

A-Series A4 Fast Ethernet Stackable Edge Switch



High-availability design assures reliable network operations

Granular QoS capabilities support converged multimedia networks

PoE supports a variety of network devices

Investment protection via lifetime warranty

140.8 Gbps capacity and 104.8 Mpps

Product Overview

The Enterasys 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. Robust Quality of Service (QoS) features enable strong support for integrated multimedia networks, including Voice over IP (VoIP) and IP video, as well as all types of data-intensive applications. In conjunction with its non-blocking 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 and a lifetime warranty ensure that an A4 network investment will sustain a secure, feature-rich, and cost-effective network well into the future.

Reliability and Availability

The A4 design incorporates redundancy and failure protection mechanisms complete with automatic failover and recovery capabilities to provide a reliable network. An integral power supply is the primary source of power for the A4 and complete power redundancy is provided by an optional external power supply. In addition to the standard version of the A4, there are also IEEE 802.3af Power over Ethernet versions which supports network devices that require external power such as wireless access points, VoIP phones, and network cameras. A virtual switch can be created by interconnecting as many as 8 A4s in a single stack, which can be managed via a single IP address with redundant management connections. The A4's closed-loop stacking capability utilizes bi-directional switch interconnects to maintain connectivity within the virtual switch despite any physical switch-level failure. Up to 4 Ethernet ports can be grouped together to create a multi-link aggregation group (LAG). The A4 can support multiple LAG's distributed across several A4s within a stack to prevent a switch-level failure from disrupting data communications.

Benefits

Business Alignment

- Granular QoS capabilities support converged multimedia networks
- Reliable network operation for missioncritical 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

Security

- Network access secured by 802.1x and MAC address authentication methods
- Network security 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

There is nothing more important than our customers.

Advanced Quality of Service

Robust QoS features enable strong support for integrated multimedia networks, including VoIP and video, as well as all types of data-intensive applications. The A4 provides 8 hardware-based priority queues for each Ethernet port in order to support a suite of differentiated services with as many as 6 user addressable priority levels. The strict and weighted round robin queuing algorithms ensure that mission-critical applications receive prioritized access to network resources.

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. The A4 currently supports a single user/device per port, which can be authenticated via IEEE 802.1X or MAC address. As part of a future release, the A4 will support multiple users/devices per switch (PC+Phone), with the ability to then assign a pre-defined 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. As part of a future release, the A4 will support static routing and RIP v1/v2 to provide additional flexibility for customers. 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.enterasys.com/support/warranty.aspx.

Performance & Scalability

The A4 provides scalable, wire-rate performance in support of the bandwidth-intensive and delaysensitive 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 Ready 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 802.3ab - GE over Twisted Pair IEEE 802.3ad – Link Aggregation IEEE 802.3i - 10Base-T IEEE 802.3u - 100Base-T. 100Base-FX 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 Per-Port Broadcast Suppression Spanning Tree Backup Root STP Pass Thru

Security

IEEE 802.1x Port Authentication MAC-based Port Authentication Password Protection (encryption) RADIUS Client Secured Shell (SSHv2) Secured Socket Layer (SSL)

MIB Support

Enterasys Entity MIB Enterasys 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 Ready RFC 1643 - Ethernet-like MIB RFC 2131 - DHCP Client RFC 2233 - IF-MIB RFC 2271 - SNMP Framework 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 3289 - DiffServ 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

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 Editable Text-based Configuration File **FTP/TFTP** Client IPv6 Management Ready Multi-configuration File Support NMS Automated Security Manager NMS Console NMS Inventory Manager NMS Policy Manager Node/Alias Table RFC 854 - Telnet RFC 1157 - SNMP RFC 1901 - Community-based SNMPv2 RFC 2271 – SNMP Framework MIB RFC 3413 – SNMP Applications MIB RFC 3414 – SNMP User-based Security Module (USM) MIB RFC 3415 - View-based Access Control Model for SNMP RMON (Stats, History, Alarms, Events) Simple Network Time Protocol (SNTP) SSH Syslog Telnet Text-based Configuration Upload /Downloand 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 Queuing Control – Strict and Weighted Round Robin Source/Destination IP Address Source/Destination MAC Address

Switch Model Specifications

	A4H124-24	A4H124-24P	A4H124-48	A4H124-48P
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)	4.0 Gbps (2.98 Mpps)/32.0 Gbps (23.8 Mpps)	4.0 Gbps (2.98 Mpps)/32.0 Gbps (23.8 Mpps)	4.0 Gbps (2.98 Mpps)/32.0 Gbps (23.8 Mpps)
	No dedicated stacking on A4; Up to two Gigabit uplinks can be used for stacking or uplinks	No dedicated stacking on A4; up to two Gigabit uplinks can be used for stacking or uplinks	No dedicated stacking on A4; up to two Gigabit uplinks can be used for stacking or uplinks	No dedicated stacking on A4; up to two Gigabit uplinks can be used for stacking or uplinks
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		1	1	1
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		1		
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	 (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 	 (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 	 (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 	 (48) 10/100 PoE (.af) 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
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
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

