

Benefits

Business Alignment

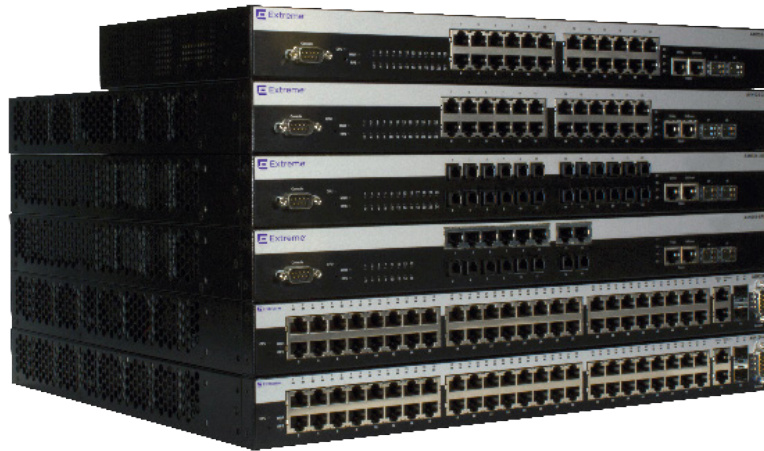
- Extreme Networks policy capabilities support converged multimedia networks
- Reliable network operation for mission-critical applications

Operational Efficiency

- Scalable architecture supports continued growth of network capacity
- Consolidated management capabilities reduce network operational expenses
- Highly available design ensures reliable network operations
- Network access secured by 802.1x, MAC address and web-based authentication methods
- Extreme Networks policy provided enhanced network security that is maintained concurrently with user mobility
- Architecture designed with integral network security

Support and Service

- Industry-leading customer satisfaction and first call resolution rates
- Personalized services, including site surveys, network design, installation, and training
- Comprehensive lifetime warranty, including feature upgrades and more
- Release 6.61 adds policy and basic routing with support for two devices (PC and a phone) on a single port
- High-availability design assures reliable network operations
- Now with Extreme Networks policy and basic routing
- PoE supports a variety of network devices
- Investment protection via lifetime warranty
- 140.8 Gbps capacity and 104.8 Mpps



A-Series A4

Stackable L2/L3 Edge Switch

Product Overview

The Extreme Networks A4 is a highly reliable fast Ethernet edge switch that provides scalable, wire-rate performance in support of the bandwidth-intensive and delay-sensitive requirements of today's demanding applications. The A4 also provides multi-layer packet classification and priority queuing for differentiated services. Along with a switch capacity of 17.6 Gbps, the A4 provides up to 48 10/100 Ethernet ports as well as 4 Gigabit Ethernet uplink ports. Leveraging the A4's stacking capability, as many as 8 A4s can be interconnected in a single stack to create a virtual switch that provides 140.8 Gbps of capacity and up to 384 10/100 Ethernet ports as well as 16 Gigabit Ethernet uplink ports.

The A4 includes enterprise-class features in a 10/100 stackable switch that ensure seamless connectivity and application performance. With support for 16,000 MAC addresses, the A4 is an excellent choice for medium to large enterprises that need to support thousands of endpoints. Support for Extreme Networks policy enables strong support for integrated multimedia networks, including Voice over IP (VoIP) and IP video, as well as all types of data-intensive applications. With the 6.61 firmware release, all A4s can now deploy separate policies for both a personal computer and a VoIP phone on a single switch port. In conjunction with its nonblocking L2 switching architecture, the A4's intelligent queuing mechanisms ensure that mission-critical applications receive prioritized access to network resources.

The A4 includes a 24 port model with a very quiet design that operates fan-less in a typical office environment, making it ideal for classrooms and conference rooms.

A highly-scalable architecture, Extreme Networks policy, basic routing and a lifetime warranty ensure that an A4 network investment will sustain a secure, feature-rich, and cost-effective network well into the future.

