The OWM

The Optical Wavelength Manager (OWM) is a cost-effective solution for optical monitoring of DWDM networks—including DWDM optical power, wavelength, and OSNR.

The Digital Lightwave Optical Wavelength Manager™ (OWM™)—available in 50 GHz or 100 GHz configurations—is the first shelf-level, intelligent sub-system for centralized management of remote DWDM wavelengths that can also be used as a portable device for field use.

The OWM, distributed in critical nodes throughout the network, provides the data necessary to assess the integrity of the optical transport layer in real time. This makes pre-emptive optical performance monitoring possible, which enables new revenue-generating opportunities—such as differentiated services based on wavelength-defined SLAs.

The OWM is network-ready and web-enabled for local or remote monitoring from a Network Operations Center (NOC). Using as little as a 1% tap, the OWM is designed for non-intrusive monitoring in Central Offices (COs) and POPs in optical switch, cross-connect, add-drop or amplifier monitoring applications. The OWM is based on a highly reliable solid-state optics design with no moving parts. Since the OWM is not a scanning device and views all channels simultaneously, it is capable of monitoring up to 100 DWDM channels, all in 10 ms. The OWM accurately delivers all of the information needed to determine an optical channel's integrity, including power, wavelength, and Optical Signal to Noise Ratio (OSNR). It also provides automated alarm thresholds, data logging, system baselining, and a power tilt measurement. The OWM management interfaces include: SNMP v1/v2, TL1 or a Java-based GUI.

The OWM can also be configured with an optional integrated optical fiber switch that allows 2, 4 or 8 fibers to be monitored, and is automated to monitor one fiber at a time. This switch enables the OWM to be economically cost-shared across multiple fibers, and to be used in unmanned sites to reduce dependence on an onsite workforce.

Optical Wavelength Manager (OWM)

Digital Lightwave®

The OWM

The Optical Wavelength Manager (OWM) is a cost-effective solution for optical monitoring of DWDM networks—including DWDM optical power, wavelength, and OSNR.

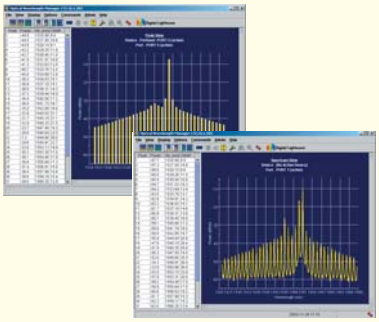
Features:

- Monitoring 50-100 (depending on configuration) DWDM channels simultaneously
- Centralized remote monitoring over Ethernet
- Multivendor DWDM system monitoring from a single console interface
- Integrated multifiber monitoring
- Ultra-high dynamic range
- Instantaneous (10 ms) data acquisition
- Highly accurate without sacrificing speed
- Automated alarm threshold setting and peak detection
- Feature-rich point-and-click Graphical User Interface (GUI)
- Rack-mountable and/or field-pack portability

Applications:

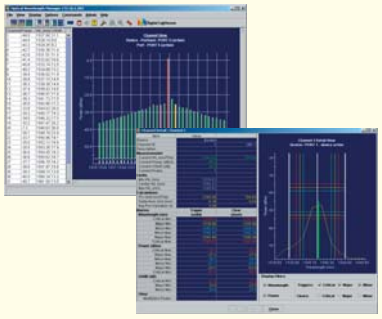
- New revenue-generating wavelength-defined SLAs
- Telecom DWDM access, core, and long-haul networks:
  - Remote monitoring of manned and unmanned sites
  - Baselining and benchmarking of DWDM systems
  - DWDM system commissioning, and DWDM field troubleshooting and maintenance
  - Pre- and post-optical amplifier monitoring
  - Baselining and benchmarking of DWDM systems
  - HFC DWDM networks (100-GHz configuration)
  - Enterprise access and Storage Area Networks (100-GHz configuration)
- DWDM bench top testing

OWM GUI



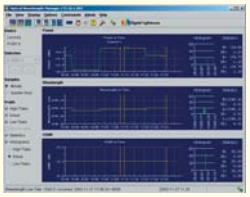
Spectrum View/Peak View

- Data table for all peaks: power, wavelength and OSNR
- Bar graph views of spectral peaks
- Line views of spectrum and noise floor
- Zoom capability for more details
- Used to commission/turn-up new systems
- Used to baseline/benchmark systems



