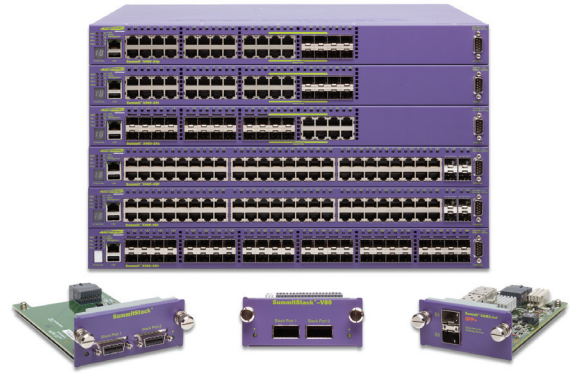# Summit X460 Series

Scalable Aggregation and Edge Switch

Summit® X460 series – the scalable advanced aggregation and edge switch with the revolutionary modular operating system, ExtremeXOS®.

Performance

- 52-port, 48-port or 28-port Gigabit Ethernet
- Optional two-port 10 GbE in Slot A to provide 20 Gbps uplinks
- Optional four-port 10 GbE in Slot B to provide 40 Gbps uplinks
- Optional Slot B SummitStack™ 40 Gbps or SummitStack-V80 80 Gbps high-speed stacking or SummitStack-V, longer distance stacking

Form Factor

- 1 RU w/ 2 expansion slots

Features

- Flexible IEEE 802.3at Power over Ethernet Plus (PoE-plus)
- MPLS/H-VPLS Support

The Summit® X460 series is based on Extreme Networks® revolutionary ExtremeXOS®, a highly resilient OS that provides continuous uptime, manageability and operational efficiency. Each switch offers the same high-performance, non-blocking hardware technology, in the Extreme Networks tradition of simplifying network deployments through the use of common hardware and software throughout the network.

The Summit X460 switches are effective campus edge switches with IEEE 802.3at PoE-plus and can also serve as aggregation switches for traditional enterprise networks. The Summit X460 series is also an option for DSLAM or CMTS aggregation, or for active Ethernet access.

The Summit X460 is can also be used as a top-of-rack switch for many data center environments with features such as high-density Gigabit Ethernet for concentrated data center environments; XNV™ (ExtremeXOS Network Virtualization) for centralized network-based Virtual Machine (VM) inventory, VM location history and VM provisioning; Direct Attach™ to offload VM switching from servers, thereby improving performance; high-capacity Layer 2/Layer 3 scalability for highly virtualized data centers; and intra-rack and cross-rack stacking with industry-leading flexibility.

High Performance Switching and Routing

- 52-port, 48-port or 28-port Gigabit Ethernet (GbE) connectivity in a 1RU form factor
- Optional two-port 10 GbE in Slot A to provide 20 Gbps uplinks
- Optional four-port 10 GbE in Slot B to provide 40 Gbps uplinks
- Optional in Slot B is Voice-grade SummitStack™ 40 Gbps or SummitStack-V80 80 Gbps high-speed stacking or SummitStack-V, longer distance stacking
- Flexible IEEE 802.3at Power over Ethernet Plus (PoE-plus) to meet the growing demand of converged network applications
- Advanced Layer 2/Layer 3 switching and MPLS/H-VPLS support

Comprehensive Security Management

- User policy and host integrity enforcement, and identity management
- Universal Port Dynamic Security Profiles to provide fine granular security policies in the network
- Threat detection and response instrumentation to react to network intrusion with CLEAR-Flow Security Rules Engine
- Denial of Service (DoS) protection and IP security against man-in-the-middle and DoS attacks to harden the network infrastructure

Make Your Network Mobile

Flexible Port Configuration

Summit X460 offers flexible port configurations. For Summit X460-24t/24p, with four dedicated Gigabit Ethernet fiber ports and four shared Gigabit Ethernet fiber ports, the switch can have up to 8 fiber GbE ports, while still providing 20 Gigabit Ethernet copper ports (PoE-plus or non-PoE). If higher density copper ports are required, the switch can provide up to 24 Gigabit Ethernet copper ports while providing 4 Gigabit Ethernet fiber ports. Through the two option slots, Summit X460 switches can be equipped with up to six 10 Gigabit Ethernet ports and two stacking ports. For stacking, depending upon the needs for bandwidth across the units in a stack, Summit X460 supports 40 Gbps SummitStack or 80 Gbps SummitStack-V80 stacking option modules as well as SummitStack-V on the 10GbE ports.

