

# Switches

## 8500 Series, Managed Fast Ethernet Switches with Enhanced Security and Layer 2-4 Intelligence

### AT-8524M

24 port 10/100TX L2+ switch with 2 expansion bays

### AT-8524POE

24 port 10/100TX L2+ Power-over-Ethernet switch with 2 expansion bays

### AT-8550/GB

48 port 10/100TX L2+ switch with 2 active GBIC bays (unpopulated) and 2 standby 10/100/1000T ports (RJ45)

### AT-8550/SP

48 port 10/100TX L2+ switch with 2 active SFP bays (unpopulated) and 2 standby 10/100/1000T ports (RJ45)

### AT-8516F/SC

16 port 100FX (SC) L2+ switch with 2 expansion slots

### Smarter, more secure and cost-effective

The 8500 series are managed switches that bring enhanced security and Layer 2-4 intelligence to networks.

Many network administrators demand easy to manage, cost effective, intelligent switches at the LAN edge, and the 8500 switch answers such demands, with the optimal balance of features, performance, and value. More intelligent than simple Layer 2 switches, the cost-effective 8500 series offer advanced attack detection and suppression capabilities for increased security and advanced QoS to support converged applications.

The sweet spot applications for such switches are in:

- Traditional Enterprise LAN (wiring closet)
- Service-provisioned Leased Offices or MTUs
- Security-conscious Government and Financial Institutions
- Cost/security-conscious Educational Institutions

### Layer 2-4 Intelligence

The 8500 series packs a lot of features in one rack unit. With advanced AlliedWare™ technology, the 8500 switches allow network administrators to configure the switch to examine packet formats and content from Layer 2, Layer 3, or Layer 4 (also known as the MAC, IP and TCP/UDP layers). After these layer parameters are defined and detected, the switch can trigger network decisions such as Access Control Lists (ACLs) for protection against DoS attacks, establishing rate limits for excessive bandwidth usage, and altering QoS to support converged applications.



### Key features

- **L2-L4 Intelligence**  
Packet look-up at MAC, IP, TCP/UDP layers  
For QoS, ACL, Mirroring, Rate-Limiting
- **Advanced Security**  
DoS Attack Detection and Reporting  
Radius/ TACACS+  
Port Security  
Secure Telnet  
IEEE 802.1x  
L2-L4 ACL
- **Advanced Services**  
Rate-Limiting (Ingress and Egress)  
4 levels of Services  
IEEE 802.1p based Class of Service
- **L2 Redundancy**  
IEEE 802.1s, Multiple STP (compatible with PVST+)  
IEEE 802.3ad, Link Aggregation  
IEEE 802.1D, Spanning Tree  
IEEE 802.1w, Rapid STP
- **PoE capable**  
IEEE 802.3af compliant

# 8500 Series, Managed Fast Ethernet Switches with Enhanced Security and Layer 2-4 Intelligence

## Securing the LAN Edge

With the heightened concern for Denial of Services attacks, Allied Telesyn is focusing on the security features within its products. Assisted by the Layer 2 through Layer 4 intelligence, network administrators can deploy the 8500 series as a complement to WAN firewalls and PC anti-virus software to fortify networks against attacks. The 8500 switches are programmed to detect six well-known DoS attacks, and coupled with security features such as IEEE 802.1x (Port-based Network Access Control) and Radius/TACACS+, the 8500 series offers Tiered Security on each port. Deploying Tiered Security within unsecured areas of corporate offices—such as meeting rooms and lounges—provides cost-effective protections at the network layer.

## Service features for revenue generation

Today's global economic climate pushes network administrators to focus on managing capital spending. One way to keep costs low is to allocate resources efficiently. Allied Telesyn has designed the 8500 series to allow smart management of network resources with two key features: Ingress and Egress rate-limiting to provision band-width QoS support with IEEE 802.1p and DiffServ for priority traffic. The 8500 series also includes CoS to DSCP remarking, allowing Layer 2 QoS priorities to be preserved over the WAN (typically a Layer 3 feature). The 8500 series can be pre-configured to control bandwidth-wasting traffic—such as music streaming to the desktops—by dynamically lowering the priority and limiting bandwidths to a mere trickle without completely blocking it. The same features can benefit metro providers as well, allowing them to offer bandwidth provisioning and QoS priority as premium service to customers.