Switch Model Specifications

	A4U104.04	A411104 04D	A411104 49	A411104 49D
	A4H124-24	A4H124-24P	A4H124-48	A4H124-48P
Agency and Regulatory Standard Specifications				
Safety	UL 60950-1, CSA 22.1			
	60950, EN 60950-1, and			
	IEC 60950-1	IEC 60950-1	IEC 60950-1	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	EN 61000-3-3	EN 61000-3-3	EN 61000-3-3
Environmental	2002/95/EC (RoHS Directive),	2002/95/EC (RoHS Directive),	2002/95/EC (RoHS Directive),	2002/95/EC (RoHS Directive)
	2002/96/EC (WEEE Directive)	2002/96/EC (WEEE Directive)	2002/96/EC (WEEE Directive)	2002/96/EC (WEEE Directive)

	A4H254-8F8T	A4H124-24FX	
Performance			
Throughput Capacity wire-speed Mpps (switch/stack)	8.3 Mpps / 66.7 Mpps	9.5 Mpps / 76.2 Mpps	
Switching Capacity (switch/stack)	11.2 Gbps (8.3 Mpps) / 89.6 Gbps (66.7 Mpps)	12.8 Gbps (9.5 Mpps) / 102.4 Gbps (76.2 Mpps)	
Stacking Capacity (switch/stack)	4.0 Gbps (2.98 Mpps)/32.0 Gbps (23.8 Mpps)	4.0 Gbps (2.98 Mpps)/32.0 Gbps (23.8 Mpps)	
	No dedicated stacking ports on the A4; 10/100/1000 can be used for stacking or uplinks	No dedicated stacking ports on the A4; 10/100/1000 can be used for stacking or uplinks	
PoE Specifications			
802.3af Interoperable	N/A	N/A	
802.3at Interoperable	N/A	N/A	
System Power	N/A	N/A	
Physical Specifications			
Dimensions (H x W x D)	H: 4.4 cm (1.73") W: 44 cm (17.32") D: 36.5 cm (14.37")	H: 4.4 cm (1.73") W: 44 cm (17.32") D: 36.5 cm (14.37")	
Net Weight	4.78 kg (10.50 lb)	4.85 kg (10.69 lb)	
MTBF	388,498 hours	388,135 hours	
Physical Ports	 (8) 10/100BASE-T RJ45 ports (8) 100Base-FX MT-RJ ports (2) Gigabit Ethernet SFP ports (2) 10/100/1000 stacking/uplink RJ45 ports (1) DB9 console port (1) RPS port 	 (24) 100Base-FX MTRJ fiber optic ports (2) mini-GBIC ports (2) 10/100/1000 stacking/uplink RJ45 ports (1) DB9 console port (1) RPS port 	
Power Requirements			
Normal Input Voltage	100 – 240 VAC	100 – 240 VAC	
Input Frequency	50 – 60 Hz	50 – 60 Hz	
Input Current	1.0 A Max	1.0 A Max	
Power Consumption	47 watts	66 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)	
IEC 6-2-1 Non-Operating Temperature	-40° to 70°C (-40° to 158° F)	-40° to 70°C (-40° to 158° F)	
Heat Dissipation	161 BTUs/Hr	224 BTUs/Hr	
Humidity			
Operating Humidity	5% - 95% non- condensing	5% - 95% non- condensing	
Vibration			
	IEC 68-2-6, IEC68-2-36	IEC 68-2-6, IEC68-2-36	

	A4H254-8F8T	A4H124-24FX	
Shock			
	IEC 68-2-29	IEC 68-2-29	
Drop			
	IEC 68-2-32	IEC 68-2-32	
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	
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	
Environmental	2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive)	2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive)	

Redundant Power Supply Equipment Specifications

STK-RPS-150CH2 Power Shelf

Power Supply Slots

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)

*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)

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)

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)

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 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	
A4H124-24FX	24 x 100Base-FX, (2) SFP Ports, (2) 10/100/1000 stacking/uplink RJ45 ports, Ext RPS	
A4H254-8F8T	8 x 100Base-FX plus 8 x 10/100, (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	

Transceivers

Enterasys 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 Enterasys 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

http://www.enterasys.com/products/transceivers-ds.pdf.

Warranty

As a customer-centric company, Enterasys 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 Enterasys lifetime warranty against manufacturing defects. For full warranty terms and conditions please go to: www.enterasys.com/support/warranty.aspx.

Service and Support

Enterasys 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 Enterasys account executive for more information about Enterasys Service and Support.

Contact Us

For more information, call Enterasys Networks toll free at 1-877-801-7082, or +1-978-684-1000 and visit us on the Web at enterasys.com



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