Security

The A4 provides a secure network by utilizing its authentication and security features, which can be applied at the port level or at the user level. Making use of the Extreme Networks Network Management Suite's Policy Manager or a standard CLI, the Extreme Networks role-based architecture enables a network administrator to define distinct roles or profiles that represent operational groups within a business (e.g., employee, executive, guest, etc). Up to two devices (a PC and a VLA-tagging phone) per port can be authenticated via IEEE 802.1X, MAC address or web-based authentication, and then assigned a pre-defined operational role.

Investment Protection

The A4 is a cost-effective, feature-rich, stackable switch that provides a broad set of features today and will continue to deliver benefits well into the future. With Release 6.61, the A4 now supports static routing as well as RIPv1/v2 routing. All A-Series products include a lifetime warranty that includes warranty and support services for which many competitors charge additional fees – adding up to 10% of initial deployment costs on an annual basis. Included benefits, such as advanced hardware return, firmware feature upgrades (which most vendors cover at most for 90 days) and telephone support (which most don't include or severely limit) combine to significantly decrease operational costs for customers over the life of their network. For more information regarding warranty terms and conditions please go to <http://www.ExtremeNetworks.com/support/warranty.aspx>.

Performance & Scalability

The A4 provides scalable, wire-rate performance in support of the bandwidth-intensive and delay-sensitive requirements of today's demanding applications. Along with a switch capacity of 17.6 Gbps, the A4 provides up to 48 10/100 Ethernet ports as well as 2 modular Gigabit Ethernet and 2 10/100/10000 uplink ports. Leveraging the A4's wire-rate stacking capability, as many as 8 A4s can be interconnected in a single stack to create a virtual switch that provides 140.8 Gbps of capacity and up to 384 10/100 Ethernet ports as well as 16 Gigabit Ethernet uplink ports.

Features / Standards and Protocols

MAC Address Table Size

- 16,000

VLANs

- 4,094 VLAN IDs
- 1,024 VLAN Entries per Stack

Switching Services

- ANSI/TIA-1057 - LLDP-MED
- IEEE 802.1AB - LLDP
- IEEE 802.1D - MAC Bridges
- IEEE 802.1s - Multiple Spanning Trees
- IEEE 802.1t - 802.1D Maintenance
- IEEE 802.1w - Rapid Spanning Tree Reconvergence
- IEEE 802.3 - Ethernet
- IEEE 802.3ab - GE over Twisted Pair
- IEEE 802.3ad - Link Aggregation
- IEEE 802.3af - PoE
- IEEE 802.3i - 10Base-T
- IEEE 802.3u - 100Base-T
- IEEE 802.3z - GE over Fiber
- Full/half duplex auto-sense support on all ports
- IGMP Snooping v1/v2/v3
- Jumbo Frame support (9,216 bytes)
- Loop Protection
- One-to-One and Many-to-One Port
- Mirroring
- Port Description
- Protected Ports
- Selectable LAG Configuration (6 x 8, 12 x 4, 24 x 2)
- CoS MIB based Broadcast/ Multicast/
- Unknown Unicast Suppression
- Spanning Tree Backup Root
- STP Pass Thru

Security

- ARP Spoof Protection
- DHCP Spoof Protection
- IEEE 802.1x Port Authentication

- MAC-based Port Authentication
- Password Protection (encryption)
- Web-based Port Authentication
- Dual User Authentication (PC + Phone)
- Secure Networks Policy
- RADIUS Accounting for network access
- RADIUS Client
- Secured Shell (SSHv2)
- Secured Socket Layer (SSL)

IPv4 Routing

- Standard Access Control List (ACLs)
- Extended ACLs
- VLAN-based ACLs
- ARP & ARP Redirect
- IP Helper Address
- RFC 826 - Ethernet ARP
- RFC 1058 - RIP v1
- RFC 1256 - ICMP Router Discovery Messages
- RFC 1519 Classless Inter-Domain Routing
- RFC 1724 - RIPv2 MIB Extension
- RFC 2236 - IGMPv2
- RFC 2453 - RIP v2
- RFC 3046 - DHCP/BootP Relay
- RFC 3376 - IGMPv3
- Static Routes

