

## AT-8000S/48

### Layer 2 Stackable Fast Ethernet Switch



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48 port stackable 10/100TX Layer 2 switch with 2 active SFP bays (unpopulated) and 2 standby 10/100/1000T ports (RJ-45)

#### Overview

One of a series of stackable switches from Allied Telesis, the AT-8000S/48 provides high performance Layer 2 switching in an affordable fixed configuration platform. This switch offers 48 10/100 ports, two fixed 1Gbps SFP slots plus two integrated stacking connectors that deliver a total of 4Gbps stacking bandwidth. The stacking capability integrated into this platform is configured as a resilient ring topology designed to provide high reliability and simplified management for higher port density applications.

#### Ideal Branch Office and Wiring Closet Connectivity

Powerful line rate performance and stackability make this switch ideal for branch offices or the wiring closet of larger offices. The state-of-the-art QoS capability of this product ensures reliable delivery of advanced network services such as voice while effectively controlling the continually increasing traffic needs found in today's networks.

#### Easy Access Networking

Featuring an industry standard CLI and Allied Telesis' intuitive yet fully featured Web interface the advanced features of the AT-8000S/48 are accessible to a wide range of system administrators. The well known CLI and Web interfaces significantly reduce learning time and minimize the cost of deployment.

#### Secure Management

Only authorized administrators can access the management interface of the 8000S series. Protocols such as SSL, SSH and SNMPv3 facilitate this protection of your network with local or remote connections.

#### Securing the Network Edge

To ensure the protection of your data, it is important to control access to your network. Protocols such as IEEE 802.1x port-based authentication guarantee that only known users are connected to the network. Unknown users who physically connect can be isolated to a pre-determined part of your network offering guests such benefits as Internet access while ensuring the integrity of your private network data.

#### Gigabit and Fast Ethernet SFP Support

All switches in the 8000S family support both Gigabit and Fast Ethernet Small Form-factor Pluggables (SFPs). This makes the 8000S series an ideal family for environments where Gigabit fiber switches will be phased in over time. The 8000S family allows for connectivity to the legacy 100FX hardware until it is upgraded to Gigabit. Support for both speeds of SFPs allows organizations to stay within budget as they migrate to faster technologies.

#### Key Features

##### Easy, Well Known Management

- Industry standard CLI
- Simple intuitive, full featured Allied Telesis Web Interface
- Secure encrypted Web and CLI management with SSHv2 and SSL
- SNMP
- Two level access privileges

##### Affordable Truly Stackable 10/100 Switching Platform

- Single IP address stack management
- 4Gig resilient ring stacking architecture
- Across stack link aggregation
- Across stack VLAN configuration
- Across stack port mirroring
- Redundant standby stack master

##### All the QoS Needed in the Wiring Closet for Today's Voice and Data Networking

- Eight priorities assigned to four queues
- IEEE 802.1p for Layer 2 QoS
- DSCP (DiffServ) for Layer 3 QoS
- IEEE 802.1p to DSCP remarking traffic ready for transport to the Layer 3 core of the network
- Layer 2 and Layer 3 ACL

##### Securing the Network at its Most Vulnerable Point

- IEEE 802.1x and RADIUS network login: for advanced control of user authentication and accountability
- Guest VLAN: to ensure visitors or unauthorized users connect only to services defined by IT e.g. Internet
- TACACS+: for ease of management security administration
- Layer 2 and Layer 3 ACL
- Port MAC address security options



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## System Configuration

Dimensions	44cm x 25.7cm x 4.3cm
(W x D x H)	(17.3" x 10.1" x 1.7")
Weight	3.38kg (7.45lb)
Mounting	19" rack-mountable hardware included

## System Capacity

64MB RAM	
16MB flash memory	
400Mhz CPU	
Up to 4,096 VLAN ID	
8,000 MAC address	
Packet buffer memory	1Mbit

## Performance

Wirespeed switching on all Ethernet ports for all packet sizes

Throughput	13.09Mpps
Switching capacity	17.6Gbps

MTBF	314,322 hours
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Store and forward mode  
Non-blocking switch fabric  
Auto MDI/MDI-X

Latency	
10Mbit	88.60 μsec
100Mbit	18.06 μsec

Port speed	
10/100TX	RJ-45
10/100/1000T	RJ-45
100FX, 1000SX, 1000LX	SFP slot
RS232	DB9 pin, male port
Internal power supply and fan	

## Interface Standards

IEEE 802.3	10T
IEEE 802.3u	100TX and 100FX
IEEE 802.3z	1000SX
IEEE 802.3ab	1000T

## General Standards

IEEE 802.1D	Bridging
IEEE 802.3x	BackPressure/ flow control

## Redundancy Standards

IEEE 802.1D	Spanning-Tree Protocol
IEEE 802.1W	Rapid Spanning-Tree
IEEE 802.1s	Multiple Spanning-Tree
BPDU guard <sup>1</sup>	
IEEE 802.3ad	LACP link aggregation (with up to eight members per group and up to eight groups per device)
Static port trunk	

## Quality of Services (QoS)

QoS in Layer 2 (IEEE 802.1p compliant Class of Service)  
Traffic prioritization using IEEE 802.1p, ToS, DSCP fields  
Map IEEE 802.1p priorities to CoS queues to prioritize traffic at egress  
Strict Scheduling and Weighted Round Robin

## VLANs

IEEE 802.1Q VLAN tagging  
Up to 256 VLANs  
Port-based VLANs  
MAC-based VLANs  
Private VLANs  
GARP VLAN Registration Protocol (GVRP)

