

# SX1710

## 36-Port 10/40/56GbE SDN Switch System

The SX1710 switch system enables data center applications at the highest performance for best return on investment.

The SX1710 SDN switch is ideally suited as a top-of-rack access switch providing up to 56GbE connectivity to servers and uplinks to the next level of aggregation switching.

The SX1710 switch has a rich set of networking and application performance features that excel and enable Software Defined Networking in any data center, making this switch the perfect solution for your network.

SwitchX<sup>®</sup>-2 carries a unique design that enables users with a straight forward platform for implementation of a Software Defined Network, allowing the construction of a high scale network with advanced fine tuning control plane capabilities. The SX1710 support the Virtual Protocol Interconnect<sup>®</sup> (VPI) technology which enables it to be used for both Ethernet and InfiniBand technology providing the user with flexibility and investment protection. The SX1710 provides a full suite of management options, including support for Mellanox's Unified Fabric Manager<sup>™</sup> (UFM<sup>™</sup>), SNMP V1,2,3, and web user interfaces. In addition, the SX1710 incorporates a familiar industry-standard CLI, which enables administrators to easily configure the switch.

To ensure long term applicability, the SX1710 is provisioned to enhance its current capabilities with additional L2 and L3 features through software upgrades.

### World-Class Design

The SX1710 is an elegant top-of-rack design architected for performance, serviceability, energy savings and high-availability. The design

is optimized for fitting into industry-standard racks and also for scale-out computing solutions from industry leaders. It supports reversible airflow making the design fit into data centers with different thermal designs. Redundant and hot swappable power supplies and fans provide high availability for high-performance computing, cloud, Web 2.0 and data center applications.

Status LEDs for fans and power supply units are placed on both sides of the system for easy status identification. Quick start guide, rack mount kit, AC power cord and RJ45 console cable are provided as part of the standard system providing an easy out-of-the-box experience.

The SX1710 switch carries a high capacity dual core x86 processor. This allows the switch to function in environments demanding high performance from the CPU, without jeopardizing other switch attributes and/or degrading user experience.

Using an x86 processor allows the implementation of virtual machines on the system's CPU and enables the operation of various applications on the CPU in addition to the MLNX-OS management software.

The SX1710 is designed to maximize modularity of this 1RU system. It comes equipped with 4 separate fan units, each can be replaced while system is operational without impacting the systems behavior as well as with 2 power units which can be operating as a redundancy pair while only one can saturate the switches' power requirements. A redundant management pair of interfaces as well as a console and a USB inter-



## HIGHLIGHTS

### BENEFITS

- Software Defined Networking (SDN) support
- Efficiency
  - *Simple configuration (40/56GbE vs. 10GbE)*
- Easy Scale
  - *Configure and manage the data center from single location*
- Elasticity
  - *Low-latency on any node*
- Arranged and Organized Data Center
  - *40/56GbE high density - 4x less cables*
  - *Easy deployment*
  - *Easy maintenance*
- Unprecedented Performance
  - *Storage and server applications run faster*
- IPv6 Ready
- IPv6 IPsec

### KEY FEATURES

- High Density
  - *36 40/56GbE ports in 1RU*
  - *Up to 64 10GbE ports*
- Lowest Latency
  - *220nsec for 40GbE*
  - *270nsec for 10GbE*
- Lowest Power
- Control Plane resiliency
  - *Dual core x86 CPU*
  - *16GB SSD*
  - *4GB DIMM*
- VM running user applications



face are located at the rear of the switch, opposite to the cable dense front plate, to allow easy access for debug purposes

**End-to-End**

Mellanox is a leading supplier of end-to-end connectivity solutions. The SX1710, together with Mellanox cables and adapters, brings the networking industry’s first end-to-end 40/56GbE solution.

**FEATURES**

**LAYER 2 FEATURE SET**

- 1GBE, 10GBE, 40GBE, 56GBE
- 48K L2 Forwarding Entries
- Static MAC
- Jumbo Frames (9216 BYTES)
- VLAN 802.1Q (4K)
- 802.1W Rapid Spanning Tree Protocol
  - BPDU Filter
  - ROOT Guard
  - LOOP Guard
  - BPDU Guard
- 802.1S Multiple Spanning Tree Protocol
- PVRST+ (Rapid Per VLAN Spanning Tree+)
- 802.3AD Link Aggregation/LACP
  - 16 Ports/Channel
  - 32 Groups Per System
- Multi Chassis Link Aggregation Group (MLAG)
- 802.3X FLOW CONTROL
- 802.1QBB PRIORITY FLOW CONTROL (PFC)
- 802.1QAZ ENHANCED TRANSMISSION SELECTION (ETS)
  - DCBX
  - 802.1AB LLDP
  - ACCESS CONTROL LISTS (L2-L4)
  - SFLOW
  - PORT MIRRORING
  - FCoE

**LAYER 3 FEATURE SET**

- Static Routes v4/v6
  - OSPFv2
  - BGPv4
  - Router port interface for routing
  - VLAN interface for routing
  - PIM Bi-Dir
  - DHCP Relay
  - ECMP
  - VRRP
  - IGMP Querier Router
- NETWORK MANAGEMENT**
- 100/1000 Management port
  - In-Band Management
  - Serial Console Port
  - SDN
  - OpenFlow
  - Embedded puppet Agent
  - RADIUS
  - TACACS+
  - LDAP
  - SSHv2
  - DHCP/Zeroconf
  - Familiar Industry Standard CLI
  - Management over IPv4/IPv6
  - Telnet
  - File download via SCP, FTP & TFTP client
  - Network Time Protocol (NTP)

- Syslog
- Dual SW Image
- Auto Temperature Control
- System alarms
- Port Counters
- Event notification
- SNMP v1,v2,v3
- E-Mail
- Web UI
- Predefined scheduled scripts
- System health monitoring

**POWER SPECIFICATIONS**

- Typical Power Consumption: 197
- Max Power Consumption: 235
- Input Voltage Range: 100-240VAC

**PHYSICAL CHARACTERISTICS**

- Dimensions:
  - 1.716” (H) x 16.85” (W) x 24.75” (D)
  - 43.6mm (H) x 428mm (W) x 628.9 mm (D)
- Weight: 19.40 lbs (8.80 kgs)

**SUPPORTED MODULES AND CABLES**

- QSFP, SFP+ short and long range optics
- QSA - QSFP to SFP+ adapter
- QSFP to SFP+ DAC cable
- QSFP to QSFP DAC Cable
- QSFP breakout cables 40GbE to 4x10GbE
  - DAC, Optical
- QSFP AOC

Ordering Part Number	Description
MSX1710-BS2F2	SwitchX®-2 based 40GbE, 1U Open Ethernet Switch with MLNX-OS, 36 QSFP+ ports, 2 Power Supplies (AC), x86 dual core, standard depth, P2C airflow, Rail kit, RoHS6
MSX1710-BS2R2	SwitchX®-2 based 40GbE, 1U Open Ethernet Switch with MLNX-OS, 36 QSFP+ ports, 2 Power Supplies (AC), x86 dual core, standard depth, C2P airflow, Rail kit, RoHS6

\*P2C is connector side outlet, C2P is connector side inlet. NOTE: 56GbE operation requires an additional license.



350 Oakmead Parkway, Suite 100, Sunnyvale, CA 94085  
 Tel: 408-970-3400 • Fax: 408-970-3403  
[www.mellanox.com](http://www.mellanox.com)