SummitStack™ and SummitStack-V80 – High-Performance Stacking

Summit X460 supports SummitStack, which provides 40 Gbps (SummitStack module) or 80 Gbps (SummitStack-V80 module) of stacking bandwidth. The SummitStack module offers high-speed 40 Gbps stacking performance, and provides compatibility with the Summit X250e, X440, X450a/e, X480 and X650 stackable switches running the same version of ExtremeXOS.

Alternatively, you may choose high-speed 80 Gbps stacking, which is ideal for demanding applications where a high volume of traffic traverses through the stacking links, yet bandwidth is not compromised through stacking.

SummitStack-V80 also breaks the distance limitation for stacking technology by using QSFP+ technology. SummitStack-V80 can support passive copper cable (up to 3m), active multi-mode fiber cable (up to 100m), and QSFP+ optical transceivers which will be the standard technology for 40 GbE. With SummitStack-V80, the Summit X460 provides a flexible stacking solution inside the data center or central office to create a virtualized switching infrastructure across rows of racks. SummitStack-V80 is compatible with Summit X460, X480, X650 and X670V switches running the same version of ExtremeXOS.

SummitStack-V – Flexible Stacking Over 10 Gigabit Ethernet

ExtremeXOS supports the new SummitStack-V capability to utilize 10 GbE ports as stacking ports, enabling the use of standard cabling and optics technologies used for 10 GbE such as XFP, SFP+, 10GBASE-T and XENPAK. SummitStack-V provides long-distance stacking connectivity of up to 40 km while reducing the cable complexity of implementing a stacking solution. SummitStack-V is compatible with Summit X440, X450e, X450a, X460, X480, X650, X670 and X670V switches running the same version of ExtremeXOS. SummitStack-V enabled 10 GbE ports must be physically direct-connected.

Intelligent Switching and MPLS/H-VPLS Support

Summit X460 supports sophisticated and intelligent Layer 2 switching, as well as Layer 3 IPv4/IPv6 routing including policy-based switching/routing, Provider Bridges, bidirectional ingress and egress Access Control Lists, and bandwidth control by 8 Kbps granularity both for ingress and egress. To provide scalable network architectures used mainly for Carrier Ethernet network deployment, Summit X460 supports MPLS LSP-based Layer 3 forwarding and Hierarchical VPLS (H-VPLS) for transparent LAN services. With H-VPLS, transparent Layer 3 networks can be extended throughout the Layer 3 network cloud by using a VPLS tunnel between the regional transparent LAN services typically built by Provider Bridges (IEEE 802.1ad) technology.

Software Defined Networking (SDN)

ExtremeXOS®-based switches are SDN ready and support industry-standard OpenFlow and OpenStack. ExtremeXOS implementations of OpenFlow APIs allow an external OpenFlow-based SDN controller to access and control the forwarding plane of ExtremeXOS network devices. ExtremeXOS-based switches offer a programming interface through OpenFlow to enable high degree of automation in provisioning network services for many upper layer business critical applications running the OpenFlow-based SDN controller.

Extreme XOS-based switches also allow for integration with the OpenStack open source cloud computing platform for public and private clouds through the Extreme Networks Quantum plugin. The plugin provides a scalable, automated, rich API-driven system that enables networking-as-a-service model managing data center interconnect solutions and large multi-tenant networks.

Audio Video Bridging (AVB)

ExtremeXOS® supports IEEE Audio Video Bridging (AVB) standards to enable reliable real-time audio and video trans-missions over Ethernet, for high-definition and time-sensitive multimedia streams with assigned Quality of Service (QoS). ExtremeXOS leverages AVB to identify and reserve network resources for A/V traffic streams and supports synchronous streaming capabilities to ensure reliable and high-quality A/V transmissions over Ethernet. AVB also enables time sensitive multimedia streams to be sent over the Ethernet network with low latency and provides service quality for high definition information and entertainment applications.

IEEE 802.3at PoE-plus

IEEE 802.3af Power over Ethernet has been widely used in the campus enterprise edge network for Ethernet-powered devices such as wireless access points, Voice over IP phones, and security cameras. Ethernet port extenders such as Extreme Networks ReachNXT™ 100-8t can also utilize PoE, making installation and management easier and reducing maintenance costs. The newer IEEE 802.3at PoE-plus standard expands upon Power over Ethernet by increasing the power limit up to 30 watts, and by standardizing power negotiation by using LLDP. Summit X460 supports IEEE 802.3at PoE-plus and supports standards-compliant PoE devices today and into the future.

