



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.

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Specifications

OPTICAL

| | |
|------------------------------------|---|
| Optical Wavelength | 1310 (± 20) nm to 1550 (± 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

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

GENERAL

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|-----------------------|--|
| 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 | ± 0.5 dB F_{minfwd} to F_{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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