MIB Support

- Enterasys Networks Entity MIB
- Enterasys Networks Policy MIB
- ANSI/TIA-1057 - LLDP-MED MIB
- IEEE 802.1AB - LLDP MIB
- Enterasys Networks VLAN Authorization MIB
- IEEE 802.1X MIB - Port Access
- IEEE 802.3ad MIB - LAG MIB
- RFC 826 - ARP and ARP Redirect
- RFC 951 - BOOTP
- RFC 1213 - MIB/MIB II
- RFC 1493 - BRIDGE-MIB
- RFC 1542 - DHCP/BOOTP Relay

- RFC 1643 - Ethernet-like MIB
- RFC 2096 - IP Forwarding Table MIB
- RFC 2131, RFC 3046 - DHCP Client/Relay
- RFC 2233 - IF-MIB
- RFC 2271 - SNMP Framework MIB
- RFC 2466 - ICMPv6 MIB
- RFC 2571 - SNMP Framework MIB
- RFC 2613 - SMON MIB
- RFC 2618 - RADIUS Authentication Client MIB
- RFC 2620 - RADIUS Accounting Client MIB
- RFC 2668 - Managed Object Definitions for 802.3 MAUs
- RFC 2674 - P-BRIDGE-MIB
- RFC 2674 - QBRIDGE-MIB VLAN Bridge MIB
- RFC 2737 - Entity MIB (physical branch only)
- RFC 2819 - RMON-MIB
- RFC 2863 - IF-MIB
- RFC 2933 - IGMP MIB
- RFC 3413 - SNMP v3 Applications MIB
- RFC 3414 - SNMP v3 User-based Security Module (USM) MIB
- RFC 3415 - View-based Access Control Model for SNMP
- RFC 3580 - IEEE 802.1X Remote Authentication Dial In User Service (RADIUS) Usage Guidelines
- RFC 3584 - SNMP Community MIB
- RFC 3621 - Power over Ethernet MIB

VLAN Support

- Generic Attribute Registration Protocol (GARP)
- Generic VLAN Registration Protocol (GVRP)
- IEEE 802.1p - Traffic classification
- IEEE 802.1q - VLAN Tagging
- IEEE 802.1v - Protocol-based VLANs
- IEEE 802.3ac - VLAN Tagging Extensions
- Port-based VLAN (private port/private VLAN)
- Tagged-based VLAN
- VLAN Marking of Mirror Traffic

Management

- Alias Port Naming
- Command Line Interface (CLI)
- Configuration Upload/Download
- Dual IPv4/IPv6 Management Support
- Editable Text-based Configuration File
- FTP/TFTP Client
- Multi-configuration File Support
- NMS Automated Security Manager
- NMS Console
- NMS Inventory Manager
- NMS Policy Manager
- Node/Alias Table
- RFC 768 – UDP
- RFC 783 – TFTP
- RFC 791 – IP
- RFC 792 – ICMP
- RFC 793 – TCP
- RFC 826 – ARP
- RFC 854 – Telnet
- RFC 951 – BootP
- RFC 1157 – SNMP
- RFC 1901 – Community-based SNMPv2
- RFC 2030 – Simple Network Time Protocol (SNTP)
- RFC 2271 – SNMP Framework MIB
- RFC 2465 – IPv6 MIB
- RFC 2933 – IGMP MIB
- RFC 3413 – SNMP Applications MIB
- RFC 3414 – SNMP User-based Security
- Module (USM) MIB
- RFC 3415 – View-based Access Control
- Model for SNMP
- RFC 3826 – Advanced Encryption
- Standard (AES) for SNMP
- RMON (Stats, History, Alarms, Events)
- Secure Copy (SCP)
- Secure FTP (SFTP)

- Simple Network Management Protocol
- (SNMP) v1/v2c/v3
- TACACS+ for Management Authentication, Authorization and Auditing
- SSHv2
- Syslog
- Telnet
- Text-based Configuration Upload/Download
- Web-based Management
- Webview via SSL Interface

