**Mellanox**
TECHNOLOGIES

# CS7520

## 216-Port EDR 100Gb/s InfiniBand Director Switch

CS7520 switch system provides the highest performing fabric solution in a 12U form factor by delivering 43Tb/s of full bi-directional bandwidth with sub 0.5us port latency

### Scaling-Out Data Centers with Extended Data Rate (EDR) InfiniBand

Faster servers based on PCIe 3.0, combined with high-performance storage and applications that use increasingly complex computations, are causing data bandwidth requirements to spiral upward. As servers are deployed with next generation processors, High-Performance Computing (HPC) environments and Enterprise Data Centers (EDC) will need every last bit of bandwidth delivered with Mellanox's next generation of EDR InfiniBand high-speed smart switches.

### Sustained Network Performance

Built with Mellanox's latest Switch-IB™ Infini-Band switch device, the CS7520 provides up to 216 100Gb/s full bi-directional bandwidth per port.

The CS7520 modular chassis switch provide an excellent price-performance ratio for medium to extremely large size clusters, along with the reliability and manageability expected from a director-class switch.

The CS7520 enables efficient computing with features such as static routing, adaptive routing, and congestion control. These features ensure the maximum effective fabric bandwidth by eliminating congestion hot spots.

### World-Class Design

The CS7520 is an elegant director switch designed for performance, serviceability, energy savings and high-availability.

The CS7520 comes with highly efficient, 80 gold+ and energy star certified AC power supplies.

The leaf, spine blades and management modules, as well as the power supplies and fan units, are all hot-swappable to help eliminate down time.

### Management

CS7520, dual-core x86 CPU, comes with an onboard subnet manager, enabling simple, out-of-the-box fabric bring-up for up to 2048 nodes. CS7520 switch runs the same MLNX-OS® software package as Mellanox FDR products to deliver complete chassis management, to manage the firmware, power supplies, fans and ports.

CS7520 switch can also be coupled with Mellanox's Unified Fabric Manager™ (UFM™) software for managing scale-out InfiniBand computing environments. UFM enables data center operators to efficiently provision, monitor and operate the modern data center fabric. UFM boosts application performance and ensures that the fabric is up and running at all times.

SwitchIB™

## HIGHLIGHTS

**BENEFITS**
– Highest ROI - energy efficiency, cost savings and scalable high performance
– High-performance fabric for parallel computation or I/O convergence
– Quick and easy setup and management
– Maximizes performance by removing fabric congestions

**KEY FEATURES**
– 216 EDR (100Gb/s) ports in a 12U switch
– 43Tb/s switching capacity
– Ultra-low latency
– IBTA Specification 1.3 and 1.2.1 compliant
– Quality of Service enforcement
– N+N power supplies

# FEATURES

## MELLANOX CS7520

- 12U modular chassis
- 36 QSFP28 EDR 100Gb/s InfiniBand ports per dual IC leaf blade

## SWITCH SPECIFICATIONS

- Compliant with IBTA 1.21 and 1.3
- 9 virtual lanes: 8 data + 1 management
- 256 to 4Kbyte MTU
- 4X48K entry linear forwarding data base

## MANAGEMENT PORTS

- DHCP
- Familiar Industry Standard CLI
- Management over IPv6
- Management IP
- SNMP v1,v2,v3
- Web UI

## FABRIC MANAGEMENT

- On-board Subnet Manager supporting fabrics of up to 2048 nodes
- Unified Fabric Manager™ (UFM™) Agent

## CONNECTORS AND CABLING

- QSFP28 connectors
- Passive copper or active fiber cables
- Optical modules

## INDICATORS

- Per port status LED Link, Activity
- System status LEDs: System, fans, power supplies
- Port Error LED
- Unit ID LED*

## PHYSICAL CHARACTERISTICS

- Dimensions: 20.96''H x 17.64''W x 30.3''D
- Weight: Fully populated 200kg (441lb)

## POWER SUPPLY

- Hot swappable with N+N redundancy
- Input range: 180-265VAC
- Frequency: 47-63Hz, single phase AC

## COOLING

- Hot-swappable fan trays
- Front-to-rear air flow
- Auto-heat sensing fans

## POWER CONSUMPTION

- Typical power consumption (fully populated):
  - Passive cable - 3474W
  - Active cable - 4543W

# COMPLIANCE

## SAFETY

- US/Canada: cTUVus
- EU: IEC60950
- International: CB

## EMC (EMISSIONS)

- USA: FCC, Class A
- Canada: ICES, Class A
- EU: EN55022, Class A
- EU: EN55024, Class A
- EU: EN61000-3-2, Class A
- EU: EN61000-3-3, Class A
- Japan: VCCI, Class A

## ENVIRONMENTAL

- EU: IEC 60068-2-64: Random Vibration
- EU: IEC 60068-2-29: Shocks, Type I / II
- EU: IEC 60068-2-32: Fall Test

## OPERATING CONDITIONS

- Operating 0ºC to 45ºC,
- Non-Operating -40ºC to 70ºC
- Humidity: Operating 5% to 95%
- Altitude: Operating -60 to 2000m

## ACOUSTIC

- ISO 7779
- ETS 300 753

## OTHERS

- RoHS-6 compliant
- 1-year warranty

| Ordering Part Number | Description |
| --- | --- |
| MCS7520 | 43Tb/s, 216-port EDR chassis switch, includes 8 fans and 4 power supplies, (N+N configuration) RoHS-6 |
| MSB7510-E | Switch-IB™, 36-port EDR 100Gb/s InfiniBand leaf, RoHS-6 |
| MSB7520-E | Switch-IB™, 36-port EDR 100Gb/s InfiniBand spine, RoHS-6 |
| MMB7500 | x86 dual-core management module, RoHS-6 |
| MTDF-FAN-A | Director system fan unit located on the leaf side |
| MTDF-FAN-B | Director system fan unit located on the spine fan unit |
| MTDF-PS-A | 2.5 KW AC Power Supply w/ P2C air flow |

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