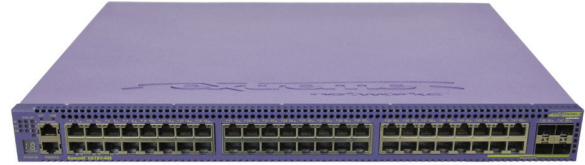


Summit X670V-48t

48 Port 10 GbE Copper Switch
with optional 40 GbE uplink



Highlights

The Summit X670V-48t switches are purpose-built top-of-rack switches designed to support emerging 10 Gigabit Ethernet enabled servers in enterprise and cloud data centers. Summit X670 helps optimize new server deployments with its optional, future-proofing 40 GbE uplink support while providing seamless support from existing Gigabit Ethernet-based servers to 10 GbE-based high-performance servers to start the transition to the new virtualized environment.

Overview

The Summit® X670V-48t provides high density for 10 Gigabit Ethernet switching in a small 1RU form factor. These switches support up to 64 10GbE ports in one system and 448 10GbE ports in a stacked system using high-speed SummitStack-V160, which provides 160 Gbps throughput and distributed forwarding. And, additionally, these switches support up to 384 10GbE ports of 10GbE in a stacked system using high-speed SummitStack-V320, which provides 320 Gbps throughput and distributed forwarding.

With its versatile design, the Summit X670 provides high density Layer 2/3 switching with low latency cut-through switching, and IPv4 and IPv6 unicast and multicast routing to enable enterprise aggregation and core backbone deployment in AC-powered and DC-powered environments.

Summit X670 series simplifies network operation with the ExtremeXOS® modular operating system (OS), which is used amongst all Extreme Networks® Summit® and BlackDiamond® Ethernet switches. The high availability ExtremeXOS operating system provides simplicity and ease of operation through the use of one OS everywhere in the network.

10 Gigabit Ethernet Switching

The Summit X670 model offers 48-port 10 Gigabit Ethernet non-blocking switching with 10GBASE-T interfaces. Summit X670 is capable of Layer 2 and Layer 3 forwarding at up to 714 million packets per second forwarding rate in a small 1RU form factor, enabling next-generation high-performance server deployment in data centers. And the X670 supports SummitStack-V high-speed, longer distance stacking over the 10GbE ports.

SummitStack-V-Flexible Stacking Over 10 Gigabit Ethernet

SummitStack-V capability utilizes 10 GbE ports as stacking ports, enabling the use of standard cabling and optics technologies used for 10GbE BASE-T RJ45 and BASE-X SFP+ available on the X670V-48t. SummitStack-V provides long-distance stacking connectivity of up to 40 km while reducing the cable complexity of implementing a stacking solution. SummitStack-V enabled 10 GbE ports must be physically direct-connected. SummitStack-V is compatible with Summit X450e, X450a, X460, X480, X650 and X670 switches running the same version of ExtremeXOS.



Make Your Network Mobile

40 Gigabit Ethernet Uplinks and High-Speed 160 Gbps Stacking

The Summit X670V-48t switch can support an additional four QSFP+ ports of 40 GbE with the optional VIM4-40G4X module. With this option, you can maximize the number of interfaces for servers up to 48 ports while using the dedicated four-port 40 GbE module for uplink connectivity. The optional VIM4-40G4X provides 160 Gbps aggregated bandwidth to the backbone. Each 40 Gigabit Ethernet port can be independently configured as 40 Gigabit Ethernet or 4 x 10 Gigabit Ethernet; thus with the VIM4-40G4X module, Summit X670V-48t can support up to 64 ports of 10 Gigabit Ethernet in a 1RU form factor and is capable of Layer 2 and Layer 3 forwarding at up to 960 million packets per second forwarding rate. This configuration provides 3:1 oversubscription from front ports (total 480 Gbps bandwidth) to uplink ports (total 160 Gbps bandwidth) and maximizes server port density.

