



Alpine[™] 3808 and 3804 Ethernet Service Provisioning Switches

The Alpine 3808 and 3804 Ethernet Service Provisioning chassis switches are ideally suited for delivering broadband IP services to metropolitan area networks (MANs), service provider data centers, multi-tenant buildings and enterprise wiring closets. The Alpine platform provides total Ethernet coverage with support for both standard Category 5 and fiber optic media as well as first mile technologies that extend the reach of Ethernet over VDSL and legacy WAN technologies.

Both the Alpine 3808 and 3804 use an interchangeable set of power supplies, switch modules and management modules. Each switch has its own hot-swappable fan tray, which installs vertically into the front of each chassis. The Alpine 3808 has nine slots and the Alpine 3804 has five slots. Optionally, fully redundant power supplies fit into the front of the Alpine 3808 and into the rear of the Alpine 3804. The first slot of both chassis is used for the Switch Management Module (SMMi), which performs all management functions, manages the switch forwarding database and routing tables, and processes all route protocol updates. The remaining eight and four slots of the Alpine 3808 and 3804 are used for switch modules.

Switch modules for Gigabit Ethernet include:

- 4-port GBIC-based 1000BASE-X (GM-4Xi) module; 1000BASE-SX, LX or LX70 GBIC modules purchased separately.
- 4-port MT-RJ-based 1000BASE-SX (GM-4Si) module; preconfigured with four 1000BASE-SX ports.
- 4-port RJ-45-based 100/1000BASE-T (GM-4Ti) module; supports 100 meters of standard Category 5 unshielded twisted pair cable.

Switch modules for Fast Ethernet include:

- 32-port RJ-45-based 10/100BASE-TX (FM-32Ti) module; supports 100 meters of standard Category 5 unshielded twisted pair cable.
- 24-port RJ-21-based 10/100BASE-TX (FM-24Ti) module; uses telco interface to simplify cable management.
- 24-port MT-RJ-based 100BASE-FX (FM-24MFi) module; supports full-duplex operation over 2 Km multimode fiber.
- 24-port MT-RJ-based 100BASE-FX (FM-24SFfi) module; supports full-duplex operation over 15 Km single mode fiber.

Metro and regional area network switch modules:

- Wavelength Division Multiplexing (GM-WDMi) module multiplexes four Gigabit Ethernet channels onto a single fiber.

Ethernet in the First Mile modules

- Four-port RJ-48-based T1 WAN (WM-4T1) module; supports Ethernet over legacy WAN infrastructure.
- Eight-port RJ-21-based 10BASE-TX Ethernet over VDSL (FM-8Vi) module; supports Category 1/2/3 unshielded twisted pair cable up to 2500 feet.

ExtremeWare Licenses

- Basic Layer 3 ExtremeWare license is standard, includes support for all Layer 2 switching protocols, IP routing using RIP v1/v2, and ESRP.
- As an option, the Full Layer 3 ExtremeWare license can be purchased to add IP routing using OSPF and full-featured BGP4, IP multicast routing using DVMRP, PIM-DM or PIM-SM, server load balancing, and transparent web-cache redirection.

- **IP TDM for bounded latency transport of voice and video**
- **SONET-like reliability for non-stop operation**
- **Bandwidth by the slice for service provisioning in 500 Kbps increments**
- **Integrated broadband optical WDM for bandwidth scalability**
- **Delivery of Ethernet in the first mile using legacy WAN technologies and VDSL over voice-grade copper wire**
- **Medium and long reach optics for metro and regional networks**
- **BGP4 routing for Internet peering**
- **Policy-Based Quality of Service with bandwidth management and prioritization**

- **Advanced resiliency and fault tolerance**
- **Hot-swappable power supplies, modules and fan tray; fully redundant, load-sharing AC and DC power supplies; dual switch configurations and ExtremeWare images; Extreme Standby Router Protocol[™] (ESRP[™]); OSPF equal cost multipath routing**
- **Up to 32 Gigabit Ethernet or 256 10/100BASE-T ports**
- **4,096 IEEE 802.1Q VLANs**
- **IEEE 802.1ad-compatible link aggregation**
- **Extensive management via local and remote (Telnet) CLI, SNMP, RMON and HTTP**

