AT-8000GS/48

Layer 2 Stackable Gigabit Ethernet Switch

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48 port stackable 10/100/1000T Layer 2 switch with 4 standby SFP bays (unpopulated)

Overview

One of a series of high performance Gigabit Ethernet stackable switches from Allied Telesis, the AT-8000GS/48 provides high performance Layer 2 switching in an affordable fixed configuration platform. This switch offers 48 10/100/1000 ports, with four combo 1Gbps SFP slots. Two integrated stacking connectors deliver a total of 20Gbps 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. Support for jumbo Ethernet frames enables higher throughput of time sensitive data.

Near Silent Operation

Specifically designed to be usable in an open office or retail store environment the AT-8000GS/48 uses the latest in low power technologies to minimize both power consumption and the need for excessive cooling fans.

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-8000GS/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 8000GS 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.

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
- Two levels access privileges
- SNMP

Affordable Truly Stackable 10/100/1000 Switching Platform

- Single IP address stack management
- 20Gig 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 Access Control Lists (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 Access Control Lists (ACL)
- Port MAC Address security options

Access Control Lists (ACLs)
Access Control Lists enable inspection of incoming frames and classify them based on various criteria. Specific actions can then be applied to these frames in order to more effectively manage the network traffic. Typically ACLs are used as a security mechanism, either permitting or denying entry (hence the name Access Control) for frames in a group, but can also be applied to QoS.

Supported ACL types are:
- IP ACLs – applicable to IP packet type. All classification fields are related to IP packets.
- MAC ACLs – classification fields are based on Layer 2 fields.

Technical Specifications

System Configuration

Dimensions (W x D x H)	44cm x 25.7cm x 4.32cm (17.32" x 10.16" x 1.7")
Weight	3.38kg (7.45lb)
Mounting	19" rack-mountable hardware included

System Capacity

128MB RAM
16MB flash memory
Up to 4,096 VLAN ID
8,000 MAC address

Packet buffer memory	12Mbit

Performance

Wirespeed switching on all Ethernet ports for all packet sizes including jumbo frames up to 10Kbytes

Throughput up to	86.3Mpps
Switching capacity	116Gbps
Switch fabric speed	136Gbps

MTBF	90,000 hours

Auto-negotiation, duplex, MDI/MDI-X

Port speed:

10/100TX	RJ-45
10/100/1000T	RJ-45
1000SX, 1000LX	SFP slot
Console RS232	RJ-45 connector

Latency:

10Mbit	77.21 usec
100Mbit	9.47 usec
1000Mbit	2.23 usec

Interface Standards

IEEE 802.3	10T and 10FL
IEEE 802.3u	100TX
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 with optional fast link capability
IEEE 802.1W	Rapid Spanning-Tree
IEEE 802.1s	Multiple Spanning-Tree
BPDU guard	
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 active 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

Support for 256 multicasts
Unregistered multicasts are dropped by default

IPv6

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, SNTP, PING, TFTP/Copy, Syslog

Management and Monitoring

WEB, CLI, Telnet, SSH, serial console port

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
IEEE 802.1ab
LLDP-MED

IP address allocation

RFC 951/ RFC 1542	BootP/ DHCP manual

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

Stacking:
Up to six units with a mix of AT-8000GS/24, AT-8000GS/24POE and AT-8000GS/48 can be stacked together in any combination using a HDMI stacking cable
Single system appearance
Single IP management
Backup master
Redundant ring stacking topology with 20Gbps 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 2618	RADIUS authentication
IEEE 802.1x	Dynamic VLAN
IEEE 802.1x	RADIUS accounting
IEEE 802.1x	Multi-session mode
IEEE 802.1x	Action on violation
IEEE 802.1x	Single-host violation
IEEE 802.1x	Guest VLAN timeout
IEEE 802.1x	Authentication not-required

Security login banner

RFC 2865	IEEE 802.1x port-based network access control

MAC-based network access control
Guest VLANs
ACL – Access Control Lists

Fault Protection

Broadcast storm control

Power Characteristics

Voltage input	100-240V AC / 50-60Hz
Current	1.5A
Power consumption	64.82W
Power supply efficiency	85%
Acoustic noise	44dB
Maximum heat dissipation	221.23 BTU/hour

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
Operating altitude	Maximum 3,000m (9,843ft)

Electrical/ Mechanical Approvals

Safety	UL 1950, CSA22.2 no.950, TUV (EN60950), CE
EMI	FCC Class A, EN55022 Class A, VCCI Class A, C-TICK
EMC	EN61000-3-2, EN61000-3-3
Immunity	EN50082-1, EN55024
RoHS compliant	6/6 compliant
Environmental Standard	ATI QLT 1220

Package Description

One AT-8000GS/48 switch
Power cord AC
Rack-mount kit
Rubber feet for desktop installation
RS232 management cable (RJ-45)
HDMI stacking cable
Install guide and user guide available on the CD and at www.alliedtelesis.com

Country of Origin

China

Ordering Information

AT-8000GS/48-xx
48 port stackable 10/100/1000T Layer 2 switch with 4 standby SFP bays (unpopulated)

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

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