Summit X670V-48t together with VIM4-40G4X provides high speed stacking options running at 160 Gbps or 320 Gbps through the SummitStack technology. SummitStack-V160 can be enabled on two 40 Gigabit Ethernet QSFP+ ports on the VIM4-40G4X, using half of the module's four ports as stacking interfaces. SummitStack-V320 can be enabled on all four 40 Gigabit Ethernet QSFP+ ports on the VIM4-40G4X, using all of the module's four ports as stacking interfaces. SummitStack-V320 on the X670 is compatible with SummitStack-V320 on Summit X480 and Summit X650 series switches. SummitStack-V160 on the X670 is compatible with SummitStack-V160 on Summit X480 and Summit X650 series switches and is also compatible with SummitStack-V80, which is available for Summit X460 and Summit X480 series switches.

Green Design

The Summit X670 series is designed to be environmentally green. System power consumption is very low at both high-load and idle situations through the power-efficient hardware design. The power supplies are also highly efficient, which minimizes the loss of power and unnecessary heat generated by the power supply. Summit X670 series switches can be used in AC or DC powered environments.

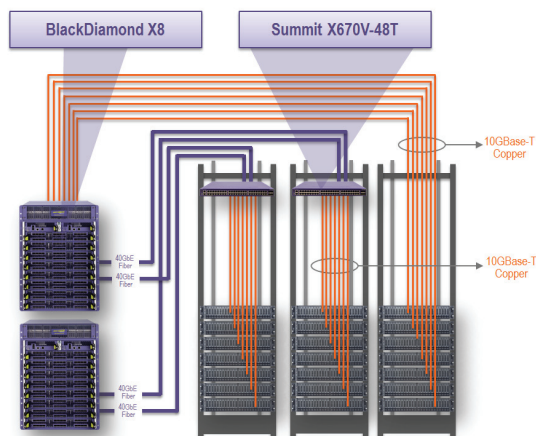


Figure 1: Summit X670V-48T and BlackDiamond X8 Switches providing 10 GbE Copper based server connections

Supports Virtualized Data Centers

With the optional feature pack, Summit X670 switches can also support Direct Attach™ (VEPA), which eliminates the virtual switch layer, simplifying the network and improving performance. Direct Attach enables data center simplification by reducing network tiers from 4 or 5 tiers to just 3 or 2 tiers, depending on the size of the data center.

To further enhance data center operations, Summit X670 switches support XNV™ (ExtremeXOS Network Virtualization), which is natively supported in the ExtremeXOS operating system and is a licensable feature pack for Ridgeline™, a network and service management application, sold separately. XNV provides insight, control and automation for virtualized data centers.

Summit X670 switches also support Priority-based Flow Control (PFC, or IEEE 802.1Qbb), which allows network traffic to be controlled independently based on Class of Service. PFC allows network traffic that requires lossless throughput to be prioritized, while other traffic types that do not require or perform better without PFC can continue as normal.

Software Defined Networking (SDN)

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 transmissions 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.

DCB Support with Enterprise Core Class Scalability

The Summit X670 series supports Data Center Bridging features such as Priority Flow Control (PFC), Enhanced Transmission Selection (ETS) and Data Center Bridging eXchange (DCBX) for data center convergence. At



the same time, the Summit X670 series offers more cost-effective 10 Gigabit Ethernet switches, for both small-sized core backbone and traditional three-tier network architectures. Summit X670 series can support 10 Gigabit Ethernet campus aggregation with its core class routing and switching scalability. The Summit X670 series can support up to 16,000 IPv6 longest prefix matching routing tables, 6,000 IP ARP entries and 3,000 IP multicast group entries.

One Operating System

Extreme Networks simplifies network operation by offering one common OS – ExtremeXOS – throughout the BlackDiamond and Summit switching portfolio. From 10/100 Mbps switching products such as Summit X150 and Summit X250e to the multi-10 gigabit core backbone BlackDiamond modular chassis switches, all switches can run the same version of the OS, which helps deploy, operate and maintain your entire network and reduce operating costs.