Specifications

Performance/Scale

Switch Model	Maximum Active GbE Ports	Maximum Active 10GbE Ports	Aggregated Switch Bandwidth	Frame Forwarding Rate
Summit X460-24t/24tDC switch	28	6	176 Gbps	130.9 Mpps
Summit X460-48t/48DC switch	52	6	328 Gbps	166.7 Mpps
Summit X460-24x/24xDC switch	28	6	176 Gbps	130.9 Mpps
Summit X460-48x/48xDC switch	48	6	320 Gbps	160.7 Mpps
Summit X460-24p switch	28	6	176 Gbps	130.9 Mpps
Summit X460-48p switch	52	6	328 Gbps	166.7 Mpps

- Less than 4 microsecond latency (64-byte)
- Layer 2/MAC Addresses: 32K
- IPv4 LPM Entries: 12K
- IPv6 LPM Entries: 6K
- 4096 VLANs
- 9216 Byte Max Packet Size (Jumbo Frame)
- 128 load sharing trunks, up to 8 members per trunk
- 4,096 ingress bandwidth meters/24 ports
- Ingress and egress bandwidth policing/rate limiting per flow/ACL
- 8 QoS egress queues/port
- Egress bandwidth rate shaping per egress queue and per port
- Rate Limiting Granularity: 8 Kbps

External Ports

Switch Hardware	Ports
Summit X460-24t/24tDC switch	• 24 x 10/100/1000BASE-T (RJ-45) - 4 ports are combo ports • 8 x 100/1000BASE-X (SFP) unpopulated ports – 4 ports are combo ports • 1 x Serial (console port) • 1 x 10/100BASE-T out-of-band management port • 1 x USB port for external USB flash
Summit X460-48t/48tDC switch	• 48 x 10/100/1000BASE-T (RJ-45) • 4 x 100/1000BASE-X (SFP) unpopulated ports • 1 x Serial (console port) • 1 x 10/100BASE-T out-of-band management port • 1 x USB port for external USB flash
Summit X460-24x/24xDC switch	• 24 x 100/1000BASE-X (SFP) unpopulated ports – 4 ports are combo ports • 8 x 10/100/1000BASE-T (RJ-45) - 4 ports are combo ports • 1 x Serial (console port) • 1 x 10/100BASE-T out-of-band management port • 1 x USB port for external USB flash
Summit X460-48x/48xDC switch	• 48 x 100/1000BASE-X (SFP) unpopulated ports • 1 x Serial (console port) • 1 x 10/100BASE-T out-of-band management port • 1 x USB port for external USB flash
Summit X460-24p switch	• 24 x 10/100/1000BASE-T PoE+ - 4 ports are combo ports • 8 x 100/1000BASE-X (SFP) unpopulated ports – 4 ports are combo ports • 1 x Serial (console port) • 1 x 10/100BASE-T out-of-band management port • 1 x USB port for external USB flash
Summit X460-48p switch	• 48 x 10/100/1000BASE-T PoE+ • 4 x 100/1000BASE-X (SFP) unpopulated ports • 1 x Serial (console port) • 1 x 10/100BASE-T out-of-band management port • 1 x USB port for external USB flash
XGM3S-2xf/ module	• 2 x 10GBASE-X XFP (unpopulated ports)
XGM3SB-4sf/ module	• 4 x 10GBASE-X SFP+ (unpopulated ports)
XGM3S-2sf/ module	• 2 x 10GBASE-X SFP+ (unpopulated ports)
SummitStack module	• 2 x Summit Stack Ports
SummitStack-V80 module	• 2 x 40GBASE-X QSFP+ ports (unpopulated ports) (only 2 of 4 lanes active)

Physical

Switch Model	Weight	Physical Dimension
Summit X460-24t/24tDC switch	12.8 lb (5.81 kg)	
Summit X460-48t/48tDC switch	13.6 lb (6.15 kg)	
Summit X460-24x/24xDC switch	13.2 lb (6.01 kg)	Height: 1 RU / 1.73 inches (4.4 cm)
Summit X460-48x/48xDC switch	14.1 lb (6.4 kg)	Width: 17.4 inches (44.1 cm)
Summit X460-24p switch	13.1 lb (5.94 kg)	Depth: 17.0 inches (43.2 cm)
Summit X460-48p switch	13.9 lb (6.3 kg)	
XGM3 S-2xf/module	0.5 lb (0.23 kg)	Height: 1.4 inches (3.55 cm) Width: 2.9 inches (7.4 cm) Depth: 4.9 inches (12.5 cm)
XGM3 SB-4sf/module	0.5 lb (0.23 kg)	Height: 1.4 inches (3.55 cm) Width: 3.4 inches (8.6 cm) Depth: 5.5 inches (13.9 cm)
XGM3 S-2sf/module	0.5 lb (0.23 kg)	Height: 1.4 inches (3.55 cm) Width: 2.9 inches (7.4 cm) Depth: 4.9 inches (12.5 cm)
SummitStack module	0.419 lb (0.19 kg)	Height: 1.4 inches (3.55 cm) Width: 3.39 inches (8.6 cm) Depth: 4.93 inches (12.5 cm)
SummitStack-V80 module	0.529 lb (0.24 kg)	Height: 1.4 inches (3.55 cm) Width: 3.39 inches (8.6 cm) Depth: 4.93 inches (12.5 cm)
Summit X460 fan module	0.661 lb (0.30 kg)	Height: 1.63 inches (4.15 cm) Width: 3.25 inches (8.26 cm) Depth: 4.93 inches (12.53 cm)

