

## AT-9000/52

### Managed Layer 2 Gigabit Ethernet ECO-Switch



#### AT-9000/52

52 port Gigabit managed 'Green' switch with 48 port 10/100/1000Mbps fixed configuration and 4 active 100/1000Mbps SFP ports

#### Overview

One of a series of high performance Gigabit Ethernet switches from Allied Telesis. The AT-9000/52 provides high performance Layer 2 switching at an affordable fixed configuration platform. The switch brings advanced enterprise features to a more affordable level while supporting the changing needs of the SMB market space to improve the delivery of converged data. Support for jumbo Ethernet frames enables higher throughput of time sensitive data.

#### Environmentally Friendly ECO-Switch

In keeping with our commitment to environmentally friendly processes and products, the AT-9000/52 extends the range of green products designed to reduce power consumption, minimize hazardous waste and even reduce office noise pollution. Among many features including the use of high efficiency power supplies, and low power chipsets we have also included an ECO-Switch button on the front panel of the AT-9000/52 switch. This allows you to conserve additional power by turning off the port and MODE LEDs when they are not required.

#### Low Power Consumption with Near Silent Operation

Specifically designed to be usable in a classroom or retail store environment the AT-9000/52 uses the latest in low power technologies to minimize power consumption and operational noise.

#### Ideal Branch Office and Wiring Closet Connectivity

Powerful line rate performance makes 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 and video, 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 featured Web interface the advanced features of the AT-9000/52 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 AT-9000/52. Protocols such as 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.

#### Key Features

##### Easy, Well Known Management

- Industry standard CLI
- Simple intuitive, Allied Telesis Web interface
- SNMP

##### Ideal Product for Classroom or Retail Environment

- 52 active ports
- Lower power consumption
- Near silent operation

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

- IEEE 802.1x and port security (limited/dynamic)
- IEEE 802.1x basic port mode
- IEEE 802.1x multiple host mode
- IEEE 802.1x EAP-MD5
- Radius client
- SSH server

##### All the QoS Needed for an Open Office, Classroom or Retail Store Environment

- Eight priorities queues
- IEEE 802.1p for Layer 2 QoS



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## Technical Specifications

### Physical Interface

48 10/100/1000T ports for copper connectivity and 4 SFP ports  
RJ-45 console port

### System Capacity

128MB RAM  
16MB flash memory  
8K MAC address  
Packet buffer memory 4Mbit

### Maximum Bandwidth

Non-blocking for all packet sizes  
Throughput 77.35Mpps  
Switching capacity 104Gbps  
Switch fabric speed 124Gbps  
Supports 9216 jumbo packets

### Latency

10Mbit	> 76.86 usec
100Mbit	> 11.43 usec
1000Mbit	> 4.18 usec

### Port Configurations

Auto-negotiation, duplex, MDI/MDI-X  
IEEE 802.3x flow control / back pressure  
Head of Line (HoL)

### Storm Control

Broadcast, multicast and unicast (DLF)

### Spanning-Tree Support

IEEE 802.1D Spanning-Tree Protocol  
IEEE 802.1w Rapid Spanning-Tree  
Pass-through BPDU

### Link Aggregation

Static port trunk  
IEEE 802.3ad LACP link aggregation  
Support for 12 groups per device  
Trunk can support up to eight members per group

### VLANs

Supports up to 4094 VLAN IDs  
Support for 255 active VLANs  
Port-based  
IEEE 802.1Q VLAN tag  
GARP  
GVRP  
GMRP

### General Protocols

MAC address aging  
Port mirroring  
RFC 826 ARP  
DHCP  
RFC 2131 DHCP client

### Administration

Web-based GUI  
Industry standard CLI  
RFC 854 Telnet  
Network Time Protocol  
HTTP  
TFTP

### Quality of Service (QoS)

IEEE 802.1p QoS  
Eight priority queues  
Strict priority and weighted round robin

### Multicast Standards

Layer 2 multicast forwarding and filtering up to 256 groups  
IGMPv1 and IGMPv2

### Network Management

RFC 1157	SNMPv1/v2c
RFC 2570	SNMPv3
RFC 1215	SNMP traps
RFC 1213	MIB-II
RFC 1573	Extended interface MIB
RFC 1757	RMON 4 groups: Stats, History, Alarms, Events

### Security

Port security (limited/dynamic)  
IEEE 802.1x Basic port base  
IEEE 802.1x Multiple host mode  
IEEE 802.1x EAP-MD5  
RFC 2865 Radius client  
SSH server

### Power Specifications

AC input electrical ratings	100-240V AC, 1A
Frequency	50/60Hz
Maximum DC current	3.8A
Maximum power consumption	46.13W
Typical power consumption	
in eco friendly mode	44.92W
Power supply efficiency	83%
Heat dissipation	153.30BTU /hours
Maximum acoustic noise	44.3 dB

### Compliance Standards

IEEE 802.3	10T
IEEE 802.3u	100TX with auto-negotiation
IEEE 802.3ab	1000T Gigabit Ethernet
100FX SFP support	
1000X SFP support	

### 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)  
Operating humidity 5% to 90% (non-condensing)  
Storage humidity 5% to 95% (non-condensing)

Operating altitude range, up to 3,000 meters (9,843 feet)

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## Safety and Electromagnetic

### Emissions Certifications

EMI	FCC Class A, CISPR 22 Class A, EN55022 Class A, C-TICK, VCCI
Immunity	EN55024, EN61000-3-2 and EN61000-3-3
Safety	UL 60950 (cULus), EN60950-1 (TUV)
Quality and reliability	MTBF – 340,000 hours

## RoHS Standards

Compliant with European, China and RoHS standards

## Package Description

AT-9000/52 switch  
AC power cord  
Management cable (RJ-45 to DB-9)  
Rubber feet for desktop installation and 19" rack-mountable hardware kit accessories  
Install guide and CLI user's guide available on the CD and at [www.alliedtelesis.com](http://www.alliedtelesis.com)

## Physical Specifications

Dimensions 44cm x 25.6cm x 4.4cm  
(W x D x H) (17.33" x 10.08" x 1.73")

Weight 4.06 kg (8.95 lbs)

## Country of Origin

Singapore

## Ordering Information

### AT-9000/52-xx

52 port Gigabit managed switch with 48 port 10/100/1000Mbps fixed configuration and 4 active SFP ports

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

## Accessories

### Small Form Pluggables (SFPs)

#### AT-SPEX

Multi-mode Fiber, 2km, GbE, SFP, 1310nm

#### AT-SPSX

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

#### AT-SPSX/1

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

#### AT-SPFX/2

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

#### AT-SPFX/15

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

#### AT-SPFX/40

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

#### AT-SPLX10

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

#### AT-SPLX10/I

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

#### AT-SPLX40

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

#### AT-SPZX80

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

USA Headquarters | 19800 North Creek Parkway | Suite 100 | Bothell | WA 98011 | USA | T: +1 800 424 4284 | F: +1 425 481 3895

European Headquarters | Via Motta 24 | 6830 Chiasso | Switzerland | T: +41 91 69769.00 | F: +41 91 69769.11

Asia-Pacific Headquarters | 11 Tai Seng Link | Singapore | 534182 | T: +65 6383 3832 | F: +65 6383 3830

[www.alliedtelesis.com](http://www.alliedtelesis.com)

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