ALPINE® 3800 SERIES
Network Convergence Switches

Extreme Networks' Alpine 3800 chassis series switches deliver intelligent Ethernet switching platforms with the most comprehensive set of features guaranteed to fulfill the needs of enterprise and service provider networks.

The award-winning Alpine 3800 chassis switches support the scalability, flexibility, security and management features required to build complete enterprisewide networks, including large campuses, branch offices, data centers and wiring closets. The Alpine 3800 series switches enable enterprise networks to adopt new technologies, such as wireless and Voice-over-IP (VoIP), by offering intelligent security and availability features to keep network convergence simple and manageable.

Providing advanced availability, scalability and management features, the Alpine 3800 series switches are ideally suited for service providers and metropolitan area networks (MANs).

The Alpine 3800 series switches support a wide offering of high performance Ethernet connections including standard Category 5, fiber optic media, legacy WAN, and Power over Ethernet. With the flexibility and scalability of a modular chassis, the Alpine chassis switches provide a complete solution for Ethernet network connectivity.

Alpine 3800 Chassis Switch Features

Availability Features
- Hot-swappable I/O modules and fan trays
- Fully redundant, load-sharing, hot-swappable power supplies
- Demonstrated reliability with NEBS
- 802.3ad load sharing and cross module trunking
- Built-in link redundancy offers active and backup data paths
- Extreme Standby Router Protocol (ESRP) provides Layer 2 and Layer 3 redundancy for smart, ultra-fast failover to a default router or switch
- Virtual Router Redundancy Protocol (VRRP) provides Layer 3 redundancy to a router or switch
- Spanning Tree Protocol (STP) for Layer 2 networks
- Ethernet Automatic Protection Switching (EAPS) for SONET-like resiliency
- OSPF Equal Cost Multipath Routing (ECMP) distributes traffic across multiple high bandwidth links

Security Features
- Denial of Service (DoS) protection against attacks
- Network Login and 802.1x to authenticate and protect networks at the point of entry
- Hardware based access control lists (ACLs) linked to a class of service, perform Layer 1-4 packet-level security and control traffic flows at wire-speed
- MAC address security to lock-out unauthorized equipment

Scalability Features
- 802.3af Power-over-Ethernet (PoE) to support converging network applications
- Policy-Based Quality of Service (QoS) at wire-speed to allocate bandwidth, and prioritize traffic
- Bidirectional rate shaping to provision and manage bandwidth by the slice from 1Kbps to 1Gbps
- Jumbo frames to efficiently utilize high performance connections
- Integrated server load balancing to improve application
- performance
- Integrated transparent web cache redirection optimizes bandwidth utilization

Management Features
- Secure Shell (SSH2) encrypts remote telnet management connections across the network
- SNMPv3 insures authentication and privacy for management applications
- End-to-End ExtremeWare®
- Comprehensive EPICenter®

extreme networks

Product Specifications

Alpine 3802 Chassis
- 3-slot chassis

Port Densities
- 20 10/100/1000BASE-T ports
- 20 1000BASE-X ports
- 64 10/100BASE-TX ports
- 64 10/100BASE-TX PoE ports
- 48 100BASE-FX MMF ports
- 48 100BASE-FX SMF ports

Performance
- 16 Gbps switch fabric bandwidth
- 12 Mpps forwarding rate
- 128K MAC addresses
- 4096 VLANs

Physical Dimensions
- Rack height: 4RU
- 7.0 in (H) x 17.3 in (W) x 12.0 in (D)
- 17.8 cm (H) x 43.9 cm (W) x 30.5 cm (D)
- Weight (empty): 25 lbs (11 kg)
- Weight (fully loaded): 31 lbs (14 kg)

Power and Heat Dissipation
- Power Supply Input: 315 Watts
- Heat Dissipation 1076 BTU/hour
- Current Rating: 4A @ 100 VAC; 2A @ 200 VAC; 8A @ -40VDC

Alpine 3804 Chassis
- 5-slot chassis

Port Densities
- 64 10/100/1000BASE-T ports
- 64 1000BASE-X ports
- 128 10/100BASE-TX ports
- 128 10/100BASE-TX PoE ports
- 96 100BASE-FX MMF ports
- 96 100BASE-FX SMF ports