10 Gigabit Ethernet Copper

The Summit X670-48t switch supports 48 10GBase-T interfaces. 10GBASE-T supports simpler cabling infrastructure, industry-standard and commonly used unshielded twisted pair cable, and can support up to 100 meters with Category 6a or 55 meters with Category 6 or 5e cable. The 10GbE copper ports autonegotiate for 100Mbps, 1Gbps, or 10Gbps speeds.

10 Gigabit Ethernet SFP+

The Summit X670-48t switch supports 4 ports SFP+ optics on shared combination ports, which can support passive copper cable for up to 10 meters. The switches also support fiber-optical cable installation with SFP+ transceivers such as 10GBASE-SR, LR, LRM, and ER. Summit X670 SFP+ ports support dual interface speeds of Gigabit Ethernet and 10 GbE. SFP+ ports can accept both gigabit SFP and 10 gigabit SFP, and depending upon the pluggable optics you choose, SFP+ can work in both modes.

40 Gigabit Ethernet QSFP+

The Summit X670V model provides a VIM4 slot for the optional VIM4-40G4X module. The VIM4-40G4X module supports four QSFP+ optics, and

supports up to four ports of 40 GbE. 40 GbE QSFP+ ports can accept QSFP+ passive and active cables, as well as QSFP+ transceivers. Each 40 GbE port can be configured as a 40 GbE port or as four 10 GbE ports. The 10 GbE port mode can be supported by a 40GBASE-SR4 QSFP+ transceiver and fan-out optical cables, and is compatible with the 10GBASE-SR optical interface for distances up to 100 meters.

Low Power Consumption with Optimized Cooling Options

The Summit X670-48t switch consumes low power and provides optimized cooling options. Most servers installed in a standard 19-inch rack system flow air from front to back to maximize cooling performance. Compared to side-to-side air flow, front-to-back air flow provides more effective cooling throughout the rack system in the data center. The Summit X670 series has 2+1 hot swappable fan tray offering effective front-to-back air flow, or back-to-front air flow. Back-to-front air flow allows placement of 10 Gigabit Ethernet SFP+ ports in the back side of the rack and reduces distance between switches and servers for 10GBASE-CR SFP+ passive copper cable installations.

Modular Operating System for Non-Stop Operation

Preemptive Multitasking and Protected Memory

Summit X670 series switches allow each of many applications—such as Open Shortest Path First (OSPF) and Spanning Tree Protocol (STP)—to run as separate OS processes that are protected from each other. This drives increased system integrity and inherently protects against DoS attacks.

Process Monitoring and Restart

ExtremeXOS increases network availability using process monitoring and restart. Each independent OS process is monitored in real time. If a process becomes unresponsive or stops running, it can be automatically restarted.

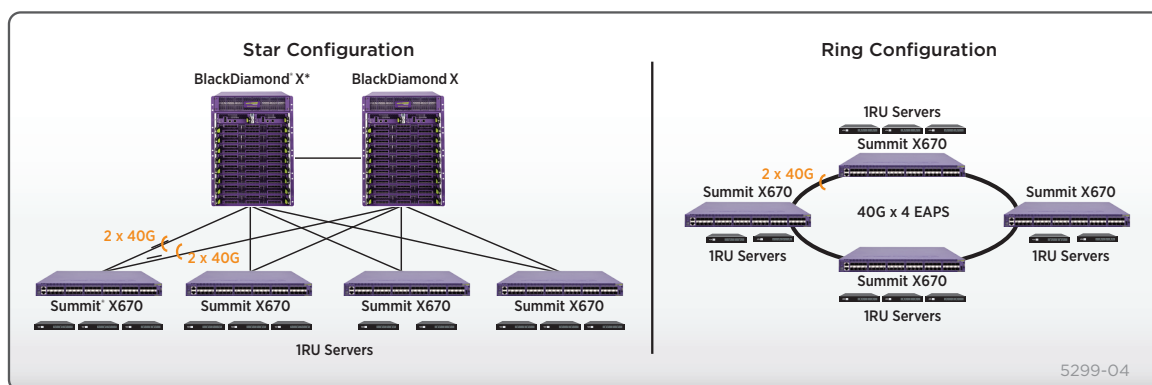


Figure 2: Summit X670 High Speed Uplink Option



Loadable Software Modules

The modular design of the ExtremeXOS OS allows the upgrading of individual software modules, should this be necessary, leading to higher availability in the network.