Channel View/Alarm View

- Bar graph display or user-defined channels
- Data table for all channels: power, wavelength and OSNR
- Point-and-click for individual channel information (power, wavelength, OSNR)
- User-definable, wavelength and OSNR channel alarm thresholds
- Color-coded graphical and tabular displays of minor, major, and critical alarms settings



Logging View

- Individual channel display of power, wavelength and OSNR over time
- Displays performance history of all channels
- User-defined timeframe
- Single-screen display of channel power, wavelength and OSNR
- Identifies network performance trends
- Enables pre-emptive fault detection/isolation
- Records performance history of all channels

Specifications are subject to change without notice.

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Digital Lightwave provides industry-leading products, technologies, and services for deploying and managing communications networks. With a presence in more than 80 countries, Digital Lightwave enables customers to successfully implement global communications networks worldwide. To find the nearest sales office, please visit www.lightwave.com.

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Optical Wavelength Manager™ (OWM™) Technical Specifications

100 GHz

Wavelength Measurement Range	32 nm or 40 nm, C Band
Channel Spacing	≥100 GHz
Number of Channels	40 or 50 @ 100 GHz spacing 20 or 25 @ 200 GHz spacing
Dynamic Range	60 dB
Noise Floor	-70 dBm
Power Accuracy	± 0.5 dB
Power Resolution	0.1 dB
Wavelength Accuracy	± 0.02 nm
Wavelength Resolution	0.01 nm
OSNR Measurement Range	>30 dB at 0.1 nm bandwidth)
Power Measurement Rate	10 ms (all channels)
Wavelength Measurement Rate	10 ms (all channels)
OSNR Measurement Rate	100 ms (all channels)
Wavelength Range (40nm)	1526.05 nm to 1565.90 nm
Wavelength Range (32nm)	1530.334 nm to1561.419 nm
Operating Temperature Range	0 to +50°C
Power Requirement	<10 W
Power Input	100-250 VAC or – 48 VDC
Fiber Connector (Std)	SC/UPC
Optical Fiber Inputs	2, 4, 8
Interface Connectors	RS-232, 10-BaseT Ethernet
Local Software Downloads & File Storage	PCMCIA - Dual slot
Interface Protocols	ASCII CLI, TL-1, SNMP v1/v2, FTP for remote downloads
Dimensions (approx.)	17" W x 3.5" H x 10.75" D (provided with mounting brackets for 19" and 23" rack width)
	Designed to Telcordia NEBS Level-3, UL1950 &CSA No.950, FCC Part15, CE compliance

50 GHz

Wavelength Measurement Range	40 nm, C Band
Channel Spacing	≥ 50 GHz
Number of Channels	100 @ 50 GHz spacing 50 @ 100 GHz spacing
Dynamic Range	60 dB
Noise Floor	-70 dBm
Power Accuracy	± 0.5 dB
Power Resolution	0.1 dB
Wavelength Accuracy	± 0.02 nm
Wavelength Resolution	0.01 nm
OSNR Measurement Range	100 GHz spacing >30 dB (at 0.1 nm bandwidth) 50 GHz spacing >20 dB (at 0.1 nm bandwidth)
Power Measurement Rate	10 ms (all channels)
Wavelength Measurement Rate	10 ms (all channels)
OSNR Measurement Rate	100 ms (all channels)
Wavelength Range	1526.05 nm to 1565.90 nm
Operating Temperature Range	0 to +50°C
Power Requirement	< 10 W
Power Input	120-250 VAC or – 48 VDC
Fiber Connector. (Std)	SC/UPC
Optical Fiber Inputs	2, 4, 8
Interface Connectors	RS-232, 10-BaseT Ethernet
Local Software Downloads & File Storage	PCMCIA
Interface Protocols	ASCII CLI, TL-1, SNMP v1/v2, FTP for remote downloads
Dimensions approx.	17" W x 3.5" H x 10.75" D (provided with mounting brackets for 19" and 23" rack width)
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Specifications valid over full temperature range. Specifications are subject to change without notice.

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