Quality of Service

- 6 User Addressable Priority Queues per Port
- 802.3x Flow Control
- Ingress Rate Limiting
- IP ToS/DSCP Marking/Remarking
- IP DSCP – Differentiated Services Code Point
- IP Precedence
- IP Protocol
- Layer 2/3/4 Classification
- Multi-layer Packet Processing
- Mixed Queuing Control – Strict and Weighted Round Robin
- Source/Destination IP Address
- Source/Destination MAC Address

IPv6 Management

- RFC 1981 - Path MTU for IPv6
- RFC 2373 - IPv6 Addressing
- RFC 2460 - IPv6 Protocol Specification
- RFC 2461 - Neighbor Discovery
- RFC 2462 - Stateless Autoconfiguration
- RFC 2463 - ICMPv6
- RFC 3587 - IPv6 Global Unicast Address Format
- RFC 4007 - IPv6 Scoped Address Architecture
- RFC 4291 - IP Version 6 Addressing Architecture

Switch Model Specifications

	A4H124-24	A4H124-24P	A4H124-48	A4124-48P
Performance				
Throughput Capacity Wire-Speed Mpps (switch/stack)	9.5 Mpps / 76.2 Mpps	9.5 Mpps / 76.2 Mpps	13.1 Mpps / 104.8 Mpps	13.1 Mpps / 104.8 Mpps
Switching Capacity (switch/stack)	12.8 Gbps (9.5 Mpps) / 102.4 Gbps (76.2 Mpps)	12.8 Gbps (9.5 Mpps) / 102.4 Gbps (76.2 Mpps)	17.6 Gbps (13.1 Mpps) / 140.8 Gbps (104.8 Mpps)	17.6 Gbps (13.1 Mpps) / 140.8 Gbps (104.8 Mpps)
Stacking Capacity (switch/stack)	4.0 Gbps (2.98 Mpps)/ 32.0 Gbps (23.8 Mpps) ¹	4.0 Gbps (2.98 Mpps)/ 32.0 Gbps (23.8 Mpps) ¹	4.0 Gbps (2.98 Mpps)/ 32.0 Gbps (23.8 Mpps) ¹	4.0 Gbps (2.98 Mpps)/ 32.0 Gbps (23.8 Mpps) ¹
Aggregate Throughput Capacity (switch/stack)	12.8 Gbps (9.5 Mpps) / 102.4 Gbps (76.2 Mpps)	12.8 Gbps (9.5 Mpps) / 102.4 Gbps (76.2 Mpps)	17.6 Gbps (13.1 Mpps) / 140.8 Gbps (104.8 Mpps)	17.6 Gbps (13.1 Mpps) / 140.8 Gbps (104.8 Mpps)
PoE Specifications				
802.3af Interoperable	N/A	Yes	N/A	Yes
System Power	N/A	370 watts per switch with up to 15.4 watts per port Per-port switch power monitor: • Enable/disable • Priority safety • Overload & short circuit protection	N/A	415 watts per switch with up to 15.4 watts per port Per-port switch power monitor: • Enable/disable • Priority safety • Overload & short circuit protection
Physical Specifications				
Dimensions (H x W x D)	H: 4.4 cm (1.73") W: 44.1 cm (17.36") D: 20.7 cm (8.15")	H: 4.4 cm (1.73") W: 44.1 cm (17.36") D: 36.85 cm (14.51")	H: 4.4 cm (1.73") W: 44.1 cm (17.36") D: 36.85 cm (14.51")	H: 4.4 cm (1.73") W: 44.1 cm (17.36") D: 36.85 cm (14.51")
Net Weight	2.58 kg (5.69 lb)	5.50 kg (12.13 lb)	4.59 kg (10.12 lb)	6.00 kg (13.23 lb)
MTBF	408,618 hours	286,587 hours	323,946 hours	232,259 hours
Physical Ports	<ul style="list-style-type: none"> • (24) 10/100 auto sensing, auto-negotiating MDI/MDI-X RJ45 ports • (2) SFP ports • (2) Gigabit stacking/uplink RJ45 ports • (1) DB9 console port • (1) RPS port 	<ul style="list-style-type: none"> • (24) 10/100 PoE (.af) autosensing, auto-negotiating MDI/MDI-X RJ45 ports • (2) SFP ports • (2) Gigabit stacking/uplink RJ45 ports • (1) DB9 console port • (1) RPS port 	<ul style="list-style-type: none"> • (48) 10/100 auto-sensing, auto-negotiating MDI MDI-X RJ45 ports • (2) SFP ports • (2) Gigabit stacking/uplink RJ45 ports • (1) DB9 console port • (1) RPS port 	<ul style="list-style-type: none"> • (48) 10/100 PoE (.af) autosensing, auto-negotiating MDI/MDI-X RJ45 ports • (2) SFP ports • (2) Gigabit stacking/uplink RJ45 ports • (1) DB9 console port • (1) RPS port
Power Requirements				
Normal Input Voltage	100 – 240 VAC	100 – 240 VAC	100 – 240 VAC	100 – 240 VAC
Input Frequency	50 – 60 Hz	50 – 60 Hz	50 – 60 Hz	50 – 60 Hz
Input Current	1.0 A Max	5 A Max	1.0 A Max	5 A Max
Power Consumption	31 Watts	63 Watts	47 Watts	73 Watts
Temperature				
IEC 6-2-1 Standard Operating Temperature	0° to 50° C (32° to 122° F)	0° to 50° C (32° to 122° F)	0° to 50° C (32° to 122° F)	0° to 50° C (32° to 122° F)
IEC 6-2-14 Non-Operating Temperature	-40° to 70° C (-40° to 158° F)	-40° to 70° C (-40° to 158° F)	-40° to 70° C (-40° to 158° F)	-40° to 70° C (-40° to 158° F)
Heat Dissipation	105 BTUs/Hr	215 BTUs/Hr	161 BTUs/Hr	249 BTUs/Hr