Spanning Tree/Rapid Spanning Tree Protocols

Summit X670 supports Spanning Tree (802.1D), Per VLAN Spanning Tree (PVST+), Rapid Spanning Tree (802.1w) and Multiple Instances of Spanning Tree (802.1s) protocols for Layer 2 resiliency.

Software-Enhanced Availability

Software-enhanced availability allows users to remain connected to the network even if part of the network infrastructure is down. Summit X670 continuously checks for problems in the uplink connections using advanced Layer 3 protocols such as OSPF, VRRP and Extreme Standby Router Protocol™ (ESRP, supported in Layer 2 or Layer 3), and dynamically routes traffic around the problem.

Equal Cost Multipath

Equal Cost Multipath (ECMP) routing allows uplinks to be load balanced for performance and cost savings while also supporting redundant failover. If an uplink fails, traffic is automatically routed to the remaining uplinks and connectivity is maintained.

Link Aggregation (802.3ad)

Link aggregation allows trunking of up to eight links on a single logical connection, for up to 80 Gbps of redundant bandwidth per logical connection.

Multi-Switch LAG (M-LAG)

M-LAG can address bandwidth limitations and improve network resiliency, in part by routing network traffic around bottlenecks, reducing the risks of a single point of failure, and allowing load balancing across multiple switches. Hardware Redundancy

Hardware Redundancy

Summit X670 series switches support a dual redundant AC/DC power

supply to provide high availability. The power supply can be hot-swapped and replaced should it fail. Summit X670 also supports N+1 redundant hot-swappable fan trays.

Robust IP and MAC Security Framework

Media Access Control (MAC) Lockdown

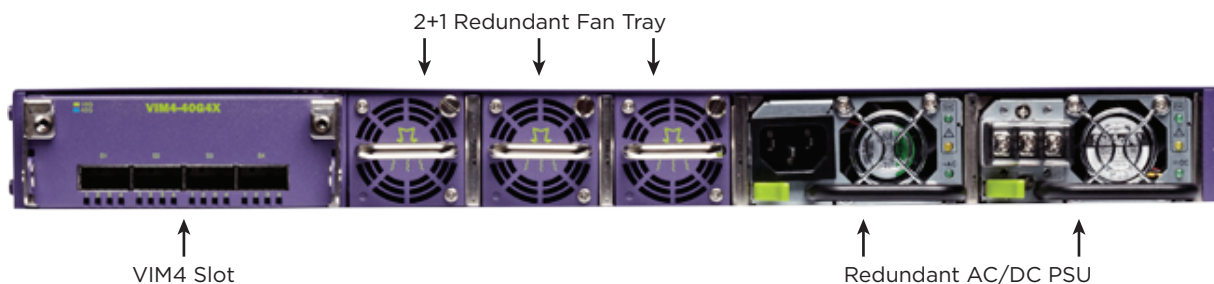
MAC security allows the lockdown of a port to a given MAC address and limiting the number of MAC addresses on a port. This capability can be used to dedicate ports to specific hosts or devices such as VoIP phones or printers and avoid abuse of the port—a capability that can be especially useful in environments such as hotels. In addition, an aging timer can be configured for the MAC lockdown, protecting the network from the effects of attacks using (often rapidly) changing MAC addresses.

IP Security

ExtremeXOS IP security framework helps protect the network infrastructure, network services such as DHCP and DNS and host computers from spoofing and man-in-the-middle attacks. It also protects the network from statically configured and/or spoofed IP addresses and builds an external trusted database of MAC/IP/port bindings providing the traffic's source from a specific address for immediate defense.