Alpine³⁸⁰⁸ and³⁸⁰⁴ Specifications

Performance

Alpine 3808

64 Gbps switch fabric
48 millions pps

Alpine 3804

32 Gbps switch fabric
24 million pps

Protocols and Standards

IEEE 802.3z 1000BASE-X
IEEE 802.3x Flow control
RFC 1058 RIP
RFC 1723 RIP v2
RFC 2236 IGMP v2
DVMRP v3
PIM-Dense Mode
RFC 2178 OSPF
RFC 1587 OSPF NSSA
RFC 1519 Classless Interdomain Routing (CIDR)
RFC 1122 Host requirements
IEEE 802.1D-1998 (includes 802.1p)
IEEE 802.1Q VLAN tagging
RFC 1256 Router discovery protocol
RFC 1812 IP router requirement
RFC 1771 BGP4
RFC 1965 Confederations
RFC 1997 Communities
RFC 2439 Route Flap Dampening
RFC 783 TFTP
RFC 1542 BootP
RFC 951 BootP
RFC 854 Telnet RFC 768 UDP

RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 2068 HTTP
RFC 2131 BootP/DHCP relay
RFC 2878 PPP BCP with support for 802.1Q and 802.1D tagging
RFC 1332 PPP IPCP
RFC 1661, 1662 PPP
RFC 1332 PPP IPCP
RFC 1990 Multilink PPP
RFC 1994 CHAP

Management and Security

RFC 1157 SNMP v1
RFC 1213 MIB II
RFC 1354 IP forwarding table MIB
RFC 1850 OSPF 2 MIB
RFC 1493 Bridge MIB
RFC 2037 Entity MIB
RFC 1573 Evolution of Interface
RFC 1643 Ethernet MIB
RFC 1757 Four groups of RMON
RFC 2021 RMON probe configuration
RFC 2239 802.3 MAU MIB
RFC 1724 RIP v2 MIB
ExtremeWare Enterprise MIB
HTML and telnet management
RFC 2096 IP Route Table MIB
RFC 2030 Simple Network Time Protocol
RFC 1406 T1 MIB
RFC 1471 PPP LCP

Physical Dimensions

Alpine 3808:

(H) 21 in x (W) 17.32 in x (D) 11.375 in
(H) 53.30 cm x (W) 43.99 cm x (D) 28.90 cm
Weight: Empty: 50 lbs
Fully loaded: 98 lbs
One AC power supply: 14 lbs
One Module: 3 lbs

Alpine 3804:

(H) 10.5 in x (W) 17.32 in x (D) 15.53 in
(H) 26.65 cm x (W) 43.99 cm x (D) 39.42 cm
Weight: Empty: 30 lbs
Fully loaded: 68 lbs
One AC power supply: 14 lbs
One Module: 3 lbs

Heat Dissipation

Power Supply 680 watt Maximum (3600 BTU/hr)
Input Voltage Operations: 100 VAC to 120 VAC and 200 - 240 VAC, autoranging
AC Line Frequency 47 Hz to 63 Hz
DC Input: -48VDC, 30 Amp
Current Rating: 100 - 120 VAC: 13 A;
200 - 240: 6.5 A

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/NZS 3260 (product safety standard)
EN60825-1 (Safety of Lasers Products)
FCC CFR 21 (Laser Products)

Ordering Information

Order Number	Description
45080	Alpine 3808 Chassis (includes fan tray)
45040	Alpine 3804 Chassis (includes fan tray)
45022	Alpine 3800 DC Power Supply
45012	Alpine 3800 AC Power Supply; Includes power cord for US & Japan
45024	Alpine 3800 switch Management Module with Full Layer 3 License
45014	Alpine 3800 Switch Management Module
45110	Alpine 3800 4-port 1000BASE-SX (MT-RJ-based) Module
45112	Alpine 3800 4-port 1000BASE-X GBIC-based (unpopulated) Module
45113	Alpine 3800 4-port auto-negotiating 100/1000BASE-T (RJ-45) Module
45114	Alpine 3800 Wavelength Division Multiplexing Module (GM-WDM)
45210	Alpine 3800 32-port 10/100BASE-TX (RJ-45) Module
45211	Alpine 3800 24-port 100BASE-FX (MT-RJ) Multimode Module
45212	Alpine 3800 24-port 100BASE-FX (MT-RJ) Single Mode Module
45213	Alpine 3800 24-port 10/100BASE-TX (RJ-21) Module
45302	Alpine 3800 Four-port T1 (RJ-48) WAN Module
45310	Alpine 3800 Eight-port VDSL (RJ-21) Module
45380	VDSL CPE with 10BASE-TX Interface
45005	Alpine 3800 Blank Faceplate (spare)
45013	Alpine 3808 Spare Fan Tray
45015	Alpine 3804 Spare Fan Tray
45031	ExtremeWare full Layer 3 voucher for the Alpine 3800 series

EMI/EMC

NEBS Level III Compliant
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
Storage Temperature: -40° to 70° C
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

For more product information from Extreme Networks, please call 1.888.257.3000. 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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