PART OF THE
Media Links 100G Solution Ecosystem™

Switching

Edge and Aggregation Switching

DATASHEET **Version 5.0**

Description

MDX-48x6C Aggregation Switch provides 48 ports of 1/10 Gbit/s and 6 ports of 40/100 Gbit/s connectivity. This provides an ideal centralized routing solution for smaller MD8000 networks, allowing signals to be interchanged efficiently between multiple remote endpoints.

Features & Benefits

Low latency, High availability, High Bandwidth. Provides line rate L2 & L3 Switching plus Hybrid Match & Forward, supporting up to 48x 1/10GbE connections with 6x 40/100GbE uplinks.

Technical overview

- 48x SFP28 (1G/10G) + 6 x QSFP28 (40G/100G)
- Switching capacity 1.8 Tbps,
- Forwarding rate 2.6 Bpps
- L2 and L3 wire speed forwarding
- MAC Addresses: 136K
- Hot-swappable, load-sharing redundant PSUs (AC/DC)
- 5+1 redundant, hot-swappable, configurable fan modules
- Energy efficient: 310W (typical w/o optics), max 510W
- 1RU, 43.84(W) x 47.3(D) x 4.35(H) cm, 17.3(W) x 18.6(D) x 1.7(H) in
- 9.43kg (20.78lb) w/ two PSUs
- 1x RJ45 serial console
- 1x RJ45 1000BASE-T management
- 1x USB Type-A storage
- All ports on front; PSU and fans accessible from rear
- LLDP with MD8000/MDX/MDP Product Families
- Uni-directional operation for bi-directional two fiber optical
- Media Flow Table (MFT) for strict management of media stream transfers

Related Products

MDX-32C IP Media Core Switch

ProMD EMS Software

DATASHEET

MDX-48x6C IP Media 100G Aggregation Switch

Front

Rear

Part of the new Media Links next generation 100G Ecosystem, the Media Links MDX-48x6C is a high performance non-blocking multicast switch designed specifically for aggregating IP Media streams and operating in conjunction with Media Links' MD8000 and MDP Series product portfolios. Contained in a compact 1RU form factor with NEBS certification, the MDX-48x6C provides line rate L2 and L3 switching, supporting up to 48x 1/10GbE and 6x 40/100GbE connections.

Handling both compressed and uncompressed video/audio streams as well as bidirectional TCP-over-IP data traffic, the MDX-48x6C is designed with a non blocking architecture for multicast streams, and for no packet loss at full bandwidth via selection of various configurations. The switch also incorporates several safeguards such as Loop/Flood Protection, Over Subscription, and Per Flow Bandwidth Management to maximize performance while preventing/minimizing the propensity of service interruptions. Low power consumption additionally separates this device from similar competitive offerings. The hardware provides high availability features including redundant, hot swappable AC, -48VDC power inputs, redundant fan modules and configurable airflows.

Ports
Switch Ports:
48x SFP28 plus 6x QSFP28:
Each SFP28 supports 1x 1GE or 10GbE
Each QSFP28 supports 1x 40/100GbE or
4x 10/25GbE per port using splitter cables

Management ports on port side:
1x RJ45 serial console
1x RJ45 100/1000BASE-T management port
1x USB Type A storage port

Switch Performance
Switching Capacity: 1.8 Tbps
Forwarding Rate: 2.6 Bpps
Jumbo frames support up to 9212 Bytes (w/o FCS)
Packet Buffer Size: 22 MB
MAC Addresses: 136K
VLAN IDs: 4K

Physical and Environmental
Dimensions (WxDxH): 43.8 x 47.3 x 4.35 cm (17.3 x 18.6 x 1.7 in)
Weight: 9.43 kg (20.78 lb), with two installed PSUs
Fans: 5+1 redundant, hot-swappable
Operating Temperature: 0°C to 45°C (32°F to 113°F)
Operating Humidity: 5% to 95% non-condensing

Power
PSUs: 2 redundant, load-sharing, hot-swappable AC or -48 VDC
Input Voltage: 90 to 240 VAC at 50-60 Hz. -36 to -72 VDC
PSU Efficiency: Up to 93% for AC PSUs
Max Power: 510W

Regulatory
EMI:
CE Mark, EN55032 Class A, EN55024, EN61000-3-2, EN61000-3-3,
FCC Part 15 Subpart B Class A, VCCI Class A

Safety:
CB, UL/CUL
NEBs Level-1/3

Media Flow Table (MFT)
Three types of MFT's enable media network optimization for Media Links products (Xscend, MDP Series & MD8000).

Multicast Flow Table	
Target streams	Multicast IP media streams (e.g. Video stream)
Parameters	Destination IP address, VLAN ID, Stream Bandwidth, Input port, Output ports, Source IP address (Option)
Number of entries	up to 8000 streams
Flow direction	Uni-direction, Input port to output ports

L2 Unicast Flow Table	
Target streams	L2 unicast streams (e.g. Tunneling data stream)
Parameters	Destination MAC address, VLAN ID, Stream Bandwidth, Input port, Output port
Number of entries	up to 8000 streams
Flow direction	Uni-direction, Input port to output ports

VLAN Flow Table	
Target streams	VLAN streams (e.g. General data stream)
Parameters	VLAN ID, Stream Bandwidth, Ports
Number of entries	up to 1000 streams
Flow direction	Bi-directional, between membership ports

Flow Meter
MFT configuration options for rate limiting (policing) and detailed monitoring on a per-stream basis

Item	Detail
Number of meters	up to 1000
Policing rate	Can be set in kbps units
Monitoring	For ingress stream(s) that have meter(s) attached Current bandwidth, Byte counters, Packet counters

Switch Functions

Item	Details
QoS: Marking	802.1Q priority
QoS: Traffic Classification	2 class
QoS: Traffic Scheduling	Strict priority
IEEE 1588v2(PTP) support	E2E-TC

Port

Item	Details
Uni-directional operation for two fiber optics	10G, 25G, 40G, 100G
Port VLAN mode	Trunk or Access, selectable
FEC	RS-FEC for 100GbE
High-power Optics (SFP power Level)	SFP28 : up to Level-3(2W) QSFP28 : up to Class-6(4.5W)
Q-in-Q TPID	0x8100, 0x88a0, 0x9100, 0x9200

System Management

Item	Details
Access Interface	Outband(Mgmt: RJ-45) and Inband (via switch ports)
CLI Management	Configuration and Monitor
SNMP Version	v1, v2c
SNMP MIB	Private-MIB, IF-MIB, System-MIB
SNMP Trap	up to 10 destinations
Syslog	up to 10 destinations
NTP	up to 3 time servers
SSH	up to 75 simultaneous sessions
FTP	
LLDP	Standard LLDP (IEEE802.1AB) or Media Links proprietary
Configuration file	Automatic and manual saving Automatically restored on startup

Hardware Management

Item	Details
Temperature Monitoring	CPU, SwitchChip, PSU
Fan Speed Control	SwitchChip, PSU, Fan Unit
Fan Speed Monitoring	SwitchChip, PSU, Fan Unit
Power Monitoring	PSU Status
CPU Load Monitoring	Usage, Memory
Mac Table Monitoring	Usage
SFP/QSFP Monitoring	Temp, Voltage, Bias, Tx/Rx Power
Traps for HW Monitoring	CPU/Memory usage, Table usage, PSU status, Fan Unit status, SFP/QSFP plug-in/plug-out

Aggregation Switching

MDX 48x6C™

1.8 TBPS

Multicast Enhanced

Non-blocking Switch

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