NOTE: Switch weights include installed fan module. They do not include installed VIM2 modules or PSUs.

* Please refer to the Summit Family Switches Hardware Installation Guide for packaged weight and dimensions.

CPU/Memory
- 64-bit MIPS Processor, 600 MHz clock
- 1GB ECC DRAM
- 1GB Compact Flash
- USB port for external USB flash

LED Indicators
- Per port status LED including power status
- System Status LEDs: management, fan and power

Power

Switch Model	Minimum Heat Dissipation	Minimum Power Consumption	Maximum Heat Dissipation	Maximum Power Consumption
Summit X460-24t	83 W, 284 BTU/hr	83 W, 284 BTU/hr	103 W, 284 BTU/hr	103 W, 284 BTU/hr
Summit X460-48t	105 W, 359 BTU/hr	105 W, 359 BTU/hr	129 W, 443 BTU/hr	129 W, 443 BTU/hr
Summit X460-24p	202 W, 690 BTU/hr per PSU	481 W, 1650 BTU/hr per PSU 962 W, 3284 BTU/hr (dual PSU)	226 W, 772 BTU/hr per PSU	493W, 1682 BTU/hr per PSU 986 W, 3364 BTU/hr (dual PSU)
Summit X460-48p	221 W, 755 BTU/hr per PSU	493W, 1682 BTU/hr per PSU 986 W, 3364 BTU/hr (dual PSU)	250 W, 854 BTU/hr per PSU	505 W, 1723 BTU/hr per PSU 1010 W, 3446 BTU/hr (dual PSU)
Summit X460-24x	89 W, 304 BTU/hr	89 W, 304 BTU/hr	107 W, 365 BTU/hr	107 W, 365 BTU/hr
Summit X460-48x	101 W, 345 BTU/hr	101 W, 345 BTU/hr	119 W, 406 BTU/hr	119 W, 406 BTU/hr
Summit X460-24tDC	67.8 W, 324 BTU/hr	67.8 W, 324 BTU/hr	85 W, 291 BTU/hr	85 W, 291 BTU/hr
Summit X460-48tDC	88 W, 302 BTU/hr	88 W, 302 BTU/hr	110 W, 376 BTU/hr	110 W, 376 BTU/hr
Summit X460-24xDC	74 W, 253 BTU/hr	74 W, 253 BTU/hr	93 W, 320 BTU/hr	93 W, 320 BTU/hr
Summit X460-48xDC	107 W, 365 BTU/hr	107 W, 365 BTU/hr	121 W, 414 BTU/hr	121 W, 414 BTU/hr

Power Supply Units

	300W AC PSU	750W PSU	300 DCPSU
Dimensions	Height 40 mm (1.57 inches) Width 80 mm (3.15 inches) Depth 241.5 mm (9.5 inches)		
Weight	2.30 lb (1 kg)	2.25 lb	2.30 lb (1 kg)
Voltage input range	85-264 VAC	85-264 VAC	-40 to -72 VDC
Line frequency range	47 to 63 Hz	47 to 63 Hz	n/a
Power Supply input socket	IEC 320 C14	IEC 320 C14	n/a
Power cord input plug	IEC 320 C13	IEC 320 C13	n/a
Operating Temperature	0 deg C to 45 deg C normal operation	0 deg C to 45 deg C normal operation	0 deg C to 45 deg C normal operation

PoE Power Budget

Switch Model	Total PoE Power Budget with 1 PSU	Total PoE Power Budget with 2 PSUs
Summit X460-24t	n/a	n/a
Summit X460-48t	n/a	n/a
Summit X460-24p	380 W	760 W
Summit X460-48p	380 W	760 W
Summit X460-24x	n/a	n/a
Summit X460-48x	n/a	n/a
Summit X460-24tDC	n/a	n/a
Summit X460-48tDC	n/a	n/a
Summit X460-24xDC	n/a	n/a
Summit X460-48xDC	n/a	n/a

