CentreCOM® GS970M Series

Managed Gigabit Ethernet Switches

The Allied Telesis CentreCOM GS970M Series of Layer 3 Gigabit switches offer an impressive set of features in a compact design, making them ideal for applications at the network edge.

Overview

Allied Telesis CentreCOM GS970M Series switches provide an excellent access solution for today's networks, supporting Gigabit to the desktop for maximum performance. The Power over Ethernet Plus (PoE+) models provide an ideal solution for connecting and remotely powering wireless access points, IP video surveillance cameras, and IP phones. The GS970M models feature 8, 16 or 24 Gigabit ports, and 2 or 4 SFP uplinks, for secure connectivity at the network edge.

Specifications

Performance

- Supports 10K jumbo frames
- Wirespeed multicasting
- Up to 16K MAC addresses
- 512MB DDR SDRAM (GS970M non PoE)
- 256MB DDR SDRAM (GS970M PS)
- 4094 configurable VLANs (GS970M non PoE)
- 2048 configurable VLANs (GS970M PS)
- 64MB flash memory
- Packet Buffer memory: 1.5MB

Diagnostic tools

- Active Fiber Monitoring detects tampering on optical links
- Built-In Self Test (BIST)
- Find-me device locator
- Cable fault locator (TDR)
- Optical Digital Diagnostics Monitoring (DDM)
- Automatic link flap detection and port shutdown
- Ping polling for IPv4 and IPv6
- Port and VLAN mirroring (RSPAN)
- TraceRoute for IPv4 and IPv6

IP Features

- IPv4 static routing and RIP
- Device management over IPv6 networks with SNMPv6, Telnetv6, SSHv6
- NTPv6 client

Management

- Allied Telesis Autonomous Management Framework™ (AMF) enables powerful centralized management and zerotouch device installation and recovery
- Console management port on the front panel for ease of access
- Eco-friendly mode allows ports and LEDs to be disabled to save power
- Industry-standard CLI with context-sensitive help
- Powerful CLI scripting engine
- Comprehensive SNMP MIB support for standards-based device management
- Built-in text editor
- Event-based triggers allow user-defined scripts to be executed upon selected system events
- SD/SDHC memory card socket allows software release files, configurations and other files to be stored for backup and distribution to other devices
- Configurable logs and triggers provide an audit trail of SD card insertion and removal

Quality of Service (QoS)

- Eight priority queues with a hierarchy of high-priority queues for real-time traffic, and mixed scheduling, for each switch port
- Limit bandwidth per port or per traffic class down to 64kbps
- Wirespeed traffic classification with low latency essential for VoIP and real-time streaming media applications
- Policy-based QoS based on VLAN, port, MAC and general packet classifiers
- Policy-based storm protection
- Extensive remarking capabilities
- Taildrop for queue congestion control
- Strict priority, weighted round robin or mixed scheduling
- IP precedence and DiffServ marking based on Layer 2, 3 and 4 headers

Resiliency Features

- Control Plane Prioritization (CPP) ensures the CPU always has sufficient bandwidth to process network control traffic
- Dynamic link failover (host attach)
- EPSRing™ (Ethernet Protection Switched Rings) with enhanced recovery
- Loop protection: loop detection and thrash limiting
- PVST+ compatibility mode
- STP root guard
- UniDirectional Link Detection (UDLD)

Security Features

- Access Control Lists (ACLs) based on Layer 2, 3 and 4 headers
- Dynamic ACLs assigned via port authentication
- ACL Groups enable multiple hosts/ports to be included in a single ACL, reducing configuration
- Configurable auth-fail and guest VLANs
- Authentication, Authorization, and Accounting (AAA)
- Bootloader can be password protected for device security
- BPDU protection
- DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI)
- Dynamic VLAN assignment
- MAC address filtering and MAC address lock-down
- Network Access and Control (NAC) features manage endpoint security
- Port-based learn limits (intrusion detection)
- Private VLANs provide security and port isolation for multiple customers using the same VLAN
- Secure Copy (SCP)

