Network Testing Devices

Laser Transmitter Optimization

Highlights

Reduces time spent optimizing laser transmitters by 85% or more

Measures OMI automatically

Useful for several key applications

Effective as an optical node

Measures optical power in dB or mW in relative or absolute terms

High RF output and low distortion

Deployed by leading CATV operators

FOS 1000A
OMI Instrument

The FOS 1000A is the fastest, most effective tool available for optimizing laser transmitter performance in the forward and return bands. With the unique ability to measure OMI, users can reduce time spent optimizing transmitters by 85% or more compared to alternative approaches.

Traditional methods for setting OMI require several pieces of expensive laboratory-grade equipment, along with a highly trained engineer familiar with the manual tasks for determining the level. As several variables can and do affect OMI, this is a time-consuming process, taking as long as an hour or more per transmitter to complete.

When using the FOS 1000A, all of these variables are taken into account automatically, eliminating the need for manual tasks and calculations. In addition to time savings, by incorporating all necessary components into a single instrument, users save valuable money and the easy-to-use device can be operated by technicians of all levels.

Applications for CATV & Multi-Channel Operators:

- Laser transmitter setup
- Laser transmitter maintenance
- Network troubleshooting
- Performance benchmarking

Applications for CATV Equipment Manufacturers:

- Laser transmitter development & manufacturing
- Quality assurance testing

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FOS 1000A Specifications

Display/Front Panel Specifications:

Status/Control Display	2 line, 48 character LCD (backlight)
Display Status Mode Selection	
• mW or dBm	Front Panel SPST Push Button Switch
• Wavelength	Front Panel SPST Push Button Switch
• Relative/Absolute	Front Panel SPST Push Button Switch
• Number of Channels	Three section BCD Push Button Switch
• Wavelength	1310 nm, 1550 nm ±20 nm
• Mode	Absolute, Relative
• Optical Power	mW or dBmW
• RF Power	Estimated Carrier Power in dBmV; ± 2dB
• OMI per Channel	Measured in Percent
• OMI Total	Measured in Percent
Internal Optical Input	FC/APC, front panel accessible
Front Panel Optical Input Adapter	SC/APC Standard (Others Optional)
Optical Input Max (no damage)	+3 dBmW with Attenuator = 0
OMI Reading Accuracy	±10% of the OMI reading; ± 0.2%
Optical Receiver ENI	≤ 8 pA per root Hz; 15 MHz to 1000 MHz
Integrated Optical Attenuator	0.25 to 25 dB Continuous from Front Panel
Optical Input Threshold, Typical	-2 dBmW Optical, 85 channels, 1% OMI
Measurement Threshold Standard	-3 dBmW Optical, 79 channels, 3.5% OMI
with Option 1 (see below)	-8 dBmW Optical, 79 channels, 3.5% OMI

RF Specifications:

RF Output Connector	75 ohm BNC
RF Output Return Loss	> 15 dB; 15 to 860 MHz
	> 12 dB; 860 to 1000 MHz
RF Output Level, Above Threshold	-2dBmw Total RF Power (No Attenuation)
Output (3 dB) RF Frequency Range	20 MHz to 1000 MHz
RF Output Flatness (Typical)	±0.75 dB (20 MHz to 1000 MHz)
Internal Attenuator Range	0 to 44 dB in 2 dB steps
Internal Attenuator Accuracy	±0.25 dB (20 MHz to 1000 MHz)
Internal Attenuator Flatness	±0.25 dB (20 MHz to 1000 MHz)
RF Output Distortion Performance	CSO, CTB - Maximum -70 dBc
RF Output Correlated Noise	< -95 dBmW @ RF output

Additional Specifications:

Temp Range (No Damage)	-20 to +60 degrees C (No Damage); 0 to +50 degrees C (Operating)
Overall Dimensions	10” Deep X 8” wide X 4.75” High (excluding Handle)
AC Power Requirements	110V/220V, 50-60 Hz, < 25 Watts Total
AC power Range	85V to 250V

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