



Saber 2200

Reimagine Your Edge



Ethernet and Mobile Fronthaul Switch with Coherent Optics Support

The Saber 2200 is a hardened high bandwidth Ethernet switch and mobile fronthaul gateway with support for 100G Coherent OpenZR+ and XR optics

Features & Benefits

- + High-capacity Ethernet switch
- + eCPRI fronthaul switch
- + Network Interfaces:
 - 24 ports of 10/25GE (SFP+/SFP28)
 - 4 ports of 1/10GE (SFP/SFP+)
 - 4 ports of 100GE (QSFP28/QSFP-DD)
- + Time-sensitive networking features
- + High capacity, very low latency
- + Operates as Timing Grand Master with integrated GNSS Receiver
- + Support for OpenZR+ and XR Coherent 100G optics

The Saber 2200 is a high-performance Ethernet switch that can be used for both eCPRI/CPRI fronthaul transport and Ethernet business services. The Saber 2200 supports the high bandwidth, low latency, and sync requirements of 4G/5G fronthaul and midhaul networks in a hardened 1RU chassis with redundant, field-replaceable power units.

The Saber 2200 provides 4x1/10GE (SFP/SFP+), 24x10GE/25GE (SFP+/SFP28) access Ethernet ports, and 4x100GE (QSFP28/QSFP-DD) line Ethernet ports.

The Saber 2200 has a multitude of critical network timing features. With its integrated GNSS/GPS receiver, the Saber 2200 can operate as a PTP Grand Master when connected to an external GNSS antenna. With external timing, it can function as a high-precision PTP Class C Boundary Clock with SyncE support.

The Saber 2200 100G line ports support both standard QSFP28 100G direct detect optics, as well as a variety of Coherent optics including OpenZR+ and XR Coherent optics using QSFP-DD.



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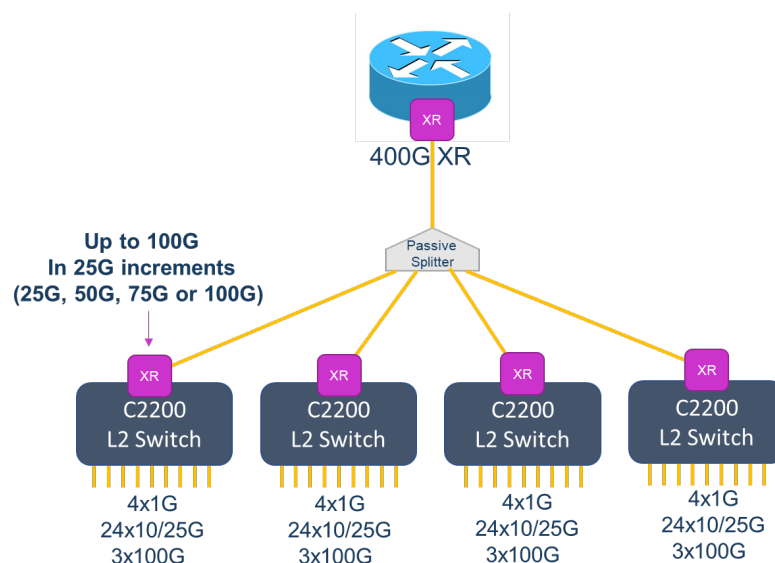
CPRI and eCPRI Fronthaul Transport

5G is driving a large increase in new cell site deployments across the world. These deployments have many drivers, including new ORAN architectures, new innovative service providers, and increased density requirements from higher 5G frequencies. The Saber 2200 provides a unique combination of low-latency switching, eCPRI transport functionality, CPRI transport via Radio Over Ethernet (ROE) standard, and integrated Grand Master Timing that enables service providers to deploy new greenfield and brownfield cell sites in a cost-effective manner. The Saber 2200 has an integrated GNSS receiver and can act as a PTP Telecom Grand Master. It can also receive external PTP timing for primary or secondary timing purposes, and operate as a Class C PTP T-BCTC. SyncE is also supported. The Saber 2200 provides 800 Gb/s of low-latency switching.