Performance
- 32 Gbps switch fabric bandwidth
- 24 Mpps forwarding rate
- 128K MAC addresses
- 4096 VLANs

Physical Dimensions
- Rack height: 6RU
- 10.5 in (H) x 17.3 in (W) x 15.5 in (D)
- 26.7 cm (H) x 43.9 cm (W) x 39.4 cm (D)
- Weight (empty): 30 lbs (14 kg)
- Weight (fully loaded): 68 lbs (31 kg)

Power and Heat Dissipation
- Power Supply Input: 577 Watts
- Heat Dissipation 2000 BTU/hour
- Current Rating: 6.5A @ 100 VAC; 3.5A @ 200 VAC; 15A @ -40VDC

Alpine 3808 Chassis
- 9-slot chassis

Port Densities
- 128 10/100/1000BASE-T ports
- 128 1000BASE-X ports
- 256 10/100BASE-TX ports
- 256 10/100BASE-TX PoE ports
- 192 100BASE-FX MMF ports
- 192 100BASE-FX SMF ports

Performance
- 64 Gbps switch fabric bandwidth
- 48 Mpps forwarding rate
- 128K MAC addresses
- 4096 VLANs

Physical Dimensions
- Rack height: 12RU
- 21.0 in (H) x 17.3 in (W) x 11.4 in (D)
- 53.3 cm (H) x 43.9 cm (W) x 28.9 cm (D)
- Weight (empty): 50 lbs (23 kg)
- Weight (fully loaded): 100 lbs (45 kg)

Power and Heat Dissipation
- Power Supply Input: 1046 Watts
- Heat Dissipation 3600 BTU/hour
- Current Rating: 13A @ 100 VAC; 6.5A @ 200 VAC; 30A @ -40VDC

Protocols and Standards

General Routing/Switching
- RFC 1812 IPv4 Router Requirements
- RFC 1519 CIDR
- RFC 1256 IPv4 Router Discovery (IRDP)
- RFC 783 TFTP
- RFC 951, 1542 BootP
- RFC 2131 BOOTP/DHCP relay agent and DHCP server
- RFC 1591 DNS (client operation)
- RFC 1122 Host Requirements
- RFC 768 UDP
- RFC 791 IP
- RFC 792 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 2338 VRRP
- Extreme Standby Router Protocol (ESRP)
- IPX RIP/SAP Router specification
- IEEE 802.1D-1998 Spanning Tree Protocol (STP)
- Multiple Instances of Spanning Tree (PVST+ compatible, 802.1Q interoperable)
- IEEE 802.1w - 2001 Rapid Reconfiguration for STP, RSTP
- IEEE 802.1Q - 1998 Virtual Bridged Local Area Networks
- Ethernet Automatic Protection Switching (EAPS)
- Software controlled redundant ports

Quality of Service and Policies
- IEEE 802.1D -1998 (802.1p) Packet Priority
- RFC 2474 DiffServ Precedence, including 8 queues/port
- RFC 2598 DiffServ Expedited Forwarding (EF)
- RFC 2597 DiffServ Assured Forwarding (AF)
- RFC 2475 DiffServ Core and Edge Router Functions
- Bi-directional Rate Shaping
- Layer 1-4, Layer 7 (user name) Policy-Based Mapping
- Policy-Based Mapping/Overwriting of DiffServ code points, .1p priority
- DLCS (Dynamic Link Context System, WINS snooping) for integration with EPICenter Policy Manger

VLANs
- IEEE 802.1Q VLAN Tagging
- IEEE 802.3ad Static configuration and dynamic (LACP)
- IEEE 802.1v VLAN classification by Protocol and Port
- Port-based VLANs
- MAC-based VLANs
- Protocol-sensitive VLANs
- Multiple STP domains per VLAN
- RFC-3069 VLAN Aggregation
- Virtual MANs
- VLAN Translation

RIP
- RFC 1058 RIP v1
- RFC 2453 RIP v2

OSPF
- RFC 2328 OSPF v2 (including MD5 authentication)
- RFC 1587 OSPF NSSA Option
- RFC 1765 OSPF Database Overflow
- RFC 2370 OSPF Opaque LSA Option

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
- RFC 2385 TCP MD5 Authentication for BGPv4
- RFC 2439 BGP Route Flap Damping