Key Features

- Modular AlliedWare Plus operating system
- Allied Telesis Autonomous Management Framework™ (AMF) edge node
- Eco-friendly
- IPv6 features
- IEEE 802.1x/MAC/Web authentication support
- Graphical User Interface (GUI) for easy management
- L3 features supported
  - Static routing
  - RIP

EPSRing™ AMF™ ACTIVE Fiber Monitoring™

Product Specifications

PRODUCT	10/100/1000T (RJ-45) COPPER PORTS	100/1000X SFP PORTS	TOTAL PORTS	POE+ ENABLE PORTS	SWITCHING FABRIC	FORWARDING RATE
GS970M/10PS	8	2	10	8	20Gbps	14.9Mpps
GS970M/10	8	2	10	-	20Gbps	14.9Mpps
GS970M/18PS	16	2	18	16	36Gbps	26.8Mpps
GS970M/18	16	2	18	-	36Gbps	26.8Mpps
GS970M/28PS	24	4	28	24	56Gbps	41.7Mpps
GS970M/28	24	4	28	-	56Gbps	41.7Mpps

Physical specifications

PRODUCT	WIDTH X DEPTH X HEIGHT	WEIGHT	PACKAGED DIMENSIONS	WEIGHT
GS970M/10PS	210 x 275 x 42.5 mm (8.27 x 10.83 x 1.67 in)	2.1 kg (4.6 lb)	43 x 36 x 15 cm (16.93 x 14.17 x 5.90 in)	3.45 kg (7.6 lb)
GS970M/10	265 x 180 x 42.5 mm (10.43 x 7.08 x 1.67 in)	1.5 kg (3.3 lb)	43 x 36 x 15 cm (16.93 x 14.17 x 5.90 in)	2.85 kg (6.3 lb)
GS970M/18PS	341 x 231 x 44 mm (13.42 x 9.09 x 1.73 in)	3.0 kg (6.6 lb)	43 x 36 x 15 cm (16.93 x 14.17 x 5.90 in)	4.35 kg (9.6 lb)
GS970M/18	341 x 231 x 44 mm (13.42 x 9.09 x 1.73 in)	2.4 kg (5.3 lb)	43 x 36 x 15 cm (16.93 x 14.17 x 5.90 in)	4.0 kg (8.8 lb)
GS970M/28PS	440 x 290 x 44 mm (17.32 x 11.42 x 1.73 in)	4.7 kg (10.4 lb)	53 x 43 x 15 cm (20.86 x 16.93 x 5.90 in)	6.35 kg (14.0 lb)
GS970M/28	341 x 231 x 44 mm (13.42 x 9.09 x 1.73 in)	2.4 kg (5.3 lb)	43 x 36 x 15 cm (16.93 x 14.17 x 5.90 in)	4.0 kg (8.8 lb)

Latency (microseconds)

PRODUCT	PORT SPEED		
	10MBPS	100MBPS	1GBPS
GS970M/10	55µs	7.8µs	3.4µs
GS970M/18	56µs	7.9µs	3.4µs
GS970M/28	59µs	8.6µs	4.3µs

Power characteristics

PRODUCT	NO POE LOAD			FULL POE+ LOAD			MAX POE POWER	MAX POE PORTS AT 15W PER PORT	MAX POE+ PORTS AT 30W PER PORT
	MAX POWER CONSUMPTION	MAX HEAT DISSIPATION	NOISE	MAX POWER CONSUMPTION	MAX HEAT DISSIPATION	NOISE			
GS970M/10PS	16W	55 BTU/hr	33 dBA	180W	126 BTU/hr	41 dBA	124W	8	4
GS970M/10	16W	55 BTU/hr	Fanless	-	-	-	-	-	-
GS970M/18PS	21W	72 BTU/hr	34 dBA	330W	169 BTU/hr	42 dBA	247W	16	8
GS970M/18	18W	61 BTU/hr	29 dBA	-	-	-	-	-	-
GS970M/28PS	37W	127 BTU/hr	33 dBA	520W	303 BTU/hr	42 dBA	370W	24	12
GS970M/28	26W	89 BTU/hr	34 dBA	-	-	-	-	-	-