Environmental Specifications
- EN/ETSI 300 019-2-1 v2.1.2 - Class 1.2 Storage
- EN/ETSI 300 019-2-2 v2.1.2 - Class 2.3 Transportation
- EN/ETSI 300 019-2-3 v2.1.2 - Class 3.1e Operational
- EN/ETSI 300 753 (1997-10) - Acoustic Noise
- ASTM D3580 Random Vibration Unpackaged 1.5 G

Operating Conditions

Summit X460-24t, X460-48t, X460-24x, and X460-48x
- Temp: 0° C to 45° C (32° F to 113° F)

Summit X460-24p, X460-48p
- Temp: 0° C to 40° C (32° F to 104° F)
- Humidity: 10% to 95% relative humidity, non-condensing
- Altitude: 0 to 3,000 meters (9,850 feet)
- Shock (half sine): 30 m/s2 (3 G), 11 ms, 60 shocks
- Random vibration: 3 to 500 Hz at 1.5 G rms

Packaging and Storage Specifications
- Temp: -40° C to 70° C (-40° F to 158° F)
- Humidity: 10% to 95% relative humidity, non-condensing
- Packaged Shock (half sine): 180 m/s2 (18 G), 6 ms, 600 shocks
- Packaged Vibration: 5 to 62 Hz at velocity 5 mm/s, 62 to 500 Hz at 0.2 G
- Packaged Random Vibration: 5 to 20 Hz at 1.0 ASD w/–3 dB/oct. from 20 to 200 Hz
- Packaged Drop Height: 14 drops minimum on sides and corners at 42 inches (<15 kg box)

Regulatory and Safety

North American ITE
- UL 60950-1 2nd Ed., Listed Device (U.S.)
- CSA 22.2 #60950-1-03 2nd Ed. (Canada)
- Complies with FCC 21CFR 1040.10 (U.S. Laser Safety)
- CDRH Letter of Approval (US FDA Approval)

European ITE
- EN 60950-1:2007 2nd Ed.
- EN 60825-1+A2:2001 (Lasers Safety)
- TUV-R GS Mark by German Notified Body
- 2006/95/EC Low Voltage Directive

International ITE
- CB Report & Certificate per IEC 60950-1 2nd Ed. + National Differences
- AS/NZX 60950-1 (Australia /New Zealand)

EMI/EMC Standards

North American EMC for ITE
- FCC CFR 47 part 15 Class A (USA)
- ICES-003 Class A (Canada)

European EMC Standards
- EN 55022:2006+A1:2007 Class A
- EN 55024:A2-2003 Class A includes IEC 61000-4-2, 3, 4, 5, 6, 11
- EN 61000-3-2,8-2006 (Harmonics)
- EN 61000-3-3 2008 (Flicker)
- ETSI EN 300 386 v1.4.1, 2008-04 (EMC Telecommunications)
- 2004/108/EC EMC Directive

International EMC Certifications
- CISPR 22: 2006 Ed 5.2, Class A (International Emissions)
- CISPR 24:A2:2003 Class A (International Immunity)
- IEC 61000-4-2:2008/EN 61000-4-2:2009 Electrostatic Discharge, 8kV Contact, 15 kV Air, Criteria A
- IEC 61000-4-3:2008/EN 61000-4-3:2006+A1:2008 Radiated Immunity 10V/m, Criteria A
- IEC 61000-4-4:2004 am1 ed.2./EN 61000-4-4:2004/A1:2010 Transient Burst, 1 kV, Criteria A
- IEC 61000-4-5:2005 /EN 61000-4-5:2006 Surge, 2 kV L-L, 2 kV L-G, Level 3, Criteria A
- IEC 61000-4-6:2008/EN 61000-4-6:2009 Conducted Immunity, 0.15-80 MHz, 10V/m unmod. RMS, Criteria A
- IEC/EN 61000-4-11:2004 Power Dips & Interruptions, >30%, 25 periods, Criteria C

Country Specific
- VCCI Class A (Japan Emissions)
- ACMA (C-Tick) (Australia Emissions)
- CCC Mark
- KCC Mark, EMC Approval (Korea)

Telecom Standards
- ETSI EN 300 386:2001 (EMC Telecommunications)
- ETSI EN 300 019 (Environmental for Telecommunications)
- NEBS Level 3 compliant to portions of GR-1089 Issue 4 & GR-63 Issue 3 as defined in SR3580 with exception to filter requirement
- MEF 9 compliant
- MEF 14 compliant

