

FOM 7900B System

Product Features

8 channels of user-selectable laser source modules

$\pm 3\text{pm}$ wavelength stability with
 $\pm 0.003\text{dB}$ power stability

Customer specified WDM DFB sources covering S, C, and L-bands at up to 20mW per channel

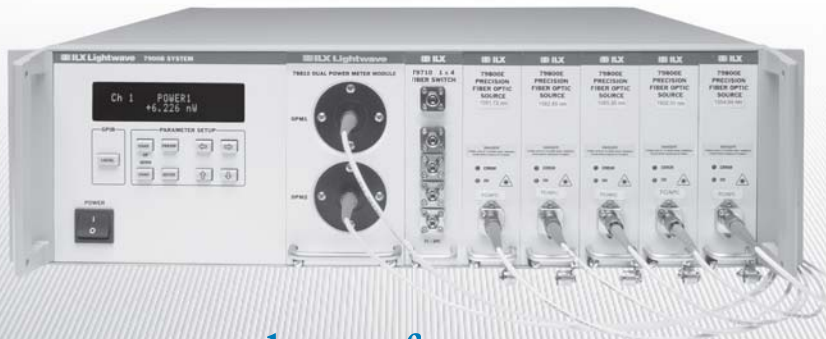
Internal synchronous modulation to 500kHz

GPiB/IEEE488 and RS-232 interfaces

The FOM-7900B is a high-performance fiber-optic test and development platform with eight channels supporting plug-in laser source and fiber optic switch modules. This system provides a cost-effective solution for WDM and CWDM test applications including EDFA, SOA, and fiber optic component characterization.

Front panel plug-in modules are offered at user-specified wavelengths from 1475-1625nm including service channels at 1310, 1480, 1510, and 1625nm. Each channel can be tuned over a 1.7nm range with 0.001nm resolution. These sources can be customized to meet special requirements including fiber optic connector type, PM alignment and fiber, and center wavelength on ITU grid points.

For higher density WDM system requirements, up to 25 additional FOM-7900B mainframes can be linked together for a total of 200 channels, all controlled from a single GPiB address.



High Performance Multi-Channel Fiber Optic Test System

 **ILX Lightwave**
Laser Diode Instrumentation & Test Systems

FOM 7900B

System

Solutions for Multi-Wavelength Fiber Optic Test Applications

The FOM-7900B, with the FOS-79800F source modules and FOS-79710 switch delivers a multi-wavelength test solution for both active and passive WDM components and systems. Each module can be controlled independently through the front panel or remotely through the GPIB/IEEE-488 or RS-232 interfaces. Full control of wavelength, output power, calibration and modulation, switching, and power measurement give you the flexibility needed for most fiber optic testing applications.

Fifth Generation Laser Sources for Today's Testing Needs

The FOS-79800F laser source modules set the standard with an impressive list of features: picometer resolution, 20mW output power with 0.005dB stability, >40dB side mode suppression ratio, coherence control, optional source shutter, and ± 0.1 dB attenuation accuracy. These modules provide the performance and reliability required for today's fiber optic testing needs.

Coherence control of the modules broadens laser linewidth from 30MHz to 1GHz. This reduces spectral power density and decreases coherence length from several meters to around 20cm, which is especially important in component test and system applications to reduce the effects of connector reflections and stimulated Brillouin scattering. The final result is power and wavelength stability of ± 0.003 dB and ± 3 pm, respectively.

Performance for EDFA Testing

For gain flatness testing with accurate attenuator-like performance, the FOS-79800F modules feature high-resolution attenuation so that you can easily equalize channel levels.

Attenuation is accurate within ± 0.1 dB, while maintaining other specifications from maximum power to 5dB down. If speed is critical to your application, the optional SS-810 shutter blocks the output, effectively turning off the source without turning off the current to the lasers, eliminating settling time.

