

# Alpine™ 3800 Series Ethernet Service Provisioning Switches



The Alpine 3800 chassis switches are ideally suited for delivering broadband IP services to metropolitan area networks (MANs), service provider and enterprise data centers, multi-tenant buildings and enterprise wiring closets. The Alpine chassis switches provide 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.

The Alpine 3800 series includes the Alpine 3802, Alpine 3804 and Alpine 3808 switches. Every Alpine switch has a fully redundant power supply for increased fault tolerance. Additionally, all Alpine 3800 series modules and Alpine 3804/3808 power supply units are hot swappable and interchangeable. The 3804 and 3808 also have their own fan trays.

The Alpine 3808 has nine slots, the Alpine 3804 has five slots and the Alpine 3802 has 3 slots. The first slot of the Alpine 3808 and 3804 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 Alpine 3802 has a built in SMMi. The remaining slots of each Alpine 3800 series switch are used for switch interchangeable modules.

The Alpine 3802 comes in a small two-slot form factor, supporting all existing Alpine 3800 interface modules. An expansion third slot provides legacy WAN module support in specific configurations. WAN modules include a four-port RJ-48-based T1 and E1 WAN (WM-4T1i and WM-4E1i) module, a one-port BNC-based T3 WAN (WM-1T3i) module, and an eight-port RJ-21-based 10BASE-T Ethernet over VDSL (FM-8Vi) module to support CAT1/2/3 unshielded twisted pair cable up to 3000 feet.

## Features:

- Supports up to 128 10/100/1000BASE-T or 128 1000BASE-X Gigabit Ethernet ports
- Supports up to 256 10/100BASE-T fast Ethernet ports
- Fully redundant load-sharing power supplies
- NEBS Level 3 compliant
- Bidirectional rate shaping to provision and manage bandwidth by the slice from 1Kbps to 1Gbps
- Integrated copper cable diagnostics for UTP cable diagnostics and troubleshooting
- 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
- Integrated server load balancing at wire-speed greatly increases availability
- Integrated transparent web cache redirection at wire-speed optimizes the use of bandwidth
- OSPF equal-cost multipath routing distributes traffic across multiple high bandwidth links
- Policy-Based Quality of Service (QoS) at wire-speed to allocate bandwidth, and prioritize traffic
- Hardware based Access Control Lists (ACLs) can be linked to a class of service, while performing Layer 1-4 packet-level security and controlling traffic flows – all at wire-speed
- RADIUS offers authentication and centralized control over all enterprise users
- Secure Shell (SSH) encrypts remote telnet management connections applications across the network

Features	Alpine 3808	Alpine 3804	Alpine 3802
<b>Slot Count</b>	9	5	3
<b>Gigabit Ethernet Ports</b>	Up to 128	Up to 64	Up to 20
<b>Auto-negotiating 10/100BASE-TX Ports</b>	Up to 256	Up to 128	Up to 64
<b>Form Factor/Footprint</b>	Chassis/12RU	Chassis/6RU	Chassis/4RU
<b>Switch Fabric Bandwidth</b>	64 Gbps	32 Gbps	16 Gbps
<b>Packets-Per-Second Forwarding Rate</b>	48 Million pps	24 Million pps	12 Million pps
<b>Policy-Based QoS</b>	Yes	Yes	Yes
<b>Wire-Speed Layer 2/Layer 3 Switching</b>	Yes	Yes	Yes
<b>Integrated Server Load Balancing</b>	Yes	Yes	Yes
<b>Transparent Web Cache Redirection</b>	Yes	Yes	Yes
<b>Network Login and EAPS</b>	Yes	Yes	Yes
<b>Access Control Lists</b>	Yes	Yes	Yes
<b>Link Aggregation</b>	Yes	Yes	Yes
<b>Redundant Power Supplies</b>	Yes	Yes	Yes
<b>Switch Management Capabilities</b>	SNMP, Web CLI, 4 RMON groups	SNMP, Web CLI, 4 RMON groups	SNMP, Web CLI, 4 RMON groups
<b>Network Management</b>	Yes	Yes	Yes
<b>BGPr, DVMRP, OSPF, PIM, RIP V1/V2</b>	Yes	Yes	Yes
<b>Spanning Tree</b>	Yes	Yes	Yes