## About Allied Telesyn

Allied Telesyn International is a member of the Allied Telesyn Group (ATI) who, founded in 1987, now has offices throughout the globe, over 3,000 employees worldwide and over \$600M of worldwide annual revenue. The attributes which have led ATI to achieve its leading position in both the enterprise, operator and connectivity business segments can be summarised by four key elements: its business focus on networking technology for professional markets, where ATI has proved to be the only company capable of providing a total end-to-end solution at a high price/performance ratio; the ability to handle every aspect of its own products from design to marketing; the development of components and solutions which accommodate flexible, efficient and reliable network construction; support from sound warranty terms and quality services. Allied Telesyn connects the IP world efficiently thanks to affordable and highly reliable network solutions. For more information see: [www.alliedtelesyn.com](http://www.alliedtelesyn.com) <<http://www.alliedtelesyn.com>>

## Service & Support

Allied Telesyn provides value-added support services for its customers under its Net.Cover® programs. For more information on Net.Cover® support programs available in your area, contact your Allied Telesyn sales representative or visit our website.

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

## PHYSICAL CHARACTERISTICS

### AT-8524M

Dimensions (H x W x D)	4.4 cm x 43.8 cm x 18.4 cm (1.75 in x 17.25 in x 7.25 in)
Weight	3.3 kg (7.2 lbs)

### AT-8524POE

Dimensions (H x W x D)	4.4 cm x 43.8 cm x 40.6 cm (1.75 in x 17.25 in x 16 in)
Weight	6.0 kg (13.3 lbs)

### AT-8516F/SC\*\*

Dimensions (H x W x D)	4.4 cm x 43.8 cm x 18.4 cm (1.75 in x 17.25 in x 7.25 in)
Weight	3.5 kg (7.6 lbs)

### AT-8550GB\*\* & AT-8550SP\*\*

Dimensions (H x W x D)	4.4 cm x 43.8 cm x 26.16 cm (1.75 in x 17.25 in x 10.3 in)
Weight	3.6 kg (8 lbs)

## SYSTEM CAPACITY

32MB RAM  
4MB Flash Memory  
200MHz PowerPC CPU  
255 VLANs  
8,000 MAC Addresses

## PERFORMANCE

### Latency

<40 microseconds latency between 10Mbps ports  
<11 microseconds latency between 100Mbps ports  
<4 microseconds latency between 1000Mbps ports

### Wirespeed Switching on all Ethernet ports

14,880pps for 10Mbps Ethernet  
148,800pps for 100Mbps Fast Ethernet  
1,488,000pps for 1000Mbps Gigabit Ethernet

### Throughput

AT-8524M & AT-8524POE	6.6Mpps (64-byte packets)
AT-8550GB** & AT-8550SP**	10.1Mpps (64-byte packets)
AT-8516F/SC**	5.4Mpps (64-byte packets)

### Chipset switching capacity

AT-8524M	8.8Gbps
AT-8550GB** & AT-8550SP**	17.6Gbps
AT-8516F/SC**	8.8Mpps

# Managed Fast Ethernet Switches with Enhanced Security and Layer 2-4 Intelligence

## MANAGEMENT AND MONITORING

Web, CLI, Telnet, Serial  
SNMP v1, v2 & v3  
RMON I (4 groups)

## REDUNDANCY STANDARDS

IEEE 802.1D Spanning Tree Protocol  
IEEE 802.1w Rapid Spanning Tree  
IEEE 802.1s Multiple Spanning Tree  
(compatible with PVST+)  
IEEE 802.3ad Link Aggregation (Static)

## QUALITY OF SERVICES (QoS)

QoS in Layer 2 (IEEE 802.1p compliant Class of Service)  
Map IEEE 802.1p Priorities to CoS Queues to prioritise traffic at Egress  
Strict and Weighted Round Robin Scheduling  
Rate Limiting using Classifiers, Flow Groups, Traffic Classes and Policies  
QoS for both Ingress and Egress traffic  
Traffic Reprioritisation using IEEE 802.1p, ToS, DSCP fields

## VLANs

IEEE 802.1Q VLAN Tagging  
Port-based VLANs  
Multiple VLAN script for easy provisioning  
Mac-based VLANs \*  
Protocol-based VLANs \*

