

## Overview

FIRE™ brings wavelength division multiplexing (WDM), a proven technology in telecom and cable networks, to the data center. FIRE is a WDM system that accepts multiple inputs at rates of up to 10 Gbps (16G FC) and provides output as multiple wavelengths on single mode fiber.

WDM technology has been crucial in providing the explosive bandwidth growth of global networks and is proven in systems delivering 99.999% uptime. In data centers, higher data rates and demand for bandwidth is becoming increasingly difficult to sustain with copper or multimode fiber physical networks. WDM can reduce cabling and increase capacity by orders of magnitude with smart cabling that offers monitoring and management.

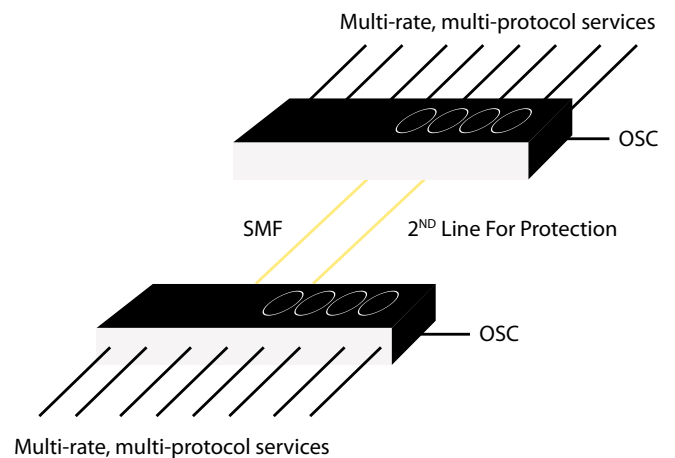
## Key features

- Multi-rate, multi-protocol, user-configurable channels from GbE to 16Gbps in a compact 1RU chassis.
- 8 channels CWDM or DWDM output on single mode fiber
- Expandable to 96 channels with external aggregation and mux/demux options
- Additional output for redundant, 1+1 facility protection for ring and point-to-point topology
- Easy-to-use EMS
- Pluggable SFP/SFP+ optics for both tributary and line side
- Supports single and dual fiber connections
- Includes dual, hot-swappable, AC power supplies

## Product description

The Fire WDM System includes transponders, mux/demux, and an optional protection switch in a compact 1RU chassis with low latency and low power consumption. The system also includes Element Management System (EMS) software. Additional Fire WDM systems can be added for a stackable, scalable solution. Fire is well-suited for:

- High capacity, low latency connectivity within the data center
- Replacing multi-mode with single-mode cables
- Reaching across the enterprise and between data centers
- Easy adaptability to future data rate increases



Services are converted to specific wavelengths and multiplexed together onto a single fiber, then demultiplexed at the destination.

## Specifications

### System

Fire WDM System	1 RU with up to 8 multi-rate, multi-protocol inputs; and optical output on single mode fiber
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### Options

Transponders	CWDM or DWDM transponders
Protection	1+1 output line, optics, and switch
External mux/demux	1 RU with 16, 40, up to 96 channels
External aggregator	1 RU with up to 16 inputs

### Service Side

Interface Rates	4 ports at 1Gbps to 16Gbps (FC) 4 ports at 1Gbps to 10Gbps
Optical Interface	850nm/1310nm/1550nm
Optical Services	1G/2G/4G/8G/16G FC, GbE 10G Ethernet
Copper Services	1000MBase-T, SFP+

### CWDM Link

Wavelength	ITU-T G.694.2 1270-1610nm 20 nm spacing
OSC	1290nm, 1310nm
Optical Reach	120Km for 1.25Gbps, 80Km up to 4.25/8/10Gbps, 40Km for 16G FC
Optical Output Power	0dBm (min) to +5dBm (max)
Sensitivity	-28dBm APD, -18dBm PIN
Optical Monitoring	Tx & Rx power
Link Attenuation	<4dB (Mux + DeMux)

### DWDM Link

Wavelength	ITU-T G.694.2 1530-1625 nm 100 GHz or 50 GHz spacing
OSC	1490nm, 1510nm
Optical Reach	400Km for 1.25Gbps, 200Km for 2.66Gbps, 80Km for 4.25/8.5/10Gbps, 40Km for 16G FC
Optical Output Power	Sub 10G: 0dBm (min) to +4dBm (max) 8/10G: -1dBm (min) to +2dBm (max)
Sensitivity	Up to 2.66Gbps: -28 dBm APD 4/8/10G: -24dBm APD, -14dBm PIN
Optical Monitoring	Tx & Rx power
Link Attenuation	Less than 4dB (Mux + demux)

### Optical Switch

Topology	Protected point to point, ring
Switching time	Less than 50ms
Signal WL	C and L band
Max input power	27dBm
Insertion loss	Transmit side 3.8dB Receiver side 1.2dB

### Network Management

Management Ports	<ul style="list-style-type: none"> <li>• 1RJ-45 LAN port 10/100Mbase-T</li> <li>• 2x SFP MNG ports 100/1000MBase-X</li> <li>• RS-232 Serial port</li> <li>• DB9 External Alarm port</li> </ul>
Protocols	SNMP, HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS, SNT, TFTP and FTP
Management	Web browser over HTTP/HTTPS, NMS/EMS, or 3rd party EMS NMS over SNMP, CLI over RS-232
OAM	Facility Loopback (Client and Line Interfaces), PRBS, Event Logger, Alarms, ALS
Performance Monitoring	Layer 1 PM for all Services, Optical Power Tx, Rx levels for all optical ports
Management Channel	CLI over RS-232 or CLI over Telnet/SSH
Visual Indicators	LED status indicators for: client and line ports, Management and LAN ports, System Critical/Major/Minor and Power Supply
Software Upgrade	Traffic Hitless – dual image

### Power Supply and Fans

AC: #88-0080-0-AC DC: #88-0080-0-DC	90 to 240VAC, 50/60 Hz, 1.5A max -48VDC, 3A max
PSU Redundancy	Single/Dual feeding, Hot Swappable
Cooling Unit: #88-0080-0-FM	Hot-Swappable Fan Unit

### Dimensions

Size	1.77" (1 RU) (H) x 17.32"(W) x 9.05"(D)
Weight	5.5Kg / 12.1 lb (Max)
Mounting	19", ETSI and 23"

### Ordering Information

88 - 0 08 A - M
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Fire product line</p> <p>s security 1+1 option</p> <p>0 standard channel plan</p> </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> <p>M with mux; 0 no mux</p> <p>A AC or D DC power</p> <p>08 number of channels</p> </div> </div>