¹ No dedicated stacking on A4; Up to two Gigabit uplinks can be used for stacking or uplinks

Switch Model Specifications Cont.

	A4H124-24	A4H124-24P	A4H124-48	A4124-48P
Humidity				
Operating Humidity	5% - 95% Non-Condensing	5% - 95% Non-Condensing	5% - 95% Non-Condensing	5% - 95% Non-Condensing
Vibration				
	IEC 68-2-6, IEC68-2-36	IEC 68-2-6, IEC68-2-36	IEC 68-2-6, IEC68-2-36	IEC 68-2-6, IEC68-2-36
Shock				
	IEC 68-2-29	IEC 68-2-29	IEC 68-2-29	IEC 68-2-29
Drop				
	IEC 68-2-32	IEC 68-2-32	IEC 68-2-32	IEC 68-2-32
Acoustics				
Throughout Capacity Wire-Speed Mpps (switch/stack)	41.5 dB when the fan runs	50.0 dB	47.0 dB	50.0 dB
Agency and Regulatory Standard Specifications				
Safety	UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1	UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1	UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1	UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1
EMC	FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3	FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3	FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3	FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3
Environmental	2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive)	2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive)	2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive)	2002/95/EC (RoHSDirective), 2002/96/EC (WEEEDirective)

Redundant Power Supply Equipment Specifications

STK-RPS-150CH2 Power Shelf

- Power Supply Slots: 2
- Dimensions (H x W x D)*
 - 5.5 cm (2.2") x 44.0 cm (17.3") x 18.0 cm (7.0")
- Weight
 - 0.95 kg (2.09 lbs)
- Gross Weight (Packaged Unit)
 - 3.20 kg (7.04 lbs)
- MTBF
 - 300,000 hours
- Operating Temperature
 - 0° C to 50° C (32° F to 122° F)