# Alpine 3800 Series

## Product Specifications

### General

#### Alpine 3802:

- 16 Gbps switch fabric
- 12 millions pps

#### Alpine 3804:

- 32 Gbps switch fabric
- 24 millions pps

#### Alpine 3808:

- 64 Gbps switch fabric
- 48 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

#### 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
- RFC 2138 RADIUS
- 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 3802 Dimensions:  
(H) 7.0 in x (W) 17.32 in x (D) 12.0 in  
(H) 17.78 cm x (W) 43.99 cm x (D) 30.48 cm
- Alpine 3804 Dimensions:  
(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
- Alpine 3808 Dimensions:  
(H) 21 in x (W) 17.32 in x (D) 11.375 in  
(H) 53.30 cm x (W) 43.99 cm x (D) 28.90cm

#### Weight

- Alpine 3802:  
Empty: 25 lbs  
Fully loaded: 31 lbs  
Alpine I/O Module: 3 lbs
- Alpine 3804:  
Empty: 30 lbs  
Fully loaded: 68 lbs  
One AC power supply: 14 lbs  
Alpine I/O Module: 3 lbs
- Alpine 3808:  
Empty: 50 lb  
Fully loaded: 68 lbs  
One AC power supply: 14 lbs  
Alpine I/O Module: 3 lbs

#### Heat Dissipation

- AC Input Voltage Operation: 100 VAC to 120 VAC, or 200VAC to 240 VAC, auto-ranging
- DC Input Voltage Operation: -70 VDC to -40 VDC
- AC Line Frequency: 47 Hz to 63 Hz
- Alpine 3802
  - Power Supply Input: 315 Watts
  - Heat Dissipation: 1076 BTU/hr
  - Current Rating: 4A @ 100 VAC, 2A @ 200 VAC, 8A @ -40 VDC
- Alpine 3804
  - Power Supply Input: 577 Watts
  - Heat Dissipation: 2000 BTU/hr
  - Current Rating: 6.5A @ 100 VAC, 3.5A @ 200 VAC, 15A @ -40 VDC
- Alpine 3808
  - Power Supply Input: 1046 Watts
  - Heat Dissipation: 3600 BTU/hr
  - Current Rating: 13A @ 100 VAC, 6.5A @ 200 VAC, 30A @ -40 VDC

#### 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
- 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

# Alpine 3800 Series

## Ordering Information

Part Number	Description
45061	Alpine 3802 Chassis (includes SMMi, single AC PSU, fan tray)
45062	Alpine 3802 Chassis (includes SMMi, dual AC PSU, fan tray)
45064	Alpine 3802 Chassis (includes SMMi, dual DC PSU, fan tray)
45040	Alpine 3804 Chassis (includes fan tray)
45080	Alpine 3808 Chassis (includes fan tray)
45022	Alpine 3800 DC Power Supply
45012	Alpine 3800 AC Power Supply; Includes power cord for US & Japan
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-WDMi)
45121	Alpine 3800 16-port 1000BASE-X module with 16 unpopulated mini-GBIC 1000BASE-X ports (SFP)
45122	Alpine 3800 16-port auto-negotiating 10/100/1000BASE-TX (RJ-45) Module
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 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
45005	Alpine 3800 Blank Faceplate (spare)
45013	Alpine 3808 Spare Fan Tray
45015	Alpine 3804 Spare Fan Tray
45033	ExtremeWare full Layer 3 voucher for the Alpine 3804 and 3808
45034	ExtremeWare full Layer 3 voucher for the Alpine 3802
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)



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