## Multicast Standards

RFC 1112	IGMP snooping (ver. 1)
RFC 2236	IGMP snooping (ver. 2)
RFC 3376	IGMP snooping (ver. 3)
RFC 3376	IGMP querier
Option to forward/filtering of unregistered MC frames <sup>1</sup>	

## IPv6<sup>1</sup>

IPv6	QoS
IPv6	ACL
IPv6	Host
RFC 2461	IPv6 neighbor discovery
RFC 2463	ICMPv6: Internet Control Message Protocol version 6
RFC 1981	Path MTU discovery
Dual-stack IPv4/IPv6 protocol	
IPv6	Tunnelling over IPv4
IPv6	Network management
IPv6	Applications: WEB/SSL Telnet server/SSH, AAA/Radius, Management
	ACLs, SNMP, PING, TFTP/Copy, Syslog

## Management and Monitoring

WEB, CLI, Serial	
RFC 1157	SNMPv1/v2c
RFC 2570	SNMPv3
RFC 1213	MIB-II
RFC 1573	Evolution of MIB-II
RFC 1215	TRAP MIB
RFC 1493	Bridge MIB
RFC 2863	Interfaces group MIB
RFC 1643	Ethernet like MIB
RFC 1757	RMON 4 groups: Stats, History, Alarms, Events
RFC 2674	IEEE 802.1Q MIB
RFC 1866	HTML
RFC 2068	HTTP
RFC 854	Telnet
RFC 783	TFTP
LLDP <sup>1</sup>	
IEEE 802.1ab	
LLDP-MED <sup>1</sup>	

IP address allocation	
RFC 951/ RFC 1542	BootP/ DHCP
DHCP snooping	
Manual	

RFC 2030 SNTP, Simple Network Time Protocol  
Syslog event  
Dual software images

Stacking  
Up to six units  
Single system appearance  
Single IP management  
Backup master  
Full-duplex link with 2Gbps performance  
Link aggregation/trunking across stack  
Port mirroring across stack  
VLAN across stack

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## Security

Management security: username and password protection  
SSHv2 for Telnet management  
SSLv3 for Web management  
RFC 1492 TACACS+  
RFC 2138 RADIUS Authentication  
IEEE 802.1x Port-based network access control  
IEEE 802.1x Dynamic VLAN<sup>1</sup>  
IEEE 802.1x RADIUS accounting<sup>1</sup>  
IEEE 802.1x Multi-session mode<sup>1</sup>  
IEEE 802.1x Action on violation<sup>1</sup>  
IEEE 802.1x Single-host violation<sup>1</sup>  
IEEE 802.1x Guest VLAN timeout<sup>1</sup>  
IEEE 802.1x Authentication not-required<sup>1</sup>  
Security login banner<sup>1</sup>  
Guest VLANs  
RFC 2865 IEEE 802.1x port-based network access control  
MAC-based network access control  
ACL - Access Control Lists

## Fault Protection

Broadcast storm control

## Power Characteristics

Voltage input	100- 240V AC
Voltage output	12vDC
Current	1.5A
Power consumption	32.6W <sup>2</sup>
Power supply efficiency	79.88%
Heat dissipation	184.41 BTU/hour
Clock Frequency	166MHz
Acoustic noise	41dB

## Environmental Specifications

Operating temp 0°C to 40°C (32°F to 104°F)  
Storage temp -25°C to 70°C (-13°F to 158°F)  
Relative humidity 10% to 90% non-condensing  
Storage humidity 5% to 95% non-condensing  
Operating altitude Maximum 3,000m (9,843ft)

## Electrical/ Mechanical Approvals

Safety UL 1950 (UL/cUL), EN60950 (TUV)  
EMI FCC Class A, EN55022 Class A,  
VCCI Class A, C-Tick, EN61000-3-2,  
EN61000-3-3  
Immunity EN55024  
RoHS compliant

## Package Description

One AT-8000S/48 switch  
Power cord AC  
Rack-mount kit  
Rubber feet for desktop installation  
RS232 management cable  
Stacking cable  
Install guide and user guide in CD and at  
[www.alliedtelesis.com](http://www.alliedtelesis.com)

## Country of Origin

China

## Ordering Information

### AT-8000S/48-xx

48 port stackable 10/100TX Layer 2 switch with 2 active SFP bays (unpopulated) and 2 standby 10/100/1000T ports (RJ-45)

Where xx = 10 for US power cord  
20 for no power cord  
30 for UK power cord  
40 for Australian power cord  
50 for European power cord

## Accessories

### Small Form Pluggables (SFPs)

#### AT-SPFX/2

Multi-mode Fiber, 2km, 100FX, SFP, 1310nm

#### AT-SPFX/15

Single-mode Fiber, 15km, 100FX, SFP, 1310nm

#### AT-SPFX/40

Single-mode Fiber, 40km, 100FX, SFP, 1310nm

#### AT-SPTX

Copper, GbE Small Form-factor Pluggable (SFP)

#### AT-SPSX

Multi-mode Fiber, GbE Small Form-factor Pluggable (SFP) 850nm

#### AT-SPLX10

Single-mode Fiber, 10km, GbE SFP, 1310nm

#### AT-SPLX40

Single-mode Fiber, 40km, GbE SFP, 1310nm

#### AT-SPLX40/1550

Single-mode Fiber, 40km, GbE SFP, 1550nm

#### AT-SPZX80

Single-mode Fiber, 80km, GbE SFP, 1550nm

<sup>1</sup> New feature on AT-S94 version 3.0.0.32

<sup>2</sup> Worst case load condition for actual measured power on sample unit

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