Identity Management

Identity Manager allows network managers to track users who access their network. User identity is captured based on NetLogin authentication, LLDP discovery and Kerberos snooping. ExtremeXOS uses the information to then report on the MAC, VLAN, computer hostname, and port location of the user. Further, Identity Manager can create both roles and policies, and then bind them together to create role-based profiles based on organizational structure or other logical groupings, and apply them across multiple users to allow appropriate access to network resources. In addition, support for Wide Key ACLs further improves security by going beyond the typical source/destination and MAC address as identification criteria access mechanism to provide filtering capabilities.



Threat Detection and Response

CLEAR-Flow Security Rules Engine

CLEAR-Flow Security Rules Engine provides first-order threat detection and mitigation, and mirrors traffic to security appliances for further analysis of suspicious traffic in the network.

sFlow

Summit X670 series supports hardware-based sFlow® sampling that provides the ability to sample application-level traffic flows on all interfaces simultaneously.

Port Mirroring

To allow threat detection and prevention, Summit X670 supports many-to-one and one-to-many port mirroring. This allows the mirroring of traffic to an external network appliance such as an intrusion detection device for trend analysis or for utilization by a network administrator for diagnostic purposes. Port mirroring can also be enabled across switches in a stack.

Line-Rate Ingress and Egress ACLs

ACLs are one of the most powerful components used in controlling network resource utilization as well as in protecting the network. Summit X670 series supports up to 2,048 ingress ACLs and 1,024 egress ACLs per system based on Layer 2-, 3- or 4-header information such as the MAC or IP source/destination address. ACLs are used for filtering the traffic, as well as classifying the traffic flow to control bandwidth, priority, mirroring, and policy-based routing/switching.

Supported Protocols and Standards

A list of supported protocols and standards is available on the Extreme Networks website at: <http://www.extremenetworks.com/go/xos>

Denial of Service Protection

Summit X670 series effectively handles Denial of Service (DoS) attacks. If the switch detects an unusually large number of packets in the CPU input queue, it assembles ACLs that automatically stop these packets from reaching the CPU. After a period of time these ACLs are removed, and reinstalled if the attack continues. ASIC-based LPM routing eliminates the need for control plane software to learn new flows, allowing more network resilience against DoS attacks.

Secure and Comprehensive Network Management

As the network becomes a foundation of the enterprise application, network management becomes an important piece of the solution. Summit X670 supports comprehensive network management through Command Line Interface (CLI), SNMP v1, v2c, v3, and ExtremeXOS ScreenPlay™ embedded XML-based Web user interface. With a variety of management options and consistency across other Extreme Networks modular and stackable switches, Summit X670 series switches provide ease of management for demanding converged applications. Extreme Networks has developed tools that simplify and help in efficiently managing your network. Ridgeline network and service management provides fault, configuration, accounting, performance and security functions, allowing more effective management of Extreme Networks products, solutions and third-party devices in a converged network.



Technical Specifications

Summit X670-48t Switch

General Specifications
Quality of Service and Policies
1280 Gbps switch bandwidth, 960 Mpps forwarding rate
9216 Byte maximum packet size (Jumbo Frame)
Store-and-Forward and Cut-Through switching support
< 3.3 micro second latency (64-byte packet) for -48t copper models
128 load sharing trunks, up to 8 members per trunk
4,094 VLANs (Port, Protocol, IEEE 802.1Q)
2,048 ingress and 1,024 egress ACL rules per switch
Forwarding Tables
Layer 2/MAC Addresses: 128K
IPv4 Host Addresses: 16K
IPv4 LPM Entries: 16K
IPv6 Host Addresses: 8K
IPv6 LPM Entries: 8K
CPU, Memory
64-bit MIPS Processor, 1GHz clock
1GB ECC SDRAM
1GB Compact Flash
QoS, Rate Limiting
2,048 ingress rules and 512 ingress meters
Ingress and egress bandwidth policing/rate limiting per flow/ACL
8 QoS egress queues/port
1,024 egress rules and 512 egress meter
Egress bandwidth rate shaping per egress queue and per port
Rate Limiting Granularity: 8 Kbps – 1Mbps
LED Indicators
Per port status LED including power status
System Status LEDs: management, fan and power
Motion Detection LED
Total External Ports with VIM-4-40G4X Populated
44 port 10GASE-T RJ-45 (100M/1G/10G tri speed) plus additional 4 combo ports of 10GBASE-T RJ-45 (1G/10G dual speed) shared with 10GBASE-X SFP+ (1G/10G dual speed)
4 port 40GBASE-X QSFP+ (10G/40G dual speed)
One RJ-45 RS-232c Serial port (control port)
One 10/100/1000BASE-T out-of-band management port
Power Supply Support
Summit 550W AC PSU
Summit 550W DC PSU
Physical Specifications
Summit X670
Height: 1.73 Inches/4.4 cm
Width: 17.4 Inches/44.1 cm
Depth: 20.4 Inches/51.9 cm
Weight: 17.0 lbs/7.7 kg (Summit X670V-48t; w/o PSU or VIM4-40G4X)
Physical Specifications (continued)
VIM4-40G4X
Height: 1.6 Inches/4.1 cm

