



AT-9424T

24 Port 10/100/1000T Standalone Managed Layer 3 Switch

AT-9424T-xx

Layer 3 managed switch with 20 ports 10/100/1000T, 4 x 10/100/1000T / SFP combo ports

Product Overview

The AT-9424T is an ideal Gigabit-to-the-desk Layer 3 Gigabit switch. It comes in a 1RU form factor and provides rich QoS and IGMP capabilities for voice and video enabled networks.

The relative affordability of the AT-9424T makes high performance Gigabit switching a reality for small to medium enterprises. It offers an extensive set of standards-based features to ensure ease of management and integration into existing networks.

Network QoS and IGMP for Video and Voice-over-IP

A rich offering of voice and video networking features is incorporated to ensure support for demanding multimedia networking applications in the enterprise. Converged networking is enhanced with QoS/CoS including eight priority queues for IEEE 802.1p/ToS/DiffServ traffic.

The high performance hardware platform makes latency a non-issue. The IGMP implementation on the AT-9424T is capable of transmitting broadcast quality video throughout the enterprise network.

Network Security

To address the concern of network attacks in the form of *Denial of Service* (DoS), the AT-9424T, using Layer 2-4 intelligence, can be deployed to complement WAN firewalls and PC anti-virus protections to further fortify the network against malicious attacks. The AT-9424T comes pre-programmed to detect six well-known DoS attacks and supports security features such as IEEE 802.1x (port-based Network Access Control) and Radius/TACACS+.

Long-term Relevance

The AT-9424T is the ideal choice for organizations seeking a long-term switching solution. In addition to the extensive Layer 2 feature set this switch features Layer 3 switching for the future flexibility to meet emerging needs.

Key Features

Layer 3 Support

- RIPv2
- Static routing
- ECMP

Performance

- Throughput 71.424Mpps
- Switch fabric 96Gbps
- 4K VLANs (static and dynamic)
- 256 static Layer 2 multicast groups
- 255 dynamic Layer 2 multicast groups
- 9K jumbo frame support

Layer 2-4 Intelligence

- Packet inspection and classification at MAC, IP, TCP/UDP layers
- Set QoS, ACL, mirroring, and rate-limiting using traffic classes

Security

- DoS attack protection
- Radius/TACACS+
- Port security
- SSH
- SSL
- IEEE 802.1x port-based network access control
- Access Control Lists

Advanced Services

- Rate limiting (ingress and egress)
- Eight QoS service levels
- IEEE 802.1p for MAC-based QoS
- DSCP for IP-based QoS

Resiliency

- IEEE 802.1s Multiple STP
- IEEE 802.3ad link aggregation
- IEEE 802.1D Spanning-Tree
- IEEE 802.1w Rapid STP
- Temperature threshold alert

Management

- Telnet
- Web GUI
- CLI
- Dedicated management port

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Hardware Specifications

Physical Characteristics

Dimensions (H x W x D)	4.4cm x 43.8cm x 30.48cm (1.75in x 17.3in x 12in)
Weight	4.21kg (9.35lbs.)

System Capacity

200MHz PowerPC CPU
4096 VLANs
16000 MAC addresses
8 Megabytes file system

Performance

Wirespeed switching on all Ethernet ports
14,880pps for 10Mbps Ethernet
148,800pps for 100Mbps Ethernet
1,488,000pps for 1000Mbps Ethernet

Ethernet throughput	71.424Mpps
Switch fabric	96Gbps

Power Characteristics

Voltage:	100-240V AC
Current:	4.0/2.0A
Frequency:	50-60Hz
Max power consumption:	54 Watts

Environmental Specifications

Operating temperature:	0°C to 40°C (32°F to 104°F)
Storage temperature:	-25°C to 70°C (-13°F to 158°F)
Operating humidity:	5% to 90% non-condensing
Storage humidity:	5% to 90% non-condensing
Max operating altitude:	3,048m (10,000 ft)

Recommended ventilation on all sides: 10cm (4.0 in.)