For measuring EDFA spontaneous emission background levels, the FOS-79800F modules feature 100% depth and 50% duty cycle modulated drive current to the lasers. Each source can be modulated synchronously at any frequency from 1-500kHz.

Normal and inverted TTL-level outputs provide flexible triggering for data acquisition instruments, simplifying test setup. In addition, a rear panel modulation input synchronizes multiple mainframes and allows synchronization of the system with an external instrument.

Complete Integrated Systems Test

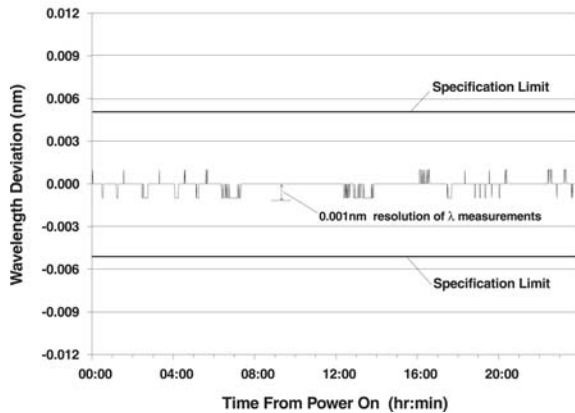
Even more flexibility is available by adding the FOS-79710 Fiber Optic Switch Module. The 1 x 4 switch is optimized for excellent stability with minimal insertion and return loss. This optically-passive fiber optic switch is bidirectional in operation and transparent to signal formats and bandwidth. The FOS-79710 allows you to switch the input of a single fiber optic channel to any one of four output ports or to a "blocking" position into a zero-reflection terminator. You can define a switch position sequence to occur at defined time intervals or by external trigger.

Combining the FOS-79800F Source Modules and the FOS-79710 Optical Switch Module with a power meter enables splice loss testing, edge testing, and characterization of optical cross connects and optical switches.

FOM 7900B

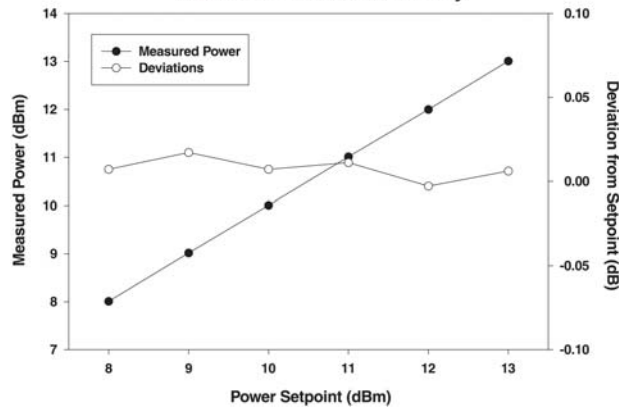
System

DFB Long-Term Wavelength Stability



Precise control of laser diode temperature and current densities ensures a stable wavelength.

79800E Attenuation Accuracy



Industry-leading fiber optic source power attenuation accuracy.

Multi-Channel Module Control

Each FOM-7900B module can be controlled independently through an intuitive menu on the front panel or remotely through the GPIB/IEEE-488 interface. Easy-to-understand commands allow full control of each module's control parameters. Banked remote capability provides control of up to two hundred source, switch, and power meter functions from a single GPIB address.

Remote Control for Automated Testing

For complete automated control, the 7900B system comes with a powerful GPIB interface, allowing remote programming and control from most computers. This interface uses the National Instruments TNT488 chip-set, which supports high-speed GPIB protocol. All instrument functions accessible from the front panel are also accessible through the interface bus, and all commands are based on a set of easy-to-use mnemonics. For

further control flexibility, LabVIEW® instrument drivers are available at no additional cost.

The First Name in Fiber Optic Test

Today's largest world-leading fiber optic component manufacturers are testing with more laser sources from ILX Lightwave than from any other company. Our technically qualified sales engineers can help you define the custom fiber optic source configuration for your component and amplifier testing needs.

