



# Summit

# 5i

The Summit5i™ is the ideal switch for mid-tier aggregation in enterprise, basement customer premise equipment (CPE) for metro area networks, and for server load balancing/web cache redirection in server co-location and hosting environments. With a compact 2U factor, the Summit5i switch integrates non-blocking Wire-Speed IP/IPX Routing and Layer 2 switching with advanced capabilities like Policy-Based Quality of Service, server load balancing, web cache redirection and access control lists- all at wire speed on every port.

**Summit5i** - Available in three configurations with twelve 100/1000BASE-T, 1000BASE-SX, or 1000BASE-LX ports plus four GBIC-based 1000BASE-X ports, the Summit5i also comes with built-in redundant power supplies for increased fault tolerance.

**Point of Presence (POP)** The shift from narrowband technologies to gigabit level services has dramatically changed the networking requirements of the customer premise equipment portion of metro area networks, as well in Internet data centers fed by high-capacity connections. The Summit5i provides an ideal integrated platform to meet these new requirements.

*Broadband Access POP* - Delivers an integrated platform for providing transport and service termination at the CPE location. Features wire-speed switching and routing, filtering, virtual metropolitan area networks (vMANs), and bidirectional bandwidth controls.

*Broadband Services POP* - Provides a single aggregation point for the basic service delivery mechanisms necessary for an Internet data center- scalability, security, access policies, wire-speed access control lists, and server load balancing combined with both high availability and web cache redirection configurations.

Pre-installed on every Extreme Networks™ switch, the ExtremeWare™ software suite features industry standard protocols to ensure interoperability with legacy switches and routers, plus Policy-Based Quality of Service (QoS) for bandwidth management and traffic prioritization. ExtremeWare scales performance and increases availability by combining Policy-Based QoS with fully integrated server load balancing, web cache redirection, access control lists, VLAN switching and routing, IETF DiffServ and IEEE 802.1p.

- **IP TDM bounded latency transport of voice and video traffic**
- **SONET-like reliability for non-stop operation**
- **Bandwidth by the slice for incremental service provisioning**
- **Usage-based billing to recoup the service provider's investment**
- **Virtual MAN (vMAN) services for virtual private networks over a single MAN**
- **BGP4 for Internet peering**
- **Medium and long-reach optics for metro and regional area networks**
- **Non-blocking 32 Gbps switch fabrics yields 24 million packets per second**
- **Wire-Speed IP/IPX Routing at Layer 3 with wire-speed layer 2 switching**
- **Policy-Based Quality of Service with bandwidth management and prioritization**
- **Bandwidth provisioning per port**
- **Advanced resiliency and fault tolerance; fully redundant, load-sharing power supplies**
- **Dual switch configurations and ExtremeWare images**
- **Extreme Standby Router Protocol (ESRP™)**
- **OSPF equal cost multipath routing**
- **1,024 IEEE 802.1Q VLANs**
- **IEEE 802.1ad compatible link aggregation**
- **Switch and route jumbo frames**

# Summit5i Product Specifications

## General

True QoS via ExtremeWare and policy-based bandwidth control and application prioritization  
 Eight queues per port  
 Auto-negotiating 100/1000BASE-T  
 Up to 128,000 Layer 2 addresses  
 Up to 128,000 Layer 3 addresses  
 1,024 VLANs

## 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  
 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)

### BGP-4:

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 802.1Q 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, Raped, Spring, Ascend, Stream

## Physical and Environmental

### Summit5i Dimensions:

(H) 3.50 in x (W) 17.25 in x (D) 19.0 in  
 (H) 8.90 cm x (W) 43.87 cm x (D) 48.31 cm  
 Weight: with single power system: 21.7 lbs (9.90 Kg); with dual power system 27.4 lbs (12.86 Kg)  
 Operating Temperature: 0° C to 40° C (32° F to 104° F)  
 Storage Temperature: -10° C to 70° C (14° F to 158° F)  
 Humidity: 10% to 95% non-condensing  
 Power: 100-240 VAC, 50-60 Hz, 2.6 A max.  
 Heat Dissipation: 1051 BTU/hr (308 watts)

## Regulatory

### Safety

UL 1950 3rd Edition, Listed  
 TUV/GS and GOST to EN60825-1 and EN60950: 1992/A3:1995+ZB/ZC Deviations  
 cUL Listed to CSA 22.2#950-95

### EMI/EMC

FCC Part 15 Class A  
 ICES-0003 Class A  
 VCCI Class 1  
 EN55022 Class A  
 CISPR 22 Class A  
 EN55024

### Environmental

EN60068 to Extreme IEC68 schedule

### Reliability

Minimum 50000 hrs MTBF to Mil HDBK  
 217F Notice 1, Parts Stress Method

### Acoustic

58 dB/pW Weighted Sound Power Level to EN27779 and EN29295

## Ordering Information

Order Number	Description
11501	Summit5i with 12 fixed 1000BASE-T ports (RJ-45) and four unpopulated GBIC-based 1000BASE-X ports (SC), Basic Layer 3 Software License, single power supply
11502	Summit5i with 12 fixed 1000BASE-T ports (RJ-45) and four unpopulated GBIC-based 1000BASE-X ports (SC), Basic Layer 3 Software License, dual power supply
11503	Summit5i with 12 fixed 1000BASE-SX ports (MT-RJ) and four unpopulated GBIC-based 1000BASE-X ports (SC), Basic Layer 3 Software License, single power supply
11504	Summit5i with 12 fixed 1000BASE-SX ports (MT-RJ) and four unpopulated GBIC-based 1000BASE-X ports (SC), Basic Layer 3 Software License, dual power supply
11506	Summit5i with 12 fixed 1000BASE-LX ports (MT-RJ) and four unpopulated GBIC-based 1000BASE-X ports (SC), Basic Layer 3 Software License, dual power supply
11509	Summit5i Full Layer 3 Software License

For the latest Summit5i product specifications, check out [www.extremenetworks.com/products/datasheets/summit5i.asp](http://www.extremenetworks.com/products/datasheets/summit5i.asp)

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