



Extreme Networks' Summit48si sets the new standard for Layer 3 switching at the edge by maximizing 10/100 port density and architecting unparalleled levels of reliability while maintaining leadership in Layer 3 software features and performance. The Summit48si's unsurpassed software features, capacity, and performance enable customers to provide more Layer 3 services to more users while using less space and at a lower Total Cost of Ownership (TCO) than ever before.

At an incredible one rack unit (1.75") in height, the Summit48si packs a whopping 48 10/100 Ethernet ports and 2 Gigabit Ethernet ports—with non-blocking capacity to support every port at full line rate. This compact yet powerful package is capable of supporting two hot-swappable load sharing power supplies—a reliability first in a 1 rack unit Layer 3 switch. And the Summit48si reliability is enhanced even further with dual Gigabit Ethernet uplinks, both of which are active and can be aggregated for enhanced throughput and increased redundancy.

Extreme Networks' advanced Layer 3 software feature set, ExtremeWare®, combined with the new 1 rack unit and dual power supply form factor makes the Summit48si an unbeatable solution at the edge of the network. Featuring the same "i" series chipset that powers Extreme Networks' award-winning Alpine™ and BlackDiamond® modular switches, the Summit48si supports the most comprehensive set of Layer 3 switched services in the industry—including open shortest path first (OSPF), prioritization and bandwidth management Quality of Service (QoS), Access Control Lists (ACLs), Denial of Service (DoS) protection, and many more features.

This unique combination of high performance, reliability and extensive Layer 3 switched services enables the Summit48si to support redeployment of Layer 3 edge services right to the edge of the network—saving the customer money and improving overall network functionality and performance.

Summit48si Industry-Leading Feature Set

Hardware Features

- 48 10/100 auto-negotiating Ethernet ports in a 1 RU footprint allow more network connections per inch of rack space
- 2 mini-GBIC Gigabit Ethernet ports provide duplicate active uplinks for greater throughput and redundant paths
- Capable of supporting redundant hot-swappable power supplies to maximize uptime and network availability

ExtremeWare Software Features

- Security features, including Network Login, SSH2, ACLs, RADIUS, TACACS+, VLANs, and thorough DoS protection, provide a secure armor
- SmartRedundancy™, Ethernet Automatic Protection Switching (EAPS), Spanning Tree and Extreme Networks STP extensions for enhanced network availability
- OSPF for large scalable meshed fault-tolerant networks
- Full-featured BGP4 for Internet peering

Performance Features

- Extreme Networks' award-winning "i" series chipset based performance
- Full line rate bandwidth on every port
- 17.5 Gbps non-blocking switch fabric
- 4,096 VLANs and 128,000 MAC or Layer 3 addresses
- Policy-Based QoS, with 8 hardware queues per port, and bidirectional rate shaping delivering bandwidth-by-the-slice
- ACLs for optimal security and diverse traffic classification
- Jumbo frame support for special high-throughput applications

Management Features

- Extensive management through HTTP, SNMP, RMON and command line interface
- Serial management port on the front panel for ease of installation

Summit48si Product Specifications

Protocols and Standards

General Routing

RFC 1812 Router requirements
RFC 1519 CIDR
RFC 1256 IRDP router discovery
RFC 783 TFTP
RFC 951 BootP
RFC 1542 BootP
RFC 2131 BootP/DHCP helper
RFC 1591 DNS (client operation)
RFC 1122 Host requirements
RFC 768 UDP
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC2338 Virtual Redundant Router Protocol (VRRP)
ESRP Extreme Standby Router Protocol, with Groups, Host attach and Domain features

RIP

RFC 1058 RIPv1
RFC 2453 RIPv2

OSPF

RFC 2328 OSPFv2
RFC 1587 OSPF NSSA Option
RFC 2154 OSPF with Digital Signatures (password, MD-5)

BGP4

RFC 1771 Border Gateway Protocol 4
RFC 1965 Autonomous System Confederations for BGP
RFC 1966 BGP Route Reflection
RFC 1997 BGP Communities Attribute
RFC 1745 BGP/OSPF interaction

IP Multicast

RFC 2362 PIM-SM
PIM-DM Draft IETF PIM Dense Mode v2-dm-03
RFC 1122 DVMRP Host req
DVMRP v3 draft IETF DVMRP v3-07
RFC 2236 IGMP v2
IGMP Snooping with configurable router registration forwarding

Quality of Service

IEEE 802.1D - 1998 (802.1p) packet priority
RFC 2474 DiffServ Precedence
RFC 2598 DiffServ Expedited Forwarding
RFC 2597 DiffServ Assured Forwarding
RFC 2475 DiffServ Core and Edge router functions

IEEE General

IEEE 802.1D Spanning Tree Protocol (STP), with multiple domains
IEEE 802.1Q VLAN tagging
IEEE 802.3ad draft - static config
IEEE GVRP (Generic VLAN Registration Protocol)
Port-based
MAC-based