IP Multicast
- RFC 2362 PIM-SM
- PIM-DM Draft IETF PIM Dense Mode v2-dm-03
- DVMRP v3 draft IETF DVMRP v3-07
- RFC 1112 IGMP v1
- RFC 2236 IGMP v2
- IGMP Snooping with Configurable Router Registration Forwarding
- Static IGMP Membership
- IGMP Filters
- Mtrace, draft-ietf-idmr-traceroute-imp-07
- Mrinfo

IS-IS
- RFC 1142 (ISO 10589), IS-IS protocol
- RFC 1195 Use of OSI IS-IS for routing in TCP/IP and dual environments
- RFC 2104 HMAC: Keyed-Hashing forMessage Authentication
- IS-IS HMAC-MD5 Authentication

Management and Security

Management - SNMP & MIBs
- RFC 1155 Structure of Mgmt Information (SMIv1)
- RFC 1157 SNMPv1
- RFC 1212, RFC 1213, RFC 1215 MIB-II & TRAPs
- RFC 1901 – 1908 SNMP Version 2c, SMIv2 and Revised MIB-II
- RFC 2570 – 2575 SNMPv3, user based security, encryption and authentication
- RFC 2576 Coexistence between SNMP Version 1, Version 2 and Version 3
- RFC 1757 RMON 4 groups: Stats, History, Alarms and Events
- RFC 2021 RMON2 (probe configuration)
- RFC 2613 SMON MIB
- RFC 2668 802.3 MAU MIB
- RFC 1643 Ethernet MIB
- RFC 1650 Etherlike-MIB
- RFC 1573 Evolution of Interface
- RFC 1493 Bridge MIB
- Draft-ietf-bridge-rstpmib-03.txt – Definitions of Managed Objects for Bridges with Rapid Spanning Tree Protocol
- RFC 1354 IPv4 Forwarding Table MIB
- RFC 2037 Entity MIB RFC 2233 Interface MIB
- RFC 2096 IP Forwarding
- RFC 1724 RIPv2 MIB
- RFC 1850 OSPFv2 MIB
- RFC 1657 BGPv4 MIB
- RFC 2787 VRRP MIB
- RFC 2925 Ping / Traceroute / NSLOOKUP MIB
- ExtremeWare vendor MIB (includes ACL, MAC FDB, IP FDB, MAC Address Security, QoS policy and VLAN config)
- IEEE 802.1x – 2001 MIB
- Extreme extensions to 802.1x-MIB

Management - Other
- RFC 1866 HTML
- RFC 2068 HTTP
- RFC 854 Telnet
- HTML/ HTTP management
- Secure Shell (SSHv2) and Telnet management,Telnet and SSHv2 clients
- Secure Copy (SCPv2)
- NetFlow version 1 export
- Configuration logging
- Multiple Images, Multiple Configs
- BSD System Logging Protocol (SYSLOG), with Multiple Syslog Servers
- 999 Local Messages (criticals stored across reboots)
- RFC 2030 SNTP, Simple Network Time Protocol v4

Security
- Routing protocol authentication (see above)

- Secure Shell (SSHv2) & Secure Copy (SCPv2) with encryption/authentication
- SNMPv3 user based security, with encryption/authentication (see page 3)
- RFC 1492 TACACS+
- RFC 2138 RADIUS Authentication
- RFC 2139 RADIUS Accounting
- RADIUS Per-command Authentication
- Access Profiles on All Routing Protocols
- Access Profiles on All Management Methods
- Network Login (web-based DHCP/RADIUS mechanism)
- IEEE802.1x – 2001 Port-Based Network Access Control for Network Login
- Multiple supplicants for Network Login (web-based and 802.1x modes)
- MAC Address Security / Lockdown
- Network Address Translation (NAT)
- Layer 2/3/4/7 Access Control Lists (ACLs)

Safety
- UL 1950 3rd Edition , Listed (Safety of ITE)
- EN60950:1992/A1-4:1997+ZB/ZC Deviations (Safety of ITE)
- IEC 950CB (Safety of ITE)
- Low Voltage Directive (LVD)
- CSA 22.2#950-95 (Safety of ITE)
- AS/NZX 3260 (product safety standard)
- EN60825-1 (Safety of Lasers Products)
- FCC CFR 21 (Laser Products)