Width: 4.1 Inches/10.3 cm
Depth: 6.5 Inches/16.6 cm
Weight: 0.99 lbs/0.45 kg
Summit X670 Fan Module
Height: 1.65 Inches/4.2 cm
Width: 1.65 Inches/4.2 cm
Depth: 3.98 Inches/10.1 cm
Weight: 0.357 lbs/0.162 kg
Operating Specifications
Operating Temperature Range: 0° C to 45° C (32° F to 113° F)
Operating Humidity: 10% to 95% relative humidity, non-condensing
Operating Altitude: 0-3,000 meters (9,850 feet)
Operational Shock (Half Sine): 30 m/s ² (3 g), 11ms, 60 Shocks
Operational Random Vibration: 3-500 MHz @ 1.5g rms
Storage & Transportation Conditions (Packaged)
Transportation Temperature: -40° C to 70° C (-40° F to 158° F)
Storage and Transportation Humidity: 10% to 95% RH, non-condensing
Packaged Shock (Half Sine): 180 m/s ² (18 g), 6ms, 600 shocks
Packaged Sine Vibration: 5-62 Hz @ Velocity 5mm/s, 62-500 Hz @ 0.2G
Packaged Random Vibration: 5-20 Hz @ 1.0 ASD w/-3dB/oct. from 20-200 Hz
14 drops min on sides & corners @ 42" (<15 kg box)
Acoustic Noise
Summit X670V-48t (FB): 56.6 dB(A) – 68.8dB(A)
Regulatory/Safety
North American Safety of ITE
UL 60950-1 1st Ed., Listed Device (U.S.)
CSA 22.2#60950-1-03 1st Ed. (Canada)
Complies with FCC 21CFR 1040.10 (U.S. Laser Safety)
CDRH Letter of Approval (U.S. FDA Approval)
European Safety of ITE
EN60950-1:2006
EN 60825-1+A2:2001 (Lasers Safety)
TUV-R GS Mark by German Notified Body
2006/95/EC Low Voltage Directive
International Safety of ITE
CB Report & Certificate per IEC 60950-1:2006 + National Differences
AS/NZS 60950-1 (Australia/New Zealand)
EMI/EMC Standards
North America EMC for ITE
FCC CFR 47 part 15 Class A (U.S.A.)
ICES-003 Class A (Canada)
European EMC Standards
EN 55022:2006 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 1995+A2:2005 (Flicker)
ETSI EN 300 386 v1.3.3, 2005-04 (EMC Telecommunications)
2004/108/EC EMC Directive

