Datasheet

LambdaDriver® Management Module (EM1600-MNGT)

EM1600-MNGT

Overview

EM1600-MNGT is an Element Management module installable in the LambdaDriver Optical Transport Systems. (LD1600P and LD1600L)

It performs monitoring and control of the LambdaDriver chassis and modules. The Management module is a multiport Ethernet Switch Router functioning as an SNMP agent and reporting to a central NMS. Accordingly, the management module can be remotely accessed by any SNMP NMS either in-band or out-of-band in a switched or routed topology.

With its Linux-based system software and state-of-the-art hardware design, the management module provides many advanced features and delivers an exceptional level of performance, including extensive setup and control of the full range of LambdaDriver products.

Management options

EM800-MNGT can be accessed locally or remotely via the following:
- ASCII terminal using a serial RS-232 connection
- Remotely via a TELNET station
- SNMP – The module funtions as a fully featured SNMP agent
- MRV MVPro and PV NMS provide complete SNMP management with GUI

Features

○ Linux-based system software

○ Management access using MRV NMS, SNMPv3 with IPV6 support, TELNET, or advanced CLI.

○ Secure management with SSH, SNMPv3, Time-of-Day Access Control List (ACL) for trusted connections, VLANS for virtual management protection network, RADIUS/TACACS' secure sessions access.

○ Multi-user CLI access with 3 priority levels

○ Extensive management features - Link status, optical performance monitoring, RLB/LLB (Loop-Back) control, remote laser shutoff, Chassis inventory and HW/SW version report of installed modules.

○ Network Time Protocol (NTP) support - automatically synchronizes system clock with designated time server

○ Automatic logging of system events and automatic (day/time) command scheduler maintenance with no manual intervention - Multiple Remote Syslog Management event scheduler time based policies and operation

○ Remote configuration and software maintenance - System configuration FTP upload/download with easy-to-use editable ASCII configuration files

○ Service assurance - TraceRoute

○ DHCP Client Support
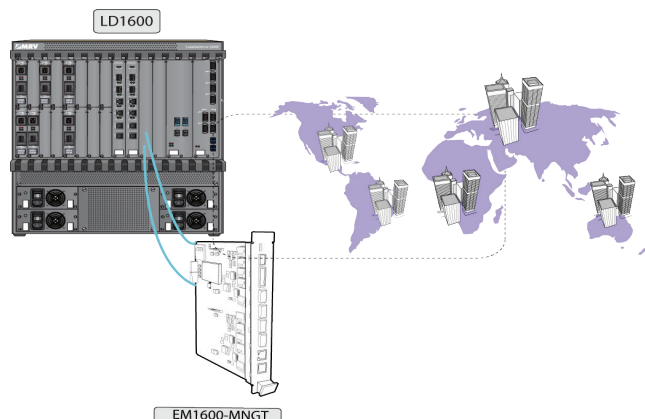
○ Support of STP, ERPS, LLDP and IP SLA

Architecture and Interfaces

The management module is accessible via the following front panel interfaces as listed below:
- One RS-232 port (RJ-45)
- Four 100/1000BaseFX ports (SFP)
- Three 10/100/1000BaseTX UTP ports (RJ-45)
- One USB 2.0

LD1600

EM1600-MNGT

Management Features

- Polling LambdaDriver modules for extensive information including installed module types, link status, optical power levels, etc.
- Enables loop-back functionality for troubleshooting,
- Configuration of data rate and wavelength selection (for wavelength tunable devices), as well as other module-specific parameter settings.
- Monitors the devices' operating temperature, power supply status, fan status, etc.
- Fully supports Digital Diagnostics information retrieval for optical performance monitoring of pluggable transceivers.
- Performance Monitoring reports per ITU-T G.709
- Remote Firmware and Configuration download.
- Syslog - Automatic logging of system events.
- Event traps can be set to provide specific alerts to the network manager.

Security

Using Linux as the operating system offers all the advantages of the Open Source environment to the network administrator. Since security is a prime concern of IT administrators, this management module provides the necessary solution by offering a highly secure operating environment with its SSH, SNMPv3, and RADIUS capabilities.

Multiple users can concurrently access the LambdaDriver without compromising overall security.

Graphical User Interface (GUI) management

MRV's NMS provides complete GUI management for all MRV products including the LambdaDriver product line.
A special integrated application, the WDM Service Monitor, enables real-time monitoring of the LambdaDriver selected service channels.

This application presents an end-to-end graphical view of every channel selected in a LambdaDriver WDM network, thus providing the network administrator with a comprehensive means to visualize the actual state of all services.

Management Administration Features

Configuration files can be uploaded/downloaded in standard ASCII format, allowing configurations to be edited offline and to be saved remotely for easy retrieval.

Two copies of a configuration file are saved on the management module to provide backup as a safety net for configurations. Firmware updates can be performed locally or remotely by TFTP.

A copy of the previous software version is saved on the management module to provide backup in case of problems with the new software download.
A Real-time Clock is supported for automatic synchronization with a designated time-of-day server through Network Time Protocol (NTP).

IP SLA is a service assurance tool that enables service providers and enterprises to monitor and measure the connectivity and performance of Layer 3 routing networks by providing Round-Trip Delay (RTD), jitter, and packet loss data between remote end-points based on RFC 2925 requirements.

If there is a DNS server in the network, EM800-MNGT will operate as a DNS agent to provide a user-friendly node-naming scheme. It can operate in Layer 2 Switched mode with VLAN support and in Layer 3 Routed mode supporting OSPF and static Routing.

Enviromental	
Regulatory Compliance	FCC Part 15 (Class A); EMC Directive: Emission (Class A) and Immunity; RoHS2 Directive, REACH SVHC, WEEE Directive.
Operating Temperature	-5 to 50°C (23 to 122°F)
Storage Temperature	-10 to 70°C (14 to 158°F)
Relative Humidity	90% maximum, non-condensing
Dimensions (W x H x D)	26.93 x 263.4 x 227 mm (1.06 x 10.37 x 8.937 in)
Weight	1.009 kg (2.22 lb)
MTBF@25°C/77°F	616375 hr
Connector	4 x SFP receptacles, 3x RJ45 Ethernet, 1 x console EIA - 232 (RJ45), 1xUSB 2.0
Power consumption	6.5 watt

Order Info

EM1600-MNGT   Lambda Driver 1600 Linux based Management Module