IEEE 802.3 Media Access Standards
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3z 1000BASE-X
- IEEE 802.3ae 10GBASE-X
- IEEE 802.3at PoE Plus

Fan and Acoustic Noise

Summit X460-24t	43.3dB/63dB
Summit X460-48t	43.3dB/63.9dB
Summit X460-24p	42.9dB/62.9dB
Summit X460-48p	42.9dB/62.9dB
Summit X460-24x	43.3dB/63dB
Summit X460-48x	43.3dB/63.9dB
Summit X460-24tDC	43.3dB/63dB
Summit X460-48tDC	43.3dB/63.9dB
Summit X460-24xDC	43.3dB/63dB
Summit X460-48xDC	43.3dB/63.9dB

Accessories

Summit X460 Power Supplies

All Summit X460 series switches come with one power supply. If redundancy or higher power Power-over-Ethernet plus capability is required, an additional power supply can be installed in the system.

Summit 300W AC PSU	Summit 300W AC PSU is compatible with Summit X460-24t/48t/24x/48x switches.
Summit 750W PoE AC PSU	Summit 750W PoE AC PSU is compatible with Summit X460-24p/48p switches and provides 380 watts of PoE-plus power budget per one supply. When two PSUs are installed, the total PoE-plus power budget becomes 760 watts.
Summit 300W DC PSU	Summit 300W DC PSU is compatible with Summit X460-24tDC/48tDC/24xDC/48xDC switches.

Redundant AC/DC Power Supply

Summit X460 Option Modules

Summit X460 series switches have two slots, Slot A and Slot B, to support optional modules that support 10 Gigabit Ethernet and stacking modules. Slot A supports two-port XFP 10 Gigabit Ethernet and two-port SFP+ 10 Gigabit Ethernet modules. Slot B supports a four-port SFP+ 10 Gigabit Ethernet module, a two-port SummitStack module, and a two-port SummitStack-V80 module.

Slot A Modules	Slot B Modules
2-port SFP+ 10GbE Module	4-port SFP+ 10GbE Module
2-port XFP 10GbE Module	2-port SummitStack Module 2-port SummitStack-V80 Module
	2-port SummitStack-V80 Module

XGM3S-4sf

4-port 10 Gigabit Ethernet module, provides four SFP+ ports. These four SFP+ ports can support both 10 Gigabit Ethernet SFP+ transceivers and Gigabit Ethernet transceivers.

XGM3S-2xf

2-port 10 Gigabit Ethernet module, provides two XFP ports.

XGM3S-2sf

2-port 10 Gigabit Ethernet module, provides two SFP+ ports. These two SFP+ ports can support both 10 Gigabit Ethernet SFP+ transceivers and Gigabit Ethernet transceivers.

SummitStack Module

SummitStack module has two SummitStack stacking ports, and provides a 40 Gigabit stacking solution. This stacking module offers compatibility with other Extreme Networks stackable switches, which are Summit X250e, Summit X450e, Summit X480 with VIM2-SummitStack, and Summit X650 with VIM1-SummitStack or VIM1-10G8X.

SummitStack-V80 Module

SummitStack-V80 module has two SummitStack-V80 stacking ports, and provides an 80 Gigabit stacking solution. SummitStack-V80 offers a variety of stacking cable solutions: QSFP+ passive copper cable for short distance, and QSFP+ active fiber cable for long distance up to 100 meters.

Warranty
- Ltd. Lifetime with express Advanced Hardware Replacement
- For warranty details, visit http://www.extremenetworks.com/go/warranty