EMI/EMC Standards (continued)
International EMC Certifications
CISPR 22: 2006 Ed 5.2, Class A (International Emissions)
CISPR 24:A2:2003 Class A (International Immunity)
EC/EN 61000-4-2:2001 Electrostatic Discharge, 8kV Contact, 15 kV Air, Criteria A
EC/EN 61000-4-3:2006 Radiated Immunity 10V/m, Criteria A
EC/EN 61000-4-4:2005 Transient Burst, 1 kV, Criteria A
IEC/EN 61000-4-5:2005 Surge, 2 kV L-L, 2 kV L-G, Level 3, Criteria A
IEC/EN 61000-4-6:2005 Conducted Immunity, 0.15-80 MHz, 10V/m unmod. RMS, Criteria A
EC/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
EN/ETSI 300 386:2001 (EMC Telecommunications)
EN/ETSI 300 019 (Environmental for Telecommunications)
MEF9 and MEF14 certified for EPL, EVPL and ELAN
NEBS Level 3 compliant to portions of GR-1089 Issue 4 & GR-63 Issue 3 as defined in SR3580 with exception to filter requirement
IEEE 802.3 Media Access Standards
IEEE 802.3ab 1000BASE-T
IEEE 802.3z 1000BASE-X
IEEE 802.3ae 10GBASE-X
IEEE 802.3ba 40GBASE-X
Environmental Standards
EN/ETSI 300 019-2-1 v2.1.2 (2000-09) – Class 1.2 Storage
EN/ETSI 300 019-2-2 v2.1.2 (1999-09) – Class 2.3 Transportation
EN/ETSI 300 019-2-3 v2.1.2 (2003-04) – Class 3.1e Operational
EN/ETSI 300 753 (1997-10) – Acoustic Noise
ASTM D3580 Random Vibration Unpackaged 1.5G
Warranty
Ltd. 1-year on Hardware
90-days on Software
For warranty details, visit www.extremenetworks.com/go/warranty

Power

Measured power consumption with direct attach passive copper cables.

	PSU Type	100% Traffic
Summit X670V-48t	AC	323W
	DC	336W
Summit X670V-48t with VIM4-40G4X	AC	365W
	DC	365W

Summit 550W AC PSU
Physical Specifications
Height: 1.5 inches (3.8 cm)
Width: 3.1 inches (7.8 cm)
Depth: 13.3 Inches (33.8 cm)
Weight 3.64 lb (1.65 kg)
Power Specifications
Voltage input range 90 to 264 V
Nominal input ratings 100 to 240 V, 50 to 60 Hz, 8 A
Nominal input current at full loads <ul style="list-style-type: none"> • 8 A @ 90 V (low-line) • 4 A @ 230 V (high-line)
Line frequency range 47 to 63 Hz
Maximum inrush current 15 A
Output 12 V, 45 A max, 540 Watts 3 V, 3 A max, 10 Watts
Maximum continuous DC output shall not exceed 550 Watts
Power supply input socket IEC 320 C14
Power cord input plug IEC 320 C13
Power supply cord gauge 18 AWG (0.75 mm ²) up to 6 feet or 2 meters or 16 AWG (1.0 mm ²) over 6 feet
Summit 550W DC PSU
Physical Specifications
Height: 1.5 inches (3.8 cm)
Width: 3.1 inches (7.8 cm)
Depth: 13.3 Inches (33.8 cm)
Weight 3.22 lb (1.46 kg)
Power Specifications
Nominal Input -48 to -60 VDC, 18 A
DC Voltage Input Range -35 to -75 V
Inrush Current 25A peak
Minimum wire size 14 AWG (1.5 mm ²) copper stranded
DC Output 12 V , 37 A/3.3 V, 3 A
DC Output Power (W) 550 W