## MULTICAST STANDARDS

RFC 2236 IGMP Snooping (ver: 2.0)  
RFC 1112 IGMP Snooping (ver: 1.0)

## MANAGEMENT

Enhanced Stacking™  
RFC 1866 HTML  
RFC 2068 HTTP  
RFC 854 Telnet  
RFC 783 TFTP  
RFC 951 BOOTP  
RFC 2131 DHCP  
RFC 2030 SNTP  
SSHv2 for Telnet management  
SSL for Web management

## SNMP STANDARDS

RFC 1157 SNMPv1/v2c  
RFC 1213 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  
Allied Telesyn Private MIB

## SECURITY

SSHv2 for Telnet management  
SSL for Web management  
SNMPv3\*  
RFC 1492 TACACS+  
RFC 2138 RADIUS Authentication  
RFC 2139 RADIUS Accounting \*  
IEEE 802.1x Port-based Network Access Control  
Authenticator  
Multiple supplicants  
MAC Address Security/Lockdown  
Layer 1/2/3/4/7 Access Control (ACLs)

## FAULT PROTECTION

DoS Attack Detection:  
Smurf  
SYN Flood  
Teardrop  
Land  
IP Option

Broadcast Storm Control  
SNMP Attack  
Bad Cable Detection

## POWER CHARACTERISTICS

Voltage 100-240 V AC  
Current 4.0/2.0A  
Frequency 50-60Hz  
Power consumption 80W max.

## AT-8524POE

Voltage 100-240 V AC  
Current 6.0A for AC  
Frequency 50-60Hz  
Power consumption 500W max.

## 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 80% non-condensing  
Storage Humidity 5% to 95% non-condensing

## ELECTRICAL/MECHANICAL APPROVALS

Safety UL 60950-1  
CSA C22.2 No. 60950-1-03  
EN60950  
EN60825 (TUV)  
EMIFCC Class A  
EN55022 Class A  
VCCI Class A  
C-TICK  
EN61000-3-2  
EN61000-3-3  
Immunity EN55024

## COUNTRY OF ORIGIN

China

\* Available in future releases.

\*\* Please contact your local sales representative for availability.

## ORDERING INFORMATION

### AT-8524M-xx

24 port 10/100TX L2+ switch with 2 expansion bays

### AT-8524POE-xx

24 port 10/100TX L2+ Power-over-Ethernet switch with 2 expansion bays

### AT-8550/GB-xx

48 port 10/100TX L2+ switch with 2 active GBIC bays (unpopulated) and 2 standby 10/100/1000T ports (RJ45)

### AT-8550/SP-xx \*\*

48 port 10/100TX L2+ switch with 2 active SFP bays (unpopulated) and 2 standby 10/100/1000T ports (RJ45)

### AT-8516F/SC-xx \*\*

16-port 100FX (SC) L2+ switch with 2 expansion slots

Where xx = 10 for U.S. power cord  
20 for no power cord  
30 for U.K. power cord  
40 for Australian power cord  
50 for European power cord  
80 for -48VDC version

## Expansion Modules

### AT-A45

One module with single 100FX port (SC) for MMF, distance up to 2km in full-duplex

### AT-A45/MT

One module with single 100FX port (MT-RJ) for MMF, distance up to 2km in full-duplex

### AT-A45/SC-SM15

One module with single 100FX port (SC) for SMF, distance up to 15km in full-duplex

### AT-A46

One module with single 10/100/1000T port (RJ45), distance up to 100 metres

### AT-A47

One module with single unpopulated GBIC slot

### AT-STACKM

Two high-speed stacking modules with one 1.5" stacking cable

## Redundant Power Supply

AT-RPS3004 (AT-8524M, AT-8516F/xx, AT-8550xx)  
Chassis for up to 4 redundant power supplies (Chassis includes one power supply and cable)

AT-PWR3004 (AT-8524M, AT-8516F/xx, AT-8550xx)  
Additional AC redundant power supply with cable

AT-RPS3104 (AT-8524POE)  
Chassis for up to 4 redundant power supplies (Chassis includes one power supply and cable)

AT-PWR3104 (AT-8524POE)  
Additional AC redundant power supply with cable