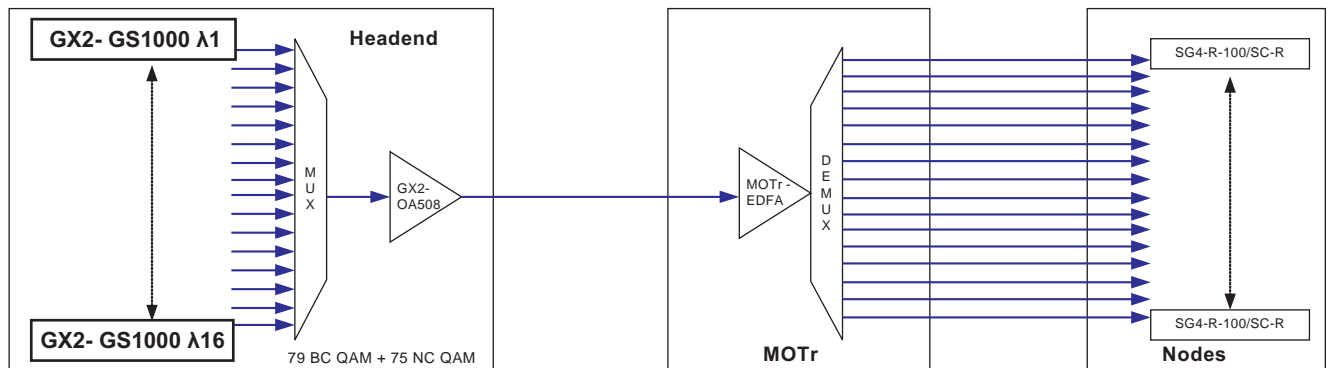


Figure 2: Typical Multiple Wavelengths on a single fiber with Multiple EDFAs to Nodes

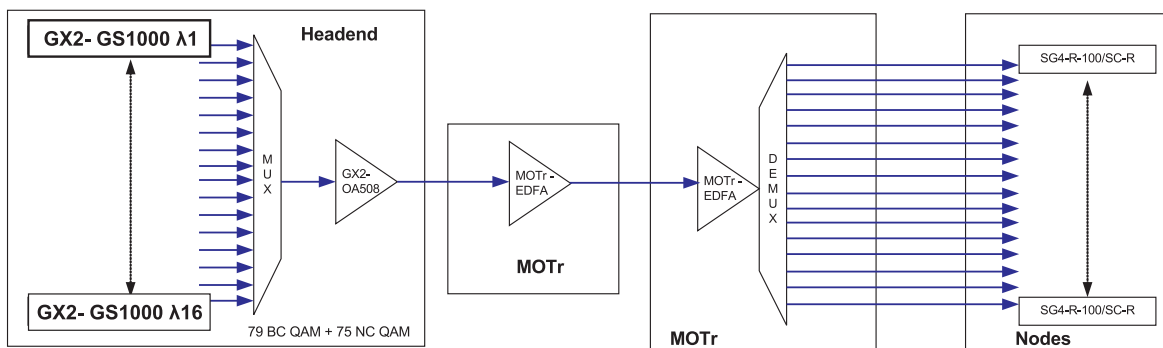


Figure 3: Ultra-Long Distance applications can exceed 100Km in reach

Ordering Information

Order Number	Description
586376-0xx-00	GX2-GS1000B9/10/CHxx, transmitter, Broadcast-Narrowcast, 52-1003MHz, +9 dBm Output, ITU Channel XX, SC/APC, finished good

586376-0xx-00

Denotes the Channel Number 21,22,24,27,29,31,33,35,41,45,50,54,55,56,57,59

Typical Performance

Number of Wavelengths	Link Distance (km) (37 MER)	Link Distance (km) (38 MER)
1	115	110
2	115	100
4	100	70
8	85	60
16	75	50

Notes: The loading on each transmitter is 132 QAM channels from 52 to 1003 MHz of 256 QAM (79 Broadcast QAMs and 53 Narrowcast QAMs).

Specifications

Optical

Optical Output Power	9 dBm minimum
Optical Wavelength, Channels	21,22,24,27,29,31,33,35,41,45,50,54,55,56,57,59
Optical Connectors	SC/APC
Laser Shutdown	Enable/Disable via GX2 Control Module
SBS suppression, minimum	+10 dBm per wavelength

RF

Operational Bandwidth	52 to 1003 MHz
Broadcast Input Level	15 ± 0.5 dBmV/ch
Narrowcast Input Level	21 ± 0.5 dBmV/ch (Narrowcast port will attenuate the signal to be 6 dB below the Broadcast level)
Flatness	1.0 dB max, peak to peak, 52 to 1003 MHz
Gain Control	12 dB, 0.5 dB steps
RF input test point	-20 dB ± 0.5 dB relative to Broadcast input port -26 dB ± 0.5 dB relative to Narrowcast 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	13.5 W typical
Visual Interface	Tri-colored module status LED
Data/Control	Serial Peripheral Interface (SPI) to Control Module

Specifications are subject to change.

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