MTBF	250,000 hrs.
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Electrical/Mechanical Approvals

Safety UL 60950-1, CSA C22.2 No. 60950-1-03, EN60950-1, EN60825-2 (TUV)
EMI FCC Part 15 Class A, EN55022 Class A, EN55024
Immunity, VCCI Class A, C-TICK, EN61000-3-2, EN61000-3-3, AS/NZS 3548 (Australia/New Zealand)
Immunity EN55024

Country of Origin

Singapore / China

Software Specifications

Layer 3 Support

RIPv1
RIPv2
ECMP
Static IPv4 Routing (128 routes)

Interface Standards

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

General Standards

IEEE 802.1d	Bridging
IEEE 802.3ac	VLAN tag frame extension
IEEE 802.3x	BackPressure/ flow control

Redundancy

Static and dynamic port trunking (with six trunk groups and up to 8 ports per trunk)	
IEEE 802.3ad	LACP link aggregation
IEEE 802.1D	Spanning-Tree Protocol
IEEE 802.1w	Rapid Spanning-Tree
IEEE 802.1s	Multiple Spanning-Tree
Router Redundancy Protocol (RRP) snooping	
Dual software images, dual configuration files	

Traffic Management Quality of Services (QoS)

Layer 2, 3 and 4 criteria
Flow groups, traffic classes and policies
DSCP replacement
IEEE 802.1Q priority replacement
Type of Service replacement
Type of Service to IEEE 802.1Q priority replacement
IEEE 802.1q Priority to Type of Service replacement
Maximum bandwidth control
Burst size control
Ingress rate limiting
Head of line blocking prevention
Support for ingress and egress ports
Eight egress queues per port
IEEE 802.1p Class of Service with Strict and Weighted
Round Robin Scheduling

Multicast

RFC 1112	IGMP snooping (v1)
RFC 2236	IGMP snooping (v2)
RFC 3376	IGMP snooping (v3)
RFC 2710	Multicast Listener Discovery (MLD) snooping (v1)
RFC 3810	Multicast Listener Discovery (MLD) snooping (v2)

Management and Monitoring

RFC 1157	SNMPv1
RFC 1901	SNMPv2
RFC 3411	SNMPv3
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 and Events
RFC 2674	IEEE 802.1Q MIB
RFC 1866	HTML
RFC 2068	HTTP
RFC 2616	HTTPS
RFC 854	Telnet server
RFC 1350	TFTP client
Allied Telesis Private MIB	

IP address allocation:	
RFC 951 / RFC1542	BOOTP client
RFC 2131	DHCP client manual
RFC 2030	SNTP, Simple Network Time Protocol

Syslog client
Two event logs:
4,000 event capacity in temporary memory
2,000 event capacity in permanent memory

Management Access Methods

Single IP address for management
Out of Band management (serial port)
In-band management (over the network) using Telnet, Web browser or SNMP

Management Interfaces

Menu
Command line
Web browser
SNMP v1/ v2/ v3

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Security

RFC 1492	TACACS+
RFC 2865	RADIUS client
RFC 2866	RADIUS accounting
IEEE 802.1x	Port-based network access control with multiple supplicants per port ingress and egress control of broadcast, multicast and unknown unicast traffic

MAC address security/lockdown
Layer 2/3/4/ Access Control Lists (ACLs)
64 ACL profiles
256 rules per ACL profile
ACLs based on:

- Ethernet frame type
- MAC address/VLAN ID/IEEE 802.1p
- Layer 2/3 protocol
- IP subnet/address/TOS/DSCP
- UDP/TCP port/flag

SSHv2 for Telnet mgmt
SSLv3 for Web mgmt
DoS attack protection
Smurf
SYN flood
Teardrop
Land
IP option
Ping of Death
SNMP attack

Fault Protection

Bad cable detection
Broadcast storm control

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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-SPSX

Multi-mode fiber, GbE 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

USA Headquarters | 19800 North Creek Parkway | Suite 200 | 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

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