Ordering Information

Part Number	Name	Description
16401	Summit X460-24t	24 10/100/1000BASE-T, 8 100/1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), slot for optional XGM3 module(s), slot for optional stacking module, AC PSU with one unpopulated PSU slot, Fan module, ExtremeXOS Edge license
16402	Summit X460-48t	48 10/100/1000BASE-T, 4 100/1000BASE-X unpopulated SFP, slot for optional XGM3 module(s), slot for optional stacking module, AC PSU with one unpopulated PSU slot, Fan module, ExtremeXOS Edge license
16403	Summit X460-24p	24 10/100/1000BASE-T PoE, 8 100/1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), slot for optional XGM3 module(s), slot for optional stacking module, AC PoE PSU with one unpopulated PSU slot, Fan module, ExtremeXOS Edge license
16404	Summit X460-48p	48 10/100/1000BASE-T PoE, 4 100/1000BASE-X unpopulated SFP, slot for optional XGM3 module(s), slot for optional stacking module, AC PoE PSU with one unpopulated PSU slot, Fan module, ExtremeXOS Edge license
16405	Summit X460-24x	24 100/1000BASE-X unpopulated SFP, 8 10/100/1000BASE-T (4 10/100/1000BASE-T ports shared with SFP ports), slot for optional XGM3 module(s), slot for optional stacking module, AC PSU with one unpopulated PSU slot, Fan module, ExtremeXOS Edge license
16406	Summit X460-48x	48 100/1000BASE-X unpopulated SFP, slot for optional XGM3 module(s), slot for optional stacking module, AC PSU with one unpopulated PSU slot, Fan module, ExtremeXOS Edge license
16407	Summit X460-24tDC	24 10/100/1000BASE-T, 8 100/1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), slot for optional XGM3 module(s), slot for optional stacking module, DC PSU with one unpopulated PSU slot, Fan module, ExtremeXOS Edge license
16408	Summit X460-48tDC	48 10/100/1000BASE-T, 4 100/1000BASE-X unpopulated SFP, slot for optional XGM3 module(s), slot for optional stacking module, DC PSU with one unpopulated PSU slot, Fan module, ExtremeXOS Edge license
16409	Summit X460-24xDC	24 100/1000BASE-X unpopulated SFP, 8 10/100/1000BASE-T (4 10/100/1000BASE-T ports shared with SFP ports), slot for optional XGM3 module(s), slot for optional stacking module, DC PSU with one unpopulated PSU slot, Fan module, ExtremeXOS Edge license
16410	Summit X460-48xDC	48 100/1000BASE-X unpopulated SFP, slot for optional XGM3 module(s), slot for optional stacking module, DC PSU with one unpopulated PSU slot, Fan module, ExtremeXOS Edge license
16419	SummitStack module	2 x SummitStack port module – rear pluggable in Slot B for Summit X460 and E4G-400
16420	SummitStack-V80 module	2 x SummitStack-V80 port module – rear pluggable in Slot B for Summit X460 and E4G-400
16119	XGM3S-2xf/module	2 x 10GbE XFP port interface module - rear pluggable in Slot A for X460 and E4G-400, supporting SummitStack-V (and SyncE when used with E4G-400)
16120	XGM3SB-4sf/module	4 x 10GbE SFP+ ports - rear pluggable in Slot B for X460 and E4G-400, (supporting SyncE when used with E4G-400)
16126	XGM3S-2sf/module	2 x 10GbE SFP+ port interface module - rear pluggable in Slot A for X460 and E4G-400, supporting SummitStack-V (and SyncE when used with E4G-400)
16421	Summit X460 Advanced Edge Lic	ExtremeXOS Advanced Edge License for Summit X460 series switches
16422	Summit X460 Core License from Edge Lic	ExtremeXOS Advanced Core License upgrade from Edge License for Summit X460 series switches
16423	Summit X460 Core License from Advanced Edge	ExtremeXOS Advanced Core License upgrade from Advanced Edge License for Summit X460 series switches
16424	Summit X460 MPLS feature pack	ExtremeXOS MPLS Feature Pack for Summit X460 series switches
11011	Direct Attach Feature Pack	Direct Attach Feature Pack