Protocol-sensitive

Management

RFC 1157 SNMPv1/v2c
RFC 1907 SNMPv2
RFC 1757 RMON 4 groups: Stats, History, Alarms & Events
RFC 2021 RMON2 (probe config)
RFC 2668 MAU
RFC 1493 Bridge MIB
RFC 1213 MIB-II
RFC 2037 Entity MIB
RFC 2233 Interface MIB
RFC 2096 IP Forwarding
RFC 1724 RIPv2 MIB
ExtremeWare private MIB (includes ACL, QoS policy and VLAN config)
RFC 1866 HTML
RFC 2068 HTTP
RFC 854 Telnet
HTML and telnet management
Configuration logging
Multiple images, multiple configs
Multiple Syslog servers
999 local messages, criticals stored across reboots
RFC 1769 Ver 3 Simple Network Time Protocol

Security

FIPS-186 (Federal Information Processing Standards Publication 186) Secure Shell 2 (SSH2).
RFC 1851 3DES-CBC cipher
RFC 2792 DSA key exchange
TACACS+
RFC 2138 RADIUS
RFC 2139 RADIUS Accounting
RADIUS per-command Authentication
Access Profiles on all routing protocols
Access Profiles on all management methods

Denial of Service Protection

RFC 2267 Network Ingress Filtering
 RPF (Unicast Reverse Path Forwarding) control
 Wire-speed ACLs
 Rate Limiting by ACLs
 Server Load Balancing with Layer 3, 4 protection of Servers
 SYN attack protection
 Uni-directional session control
 CERT and "rootshell" immunity testing including:
 CERT (<http://www.cert.org>)

- CA-97.28.TearDrop_Land - TearDrop and "LAND" attack
- IP Options Attack
- CA-98.13.tcp-denial-of-service
- CA-98.01.smurf
- CA-96.26.ping
- CA-96.21.tcp_syn_flooding
- CA-96.01.UDP_service_denial
- CA95.01.IP_Spoofing_Attacks_and_Hijacked_Terminal_Connections

Host Attacks (<http://www.rootshell.org/beta/exploits.html>)

- Syndrop
- Nestea
- Latierra
- Newtear
- Bonk
- Winnuke
- Simping
- Sping
- Ascend
- Stream
- Raped

Physical and Environmental

Summit48si Dimensions

(H) 1.75 in x (W) 17.25 in (D) x 18.25 in (Including PSU handle)
 (H) 4.45 cm (W) 43.87 cm x (D) 46.41 cm
 Weight: 14 lbs (6.35 Kg) (1 PSU)
 PSU Weight: 2 lbs (0.9 Kg)
 Operating Temperature: -40° C to 40° C (-40° F to 104° F)
 Storage Temperature: -40° C to 70° C (-40° F to 158° F)
 Humidity: 10% to 95% non-condensing
 AC Power: 100 to 240 VAC, 50-60 Hz, 1.5-3.0 A max.
 DC Power: -36 to -75 VDC, 5% max p-p ripple,
 4.2 Amps maximum at -48 VDC
 Heat Dissipation: 631 BTU/hr (185 watts)

Regulatory

Safety

UL 1950 3rd Edition, listed
 EN60950:1992/A1-4:1997 plus ZB/ZC Deviations
 IEC 950CB
 Low Voltage Directive (LVD)
 CSA 22.2#950-95
 AS/NZS 3260
 EN60825-1
 FCC CFR 21

EMI/EMC

FCC Part 15 Class A
 ICES-0003 A/C108.8-M1983 Class A
 VCCI Class A
 AS/NZS 3548
 EN55022 Class A
 CISPR 22 Class A
 EN50082 -1:1997 include ENV 50204
 EN55024:1998 includes IEC 61000-4-2, 3, 4, 5, 6, 8, 11
 EN 61000-3-2, 3
 CNS 13438 Class A

Environmental

EN60068 to Extreme IEC68 schedule

Ordering Information

Part Number	Description
15601	Summit48si AC with 48 10/100BASE-TX Ethernet ports, two mini-GBIC-based 1000BASE-X slots (unpopulated), Basic Layer 3 switching, single AC power supply. Includes power cord for US and Japan.
15602	Summit48si DC with 48 10/100BASE-TX Ethernet ports, two mini-GBIC-based 1000BASE-X slots (unpopulated), Basic Layer 3 switching, single DC power supply. Includes power cord for US and Japan.
15603	Summit48si AC power supply. Second power supply or spare.
15604	Summit48si DC power supply. Second power supply or spare.
15605	ExtremeWare Full Layer 3 Software License Voucher

3585 Monroe Street Santa Clara, CA 95051-1450 Phone 408.579.2800 Fax 408.579.3000
Email info@extremenetworks.com Web www.extremenetworks.com

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