Ordering Information

Part Number	Description
17201	Summit X670V-48t-FB-AC 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 2 Front-to-Back 550W AC power supplies, Front-to-Back airflow fans.
17201T	Summit X670V-48t-FB-AC-TAA 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 2 Front-to-Back 550W AC power supplies, Front-to-Back airflow fans, Trade Agreement Act compliant model.
17202	Summit X670V-48t-BF-AC 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48 10GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 2 Back-to-Front 550W AC power supplies, Back-to-Front airflow fans.
17202T	Summit X670V-48t-BF-AC-TAA 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48 10GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 2 Back-to-Front 550W AC power supplies, Back-to-Front airflow fans, Trade Agreement Act compliant model.
17203	Summit X670V-48t-FB-DC 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48 10GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 2 Front-to-Back 550W DC power supplies, Front-to-Back airflow fans.
17203T	Summit X670V-48t-FB-DC-TAA 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48 10GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 2 Front-to-Back 550W DC power supplies, Front-to-Back airflow fans, Trade Agreement Act compliant model.
17204	Summit X670V-48t-BF-DC 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48 10GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 2 Back-to-Front 550W DC power supplies, Back-to-Front airflow fans.
17204T	Summit X670V-48t-BF-DC-TAA 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48 10GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 2 Back-to-Front 550W DC power supplies, Back-to-Front airflow fans, Trade Agreement Act compliant model.
17205	Summit X670V-48t-FB-MIX 48 10GBASE-T, 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48 10GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 1 Front-to-Back 550W AC power supply, 1 Front-to-Back 550W DC power supply, Front-to-Back airflow fans.
17205T	Summit X670V-48t-FB-MIX-TAA 48 10GBASE-T, 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48 10GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 1 Front-to-Back 550W AC power supply, 1 Front-to-Back 550W DC power supply, Front-to-Back airflow fans, Trade Agreement Act compliant model.
17206	Summit X670V-48t-BF-MIX 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48 10GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 1 Back-to-Front 550W AC power supply, 1 Back-to-Front 550W DC power supply, Back-to-Front airflow fans 550W DC power supply, Front-to-Back airflow fans.
17206T	Summit X670V-48t-BF-MIX-TAA 48 10GBASE-T, 4 10GBASE-X (unpopulated and shared with 4 ports of the 48 10GBase-T ports), one VIM4 slot (unpopulated), ExtremeXOS Advanced Edge License, 1 Back-to-Front 550W AC power supply, 1 Back-to-Front 550W DC power supply, Back-to-Front airflow fans 550W DC power supply, Front-to-Back airflow fans, Trade Agreement Act compliant model.
17131	Summit X670 Series Core License
17133	Summit X670 MPLS Feature Pack
11011	Direct Attach Feature Pack
17134	ExtremeXOS SDN - OpenFlow Feature Pack for Summit X670 series switches
17135	ExtremeXOS Audio Video Bridging Feature Pack for Summit X670 series switches
17122	VIM4-40G4X, 4 40GBASE-X QSFP+ ports module for Summit X670V
10925	550W AC Power Supply module for Summit switches, Front-to-Back airflow
10926	550W DC Power Supply module for Summit switches, Front-to-Back airflow
10927	550W AC Power Supply module for Summit switches, Back-to-Front airflow
10928	550W DC Power Supply module for Summit switches, Back-to-Front airflow
17111	Fan module for Summit X670 series switches, Front-to-Back airflow, spare
17112	Fan module for Summit X670 series switches, Back-to-Front airflow, spare
10051	1000BASE-SX SFP, LC Connector



Ordering Information

Part Number	Description
10052	1000BASE-LX SFP, LC Connector
10053	1000BASE-ZX SFP, Extra Long Distance SMF 70 km/21 dB Budget, LC Connector
10064	1000BASE-LX100 SFP, Extra Long Distance SMF 100 km/30dB Budget, LC Connector
10301	10GBASE-SR SFP+, 850nm, LC Connector, transmission length of up to 300m on MMF
10302	10GBASE-LR SFP+, 1310nm, LC Connector, transmission length of up to 10km on SMF
10309	10GBASE-ER SFP+, 1550nm, LC Connector, transmission length of up to 40km on SMF
10304	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 1m
10305	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 3m
10306	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 5m
10311	40 Gigabit Ethernet QSFP+ passive copper cable assembly, 0.5m length
10312	40 Gigabit Ethernet QSFP+ passive copper cable assembly, 1m length
10313	40 Gigabit Ethernet QSFP+ passive copper cable assembly, 3m length
10323	40 Gigabit Ethernet QSFP+ passive copper cable assembly, 5m length
10315	40 Gigabit Ethernet QSFP+ active optical cable assembly, 10m length



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