100G Coherent Optical Support (OpenZR+ and XR)

The 100GE interfaces on the Saber 2200 have been designed to support a variety of 100G Coherent optical options. OpenZR+ Coherent pluggables are supported for longer distances (up to 120 km without amplification) or for multi-wavelength applications. When using OpenZR+ optics, the Saber 2200 can aggregate 1/10/25GE onto a DWDM wavelength for direct interconnect with the DZS Saber- ROADM.

Point-to-multipoint XR optics are also supported on the 100GE interfaces. When XR optics are used, the Saber 2200 operates as a leaf node within a point-to-point or point-to-multipoint XR fiber network. In this mode, the Saber 2200 can terminate 25GE, 50GE, 75GE or 100GE of the available bandwidth from the XR link. Multiple Saber 2200 switches can be used in a multipoint fashion to provide terminating leaf nodes to a higher bandwidth single 200GE or 400GE XR root node. This configuration is illustrated below.





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Product Specifications

Base Features

- + 800 Gb/s Switching Capacity
- + Field-replaceable AC/DC power units, redundant

Traffic Interfaces

- + 24 ports for 10/25GE (SFP+/SFP28)
- + 4 ports for 1G/10GE (SFP/SFP+)
- + 4 ports for 100GE (QSFP28/QSFP-DD)

Timing Interfaces

- + 1 port for GNSS Antenna input (SMA)
- + 1 port for 1PPS Clock (SMA)
- + 1 port for 10 MH Clock (SMA)
- + 1 port for TOD (RJ-45)

Management and Alarm Interfaces

- + 1 port for 1GE out-of-band management (RJ45)
- + 1 port for console (RJ-45)
- + 1 port for 4 Alarm inputs and 3 alarm inputs (RJ-45)
- + Clock Synchronization
- + IEEE1588v2
- + Integrated Grand Master with internal GNSS receiver (SMA antenna connector)
- + Class C T-BC/TC
- + Synchronous Ethernet

Layer 2 Capabilities

- + Standard Ethernet Bridging
- + Per port L2 protocol packet processing
- + 4K active VLANs for 802.1q tagged frame
- + Port/Subnet/Protocol/MAC-based VLAN
- + VLAN translation on ingress and egress
- + 802.1D (STP), 802.1W (RSTP), 802.1s (MSTP)
- + LAG, LACP
- + Jumbo frames up to 9KB
- + 802.1q /Q-in-Q tunneling
- + L2 Multicast
- + Storm control

Quality of Service

- + Policy-based and Class-based QOS
- + SP and WRR Scheduling

Radio over Ethernet Support (CPRI Transport)

- + Support for CPRI Transport via ROE (future)

Security

- + Storm control for broadcast, multicast and unknown unicast packets
- + Out-of-band management
- + Secure Shell (SSH)

Management

- + Serial/Telnet (CLI)
- + NETCONF/YANG (future)
- + SNMPv1/v2/v3
- + RMON
- + RADIUS/TACACS+
- + DHCP client
- + SYSLOG
- + Link layer discovery protocol (LLDP)
- + Software download/upgrade

OAM / Protection

- + TWAMP Reflector

Coherent Optical Support

- + 100G OpenZR+
- + XR point-to-point and XR point-to-multipoint leaf node (25G, 50G, 75G or 100G options)

Physical & Environmental Specifications

Dimensions (H x W x D)	444 mm x 250 mm x 44 mm
Weight	5.3 kg (~12 lbs.)
Operating temperature	-40 to 149°F (-40 to 65°C)
Storage temperature	-40 to 158°F (-40 to 70°C)
Operating humidity	5 to 95% non-condensing

DC power option	48VDC (reverse polarity protection), field-replaceable, redundant
AC power option	100 to 220VAC, 50/60 Hz, field-replaceable, redundant
Max. power consumption	~250W

- + Redundant and field replaceable FAN unit (rear)

Ordering Information

System	
DZS-G-P-C22000-E2	Saber 2200 with 2 AC power supplies, EU power cord
DZS-G-P-C22000-N2	Saber 2200 with 2 AC power supplies, North American power cord
DZS-G-P-C22000-U2	Saber 2200 with 2 AC power supplies, UK power cord
DZS-G-P-C22000-D2	Saber 2200 with 2 DC power supplies
C1200-SW-BASE	Mandatory Base SW License for C1200, C2100 and Saber 2200
FHG-GNSS-ACTIVATION	Optional Software License to Activate Grand Master Timing (GPS input)



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