EMI/EMC
- NEBS Level III, Issue 1
- FCC CFR 47 part 15 Class A (USA EMC standard)
- ICES-003A/C108.8-M1983 Class A (Canada EMC standard)
- VCCI Class A (Japan EMC standard)
- AS/NZS 3548 (Australia EMC standard)
- EN 55022 Class A (European EMC standard)
- CISPR 22 Class A (European EMC standard)
- EN 50082-1:1997 includes ENV 50204 (European EMC standards)
- EN 55024:1998 includes IEC 61000-4-2, 3, 4, 5, 6, 8, 11 (European EMC standards)
- EN 61000-3-2,3 (European EMC standards)
- CNS 13438 Class A (BSMI-Taiwan)
- Low Voltage Directive (LVD)

Requirements
- Operating Temperature: 0˚ to 40˚C (32˚ to 104˚F)
- Storage Temperature: -40˚ to 70˚C (-40˚ to 158˚F)
- Operating Humidity:10%to 95%relative humidity, non-condensing
- EN60068 to Extreme IEC68 schedule

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

Ordering Information

Part Number	Description
Chassis	
45061	Alpine 3802 3-slot Chassis (includes SMMi, single AC PSU, fan tray)
45062	Alpine 3802 3-slot Chassis (includes SMMi, dual AC PSU, fan tray)
45064	Alpine 3802 3-slot Chassis (includes SMMi, dual DC PSU, fan tray)
45040	Alpine 3804 5-slot Chassis (includes fan tray)
45080	Alpine 3808 9-slot Chassis (includes fan tray)
45014	Alpine 3800 Switch Management Module
I/O Modules	
45122	Alpine 3800 16-port auto-negotiating 10/100/1000BASE-TX (RJ-45) Module
45121	Alpine 3800 16-port 1000BASE-X module with 16 unpopulated mini-GBIC 1000BASE-X ports (SFP)
45113	Alpine 3800 4-port auto-negotiating 100/1000BASE-T (RJ-45) Module
45112	Alpine 3800 4-port 1000BASE-X GBIC-based (unpopulated) Module
45110	Alpine 3800 4-port 1000BASE-SX (MT-RJ-based) Module
45210	Alpine 3800 32-port 10/100BASE-TX (RJ-45) Module
45220	Alpine 3800 32-port Power over Ethernet 10/100BASE-TX (RJ-45) Modules
45213	Alpine 3800 24-port 10/100BASE-TX (RJ-21) Module
45211	Alpine 3800 24-port 100BASE-FX (MT-RJ) Multimode Module
45212	Alpine 3800 24-port 100BASE-FX (MT-RJ) Single Mode Module
45302	Alpine 3800 4-port T1 (RJ-48) WAN Module
45305	Alpine 3800 1-port T3 (BNC) WAN Module
45306	Alpine 3800 4-port E1(RJ-48) WAN Module
45310	Alpine 3800 Eight-port VDSL (RJ-21) Module
45380	Alpine 3800 VDSL CPE with 10BASE-T Interface
Software	
45033	ExtremeWare full Layer 3 voucher for the Alpine 3804 and 3808
45034	ExtremeWare full Layer 3 voucher for the Alpine 3802
Power Supplies and Accessories	
45012	Alpine 3800 AC Power Supply; Includes power cord for US & Japan
45022	Alpine 3800 DC Power Supply
45005	Alpine 3800 Blank Faceplate (spare)
45013	Alpine 3808 Spare Fan Tray
45015	Alpine 3804 Spare Fan Tray
10011	Extreme 1000BASE-SX GBIC-based transceiver, SC connector, for use with multi-mode fiber with distances up to 550 meters
10013	Extreme 1000BASE-LX GBIC-based transceiver for distances up to 10km; SC connector, for use with single mode fiber
10017	Extreme 1000BASE-ZX GBIC based transceiver, extra long distance single mode fiber: 70Km/21dB Budget. SC connector
10051	Mini-GBIC, SFP, 1000BASE-SX, LC Connector (multimode fiber)
10052	Mini-GBIC, SFP, 1000BASE-LX, LC Connector (single/multimode fiber)
10053	Mini-GBIC, SFP, 1000BASE-ZX, LC Connector (single mode fiber)

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