16425	Summit X460 OpenFlow FeaturePack	ExtremeXOS SDN – OpenFlow Feature Pack for Summit X460 series switches
16426	X460 Multimedia(AVB) Feature Pack	ExtremeXOS Audio Video Bridging Feature Pack for Summit X460 series switches
10930	Summit 300W AC PSU	AC Power Supply module for Summit X460 series switches
10931	Summit 750W PoE AC PSU	PoE AC Power Supply module for Summit X460 series switches
10934	Summit 300W DC PSU	DC Power Supply module for Summit X460 series switches
10930A	Summit 300W AC PSU XT	300W AC Power Supply module for Summit X460 & E4G-400 Series Switches - Extended Temperature Range from -10 to +50 degrees Celsius
10934A	Summit 300W DC PSU XT	300W DC Power Supply module for Summit X460 & E4G-400 Series Switches- Extended Temperature Range from -10 to +50 degrees Celsius
10935	Summit X460 fan module	Fan module for Summit X460 series and E4G-400 series switches, spare
10319	QSFP+ SR4 module	40 Gigabit Ethernet QSFP+ SR4 optical module, MPO connector, 100m link length
10301	10GBASE-SR SFP+	10GBASE-SR SFP+, 850nm, LC Connector, transmission length of up to 300m on MMF
10302	10GBASE-LR SFP+	10GBASE-LR SFP+, 1310nm, LC Connector, transmission length of up to 10km on SMF
10309	10GBASE-ER SFP+	10GBASE-ER SFP+, 1550nm, LC connector, transmission length of up to 40km on SMF
10303	SFP+ LRM Module	10 Gigabit Ethernet SFP+ module, 1310nm, legacy MMF 220m link, LC connector
10121	SR XFP Module	10GBASE-SR XFP, LC Connector
10122	LR XFP Module	10GBASE-LR XFP, LC Connector
10124	ER XFP Module	10GBase-ER XFP 40km reach LC connector
10125	ZR XFP module	10 Gigabit Ethernet XFP module, 1550nm, SMF 80km, LC connector
10200	Tunable DWDM XFP	10 Gigabit Ethernet XFP Tunable DWDM module, C-band, SMF 80km, LC connector
10051	1000BASE-SX SFP	1000BASE-SX SFP, LC Connector
10052	1000BASE-LX SFP	1000BASE-LX SFP, LC Connector
10053	1000BASE-ZX SFP	1000BASE-ZX SFP, Extra Long Distance SMF 70 km/21 dB Budget, LC Connector
10056	1000BASE-BX-D SFP	1000BASE-BX-D SFP, SMF (1490nm TX/1310nm RX Wavelength)
10057	1000BASE-BX-U SFP	1000BASE-BX-U SFP, SMF (1310nm TX/1490nm RX Wavelength)
10060	100FX/1000LX SFP1	100FX/1000LX SFP, SMF, LC Connector (Requires MCP and 6dB Attenuator for 100FX-MMF Operation)
10063	100FX SFP[1]	100FX SFP, MMF, LC Connector
10064	1000BASE-LX100 SFP	1000BASE-LX100 SFP, Extra Long Distance SMF 100 km/30dB Budget, LC Connector
10065	10/100/1000BASE-T SFP[1]	10/100/1000BASE-T, SFP, CAT 5 cable 100m, RJ-45 Connector
10067	100BASE-FX SFP	100M SFP, 100FX MMF, (1310nm, 2km multimode transmission) LC connector
10066	100BASE-LX10 SFP	100M SFP, 100LX10 SMF, (1310nm 10km single mode transmission) LC connector
10058	100BASE-BX-D SFP	100M SFP, 100BASE-BX-D, SMF (1550nm TX/1310nm RX wavelength), 100 Mbps bidirectional
10059	100BASE-BX-U SFP	100M SFP, 100BASE-BX-U, SMF (1310nm TX/1550nm RX wavelength), 100 Mbps bidirectional
10071	SX SFP 10 Pack	SX-SFP 10 Pack
10072	LX SFP 10 Pack	LX-SFP 10 Pack
10051H	1000BASE-SX SFP, Hi	1000BASE-SX SFP, MMF 220 & 550 meters, LC connector, Industrial Temp
10053H	1000BASE-ZX SFP, Hi	1000BASE-ZX SFP, SMF 70km, LC connector, Industrial Temp
10071H	1000BASE-SX SFP 10 Pack, Hi	1000BASE-SX SFP 10 Pack, Industrial Temp
10072H	1000BASE-LX SFP 10 Pack, Hi	1000BASE-LX SFP 10 Pack, Industrial Temp

[1] Not supported on Combo ports for Summit X460

10311	QSFP+ passive copper cable, 0.5M	QSFP+ passive copper cable, 0.5M
10312	QSFP+ passive copper cable, 1.0M	QSFP+ passive copper cable, 1.0M
10313	QSFP+ passive copper cable, 3.0M	QSFP+ passive copper cable, 3.0M
10323	QSFP+ passive copper cable, 5.0M	QSFP+ passive copper cable, 5.0M
10315	QSFP+ active fiber cable, 10M	QSFP+ active fiber cable, 10M
10316	20m QSFP+ Active Optical Cable	QSFP+ active fiber cable, 20M
10318	QSFP+ active fiber cable, 100M	QSFP+ active fiber cable, 100M
10304	10GBASE-CR SFP+ 1m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 1m
10305	10GBASE-CR SFP+ 3m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 3m
10306	10GBASE-CR SFP+ 5m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 5m
10307	10GBASE-CR SFP+ 10m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 10m
16106	Stacking Cable, 0.5M	SummitStack/UniStack™ Stacking Cable, 0.5M
16107	Stacking Cable, 1.5M	SummitStack/UniStack Stacking Cable, 1.5M
16108	Stacking Cable, 3.0M	SummitStack/UniStack Stacking Cable, 3.0M
16105	Stacking Cable, 5.0M	SummitStack Stacking Cable, 5.0M2

[2] Not supported when using with Summit X650 or UniStack

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