

# SG1000

1 GHZ COMPACT OPTICAL NODE



The 1 GHz SG1000 complements evolving fiber-deep networks by providing cable operators with a compact, high-performance optical node.

The Motorola SG1000 optical node is the perfect solution for system operators expanding fiber-rich architectures with non-redundant, cost-effective optical nodes. Its compact size, flexible fiber management system, and straightforward electronics package simplify installation in both strand and pedestal applications. It supports 1 GHz in the forward passband using an integrated optical receiver and Gallium Arsenide hybrid technology. The Motorola SG1000 optical node features one or two high-performance RF outputs, and can be field-configured with passive accessories to activate a third RF port. Several different models of 1310 nm return transmitters from -4 dBm to 3 dBm (0.4 mW to 2 mW) are available to configure the return path.

Motorola's Coarse Wave Division Multiplexer (CWDM) 2.0 mW Distributed Feedback transmitters (DFBT3) are also available. With the use of optical passives, multiple wavelengths can now be combined onto a single fiber, providing a cost-effective way to segment node locations and increase bandwidth per subscriber.

**SG1000**

1 GHz Compact Optical Node

# Specifications

**OPTICAL**

Optical Wavelength	1310 ( $\pm 20$ ) nm to 1550 ( $\pm 30$ ) nm
Received Optical Input Power Range	-3 dBm to 2 dBm
Optical Input Return Loss	45 dB min.
Receiver Typical Output Level	30 dBmV with 0 dBm receiver input power (77-channel load)

**STATION**

Output Level	High-gain 55 dBmV min. virtual output level at 1 GHz with -3 dBm optical power 4% OMI per channel
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**GENERAL**

AC Input Voltage	44 to 90 VAC sine or square
AC Bypass Current	15 A
Hum Modulation	-65 dBc 5 MHz to 870 MHz -60 dBc 870 MHz to 1 GHz bypass current
Operating Temperature	-40 °C to 60 °C (-40 °F to 140 °F)
Housing Dimensions	16.13 in x 9.80 in x 5.68 in (40.9 cm x 24.8 cm x 14.4 cm)
Weight	21 lb (9.5 kg)

**RF**

Forward Passband Frequency	47 MHz to 1003 MHz depending on split
Return Passband	5 MHz to 85 MHz depending on split
Flatness	$\pm 0.5$ dB $F_{\text{minfwd}}$ to $F_{\text{maxfwd}}$
Return Loss	16 dB
Output Slope	8, 10, 12, 14.5, 16, 18 dB straight-line slope

**PERFORMANCE**

0 dBm optical input power, GX2-LM1000E, 20 km fiber	
14.5 dB slope	
77 channel NTSC plus 450 MHz compressed data	
6 dB below analog channel level	1003, 550, 52 MHz, 49.5, 48.5, 41 dBmV
Composite Triple Beat	65 dBc min.
Composite Second Order	66 dBc min.
Carrier To Composite Noise	50.5 dB min.

All features, functionality, and other product specifications are subject to change without notice or obligation.

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