

# OMX-144

Up to 144-Port Optical Matrix Switch



DATASHEET

FIBER OPTICS



## 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
- Redundant hot-swappable power supplies

## Applications

- High definition video systems networks with secure fiber interconnects
- Broadcast video switching
- 3G HD, HD-SDI and SDI video switching to within a broadcast facility or OB van
- Command & control centers
- Digital signage

## 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 embedded web management software, CLI (command line interface) and ASCII command set for control and monitoring
- Scripting Libraries containing functions used for common applications quickly automate and streamline operations

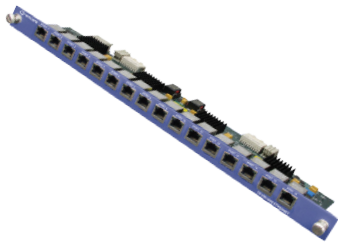
The OMX-144 is housed in a 6RU enclosure for stand-alone operation on a tabletop or in a 19-inch rack. The enclosure includes redundant hot-swappable power supplies, cooling fans, power on indicator and 19" rack mounting ears.

## 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)
OMX-SFP-B-R	OMX 16-Port up to 3.125 Gbps optical port card (without SFP transceivers)
OMX-SFP-B-V	OMX-16 Port up to 2.97 Gbps optical port card (without SFP transceivers)

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

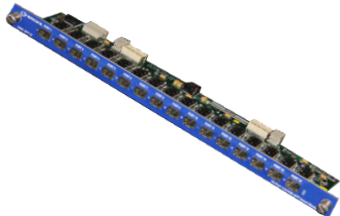
10/100/1000 Mbps Copper Ethernet



Specifications	Values
Protocols	10/100/1000 Mbps Copper Ethernet
Ports	16 per blade ANSFTIA/EIA-568-B, RJ45
Media Conversion	Yes
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)
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
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)
Status Indicators	LED front panel power
Physical Interfaces	SFP x 16

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

Multimode, Singlemode & CWDM up to 3.125 Gbps

Specifications	Values
Media Conversion	Yes
Status Indicators	LED front panel power
Data Rate	Multi-rate Reclocking 1.25/2.5/3.125 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
Form Factor	SFP MSA compliant only

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

Multimode, Singlemode & CWDM up to 2.97 Gbps

Specifications	Values
Media Conversion	Yes
Status Indicators	LED front panel power
Data Rate	270 Mbps, 1.485 Gbps, 2.97 Gbps
Standard	SMPTE 297 Compliance, SFP MSA Compliance
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

## Port Cards

Specifications	Values
Port Card Slots	9
Total Interface Ports	Up to 144, max of 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
Baud Rate	9600 bps
Mode	No parity, 8 data bits, 1 stop bit, software flow control
Max Cable Length	15m (49.21ft)
Rear Panel Connectors	Dual DB9

## LAN Port

Specifications	Values
Protocol	TCP/IP
Interface	10/100/1000 Base-T Ethernet
Rear Panel Connector	Dual RJ45

## Control & Monitoring

Specifications	Values
CLI	Telnet with SSH client support
Command Set Interface	Embedded ASCII

## Physical

Specifications	Values
Weight	10.09kg (22.2lbs) without port cards
Power (max)	90-240 VAC, 43 to 63 Hz, 600W
Operating Temperature	0°C to 50°C (32°F to 123°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
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
Rack Mount	19 inches, 6RU

## Compliance

