

# OMX-144

Up to 144-Port Optical Matrix Switch



DATASHEET

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## Features

- Accepts up to 9 port cards for a maximum of 144 media interfaces in a 6RU chassis
- Web-enabled interface for remote operation
- Simultaneous access allows concurrent operation by multiple users
- Two Ethernet and up to two serial ports (depending on model) for management and remote operation

## Applications

- HD Video Conferencing / Distance Learning
- High definition video systems networks with secure fiber interconnects
- High-quality uncompressed real-time video delivery
- Broadcast video switching
- 3G HD, HD-SDI and SDI video switching to within a broadcast facility or OB van
- Digital Theaters / Cinema
- Command & control centers

## Optical Matrix Switch Design

The EMCORE OMX-144 is a managed, non-blocking cross-point switch for digital signals with up to 144-ports of connectivity. The OMX chassis can be populated with either a high speed optical blade up to 4.25 Gbps per port (OMX-SFP-B ) or our 10/100/1000 copper Ethernet blade (OMX-ETH-B). The OMX-144 is a physical layer switch, i.e., the protocol or structure of data routed through the switch is ignored and is unaltered by its passage through the switch.

Each OMX-SFP-B Optical Port Card holds up to 16 Small Form-factor Pluggable (SFP) transceiver modules. Each SFP transceiver module provides the physical ports for one input and one output. Any of the 144 outputs can be connected to any one of its 144 inputs. Each port input provides an option of data retiming or bypass of retiming. While the cross-point switch itself can operate from 0 Mbps to 4.25 Gbps, different types of SFP transceiver modules impose different limitations on the range of data rates or the data format they will pass.



The OMX-144 has the following main functions:

- Enables cross-connection between copper and optical cables providing easy-to-use point-to-point, multicast and loop connectivity
- Useful as a media converter for multimode to singlemode, or vice versa, fiber conversion
- All ports are fully bi-directional, offering flexibility in determining where to connect computers, cameras and other video sources to HD displays
- Includes both a web interface as well as a comprehensive CLI (command line interface) for control and monitoring
- Scripting Libraries containing functions used for common applications quickly automate and streamline operations

The OMX-144 is housed in a 6RU (266.7mm) enclosure for stand-alone operation on a tabletop or in a 19-inch rack. The enclosure includes an AC power connector, power switch, power on indicator and mounting ears, along with a built-in power supply and cooling fans.

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### Models

Model	Description
OMX-144	OMX 144-Port 6RU Matrix Switching Chassis (Insert port cards not included)
OMX-ETH-B	OMX 16-Port 10/100/1000 Mbps Ethernet port card
OMX-SFP-B	OMX 16-Port, Up to 4.25 Gbps optical port card (without SFP transceivers)

### COPPER ETHERNET PORT CARD (OMX-ETH-B)

10/100/1000 Mbps Copper Ethernet



Specifications	Values
Protocols	10/100/1000 Mbps Copper Ethernet
Ports	16 per blade ANSFI/TIA/EIA-568-B, RJ45
Media Conversion	Yes
Status Indicators	LED front panel power 16 x TX/RX ethernet interface status
Physical Interfaces	RJ45 x 16

### SFP OPTICAL PORT CARD (OMX-SFP-B)

Multimode, Singlemode & CWDM up to 4.25 Gbps



Specifications	Values
Media Conversion	Yes
Status Indicators	LED front panel power
Data Rate	Up to 4.25 Gbps
Dimensions	16.5" (W) x 3.9" (D) x 1" (H) 41.9 cm (W) x 9.9 cm (D) x 2.5 cm (H)
Physical Interfaces	SFP x 16

### Sample Configuration



### General

Specifications	Values
Port Card Slots	9
Total Interface Ports	Up to 144, max 16 per port card
Port Card Protocols	Copper Ethernet SFP Fiber Optic SDI Video
Data Rate	10 Mbps up to 4.25 Gbps

### Serial Interface

Specifications	Values
Ports	(2) DB9 RS-232 Serial
Mode	9600 bps, No parity, 8 data bits, 1 stop bit, no flow control [ 9600, N, 8, 1, Off]
Max Cable Length	15m (49.21ft)

### Monitoring & Control

Specifications	Values
Controller Card	Includes redundant management ports
Protocol	TCP/IP
Interface	10/100/1000 Base-T Ethernet
Connector	RJ45
GUI	Web-based (built-in)
CLI	Default installed
SNMP	v1, v2 (v3 available)

### Physical

Specifications	Values
Weight	10.09kg (22.2lbs) without port cards
Power (max)	90-240 VAC, 50/60 Hz, 100W
Operating Temperature	0C to 50C (32F to 123F)
Storage Temperature	-40C to 85C
Humidity	0% to 90% RH (non-condensing)
Dimensions	42.5cm x 38.1cm x 25.02 cm 16.75"W x 15.00"D x 9.85"H

### Compliance