* Note: dimensions include integrated rack mount ears

STK-RPS-150CH8 Power Shelf

- Power Supply Slots: 8
- Dimensions (H x W x D)*
 - 22.26 cm (8.77") x 44.0 cm (17.3") x 26.4 cm (10.4")
- Weight
 - 5.27 kg (11.6 lbs)
- Storage Temperature
 - -30° C to 73° C (-22° F to 164° F)
- Operating Relative Humidity
 - 5% to 95%
- AC Input Frequency Range
 - 50 - 60 Hz

STK-RPS-150PS Power Supply

- Dimensions (H x W x D)
 - 19.6 cm (7.7") x 5.2 cm (2.04") x 25.7 cm (10.1")
- Net Weight (Unit Only)
 - 1.75 kg (3.85 lbs)
- AC Input Voltage Range
 - 100 - 240 VAC
- Maximum Output Power
 - 156 W continuous

STK-RPS-500PS Power Supply

- Dimensions (H x W x D)
 - 4.45 cm (1.75") x 44.5 cm (17.5") x 16.5 cm (6.5")
- Net Weight (Unit Only)
 - 3.47 kg (7.63 lb)
- Gross Weight (Packaged Unit)
 - 4.95 kg (10.89 lb)
- MTBF
 - 589,644 hours at 25° C (77° F)
- Operating Temperature
 - 0° C to 50° C (32° F to 122° F)
- Storage Temperature
 - -30° C to 73° C (-22° F to 164° F)
- Operating Relative Humidity
 - 5% to 95%
- AC Input Frequency Range
 - 50 - 60 Hz
- AC Input Voltage Range
 - 100 - 240 VAC
- Maximum Output Power
 - 500 W continuous

Ordering Information

Part Number	Description
A4 Switches	
A4H124-24	24 x 10/100, (2) SFP Ports, (2) 10/100/1000 stacking/uplink RJ45 ports, Ext RPS
A4H124-24P	24 x 10/100 PoE (.af), (2) SFP Ports, (2) 10/100/1000 stacking/uplink RJ45 ports, Ext RPS
A4H124-48	48 x 10/100, (2) SFP Ports, (2) 10/100/1000 stacking/uplink RJ45 ports, Ext RPS
A4H124-48P	48 x 10/100 PoE (.af), (2) SFP Ports, (2) 10/100/1000 stacking/uplink RJ45 ports, Ext RPS
Cables	
SSCON-CAB	Spare DB9 Console Cable
Redundant Power Supplies	
STK-RPS-150CH2	2-slot modular power supply shelf (power supply STK-RPS-150PS sold separately)
STK-RPS-150CH8	8-slot modular power supply shelf (power supply STK-RPS-150PS sold separately)
STK-RPS-150PS	150W Non-PoE Redundant Power Supply
STK-RPS-500PS	500W Redundant PoE Power Supply

Power Cords

In support of its expanding Green initiatives as of July 1st 2014, Extreme Networks will no longer ship power cords with products. Power cords can be ordered separately

but need to be specified at the time order. Please refer to www.extremenetworks.com/product/powercords/ for details on power cord availability for this product.

Transceivers

Extreme Networks transceivers provide connectivity options for Ethernet over twisted pair copper and fiber optic cables with transmission speeds from 100 Megabits per second to 10 Gigabits per second. All Extreme Networks transceivers meet the highest quality for extended life cycle and the best possible return on investment.

For detailed specifications, compatibility and ordering information please go to: www.extremenetworks.com/product/transceivers

Warranty

As a customer-centric company, Extreme Networks is committed to providing quality products and solutions. In the event that one of our products fails due to a defect, we have developed a comprehensive warranty that protects you and provides a simple way to get your products repaired or media replaced as soon as possible. A-Series switches come with the Extreme Networks lifetime warranty against manufacturing defects.

For full warranty terms and conditions please go to: www.extremenetworks.com/support/policies

Service and Support

Extreme Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimize customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Extreme Networks account executive for more information about Extreme Networks Service and Support.



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