- Strong password security and encryption
- Tri-authentication: MAC-based, Web-based and IEEE 802.1x

Environmental Specifications

Operating ambient temp.	0°C to 50°C (32°F to 122°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
Maximum operating	Altitude 3,000 m (9,842 ft)
Maximum Non operating	Altitude 4,000 m (13,100 ft)

Safety and Electromagnetic Emissions

EMI (Emissions) :	FCC Class A, EN55022 Class A, EN61000-3-2, EN61000-3-3, VCCI Class A, CISPR Class A
EMC (Immunity) :	EN55024
Electrical and Laser Safety :	EN60950-1 (TUV), UL 60950-1(cULus), EN60825-1
Compliance Marks	UL, cUL, UL-EU, CE

Restrictions on Hazardous Substances (RoHS) Compliance

- EU RoHS compliant
- China RoHS compliant

Standards and Protocols

Cryptographic Algorithms

FIPS Approved Algorithms

Encryption (Block Ciphers):

- AES (ECB, CBC, CFB and OFB Modes)
- 3DES (ECB, CBC, CFB and OFB Modes)

Block Cipher Modes:

- CCM
- CMAC
- GCM
- XTS

Digital Signatures & Asymmetric Key Generation:

- DSA
- ECDSA
- RSA

Secure Hashing:

- SHA-1
- SHA-2 (SHA-224, SHA-256, SHA-384. SHA-512)

Message Authentication:

- HMAC (SHA-1, SHA-2(224, 256, 384, 512)

Random Number Generation:

- DRBG (Hash, HMAC and Counter)

Non FIPS Approved Algorithms

RNG (AES128/192/256)
DES
MD5

Ethernet

IEEE 802.2 Logical Link Control (LLC)
IEEE 802.3 Ethernet
IEEE 802.3ab 1000BASE-T
IEEE 802.3af Power over Ethernet (PoE)
IEEE 802.3at Power over Ethernet plus (PoE+)
IEEE 802.3az Energy Efficient Ethernet (EEE)
IEEE 802.3u 100BASE-X
IEEE 802.3x Flow control - full-duplex operation
IEEE 802.3z 1000BASE-X

IPv4 Features

RFC 768 User Datagram Protocol (UDP)
RFC 791 Internet Protocol (IP)
RFC 792 Internet Control Message Protocol (ICMP)
RFC 793 Transmission Control Protocol (TCP)
RFC 826 Address Resolution Protocol (ARP)
RFC 894 Standard for the transmission of IP datagrams over Ethernet networks
RFC 919 Broadcasting Internet datagrams
RFC 922 Broadcasting Internet datagrams in the presence of subnets
RFC 932 Subnetwork addressing scheme
RFC 950 Internet standard subnetting procedure
RFC 1042 Standard for the transmission of IP datagrams over IEEE 802 networks
RFC 1071 Computing the Internet checksum
RFC 1122 Internet host requirements
RFC 1191 Path MTU discovery
RFC 1518 An architecture for IP address allocation with CIDR
RFC 1519 Classless Inter-Domain Routing (CIDR)
RFC 1812 Requirements for IPv4 routers
RFC 1918 IP addressing
RFC 2581 TCP congestion control

IPv6 Features

RFC 1981 Path MTU discovery for IPv6
RFC 2460 IPv6 specification
RFC 2464 Transmission of IPv6 packets over Ethernet networks
RFC 2711 IPv6 router alert option
RFC 3484 Default address selection for IPv6
RFC 3587 IPv6 global unicast address format
RFC 3596 DNS extensions to support IPv6
RFC 4007 IPv6 scoped address architecture
RFC 4193 Unique local IPv6 unicast addresses
RFC 4213 Transition mechanisms for IPv6 hosts and routers
RFC 4291 IPv6 addressing architecture
RFC 4443 Internet Control Message Protocol (ICMPv6)
RFC 4861 Neighbor discovery for IPv6
RFC 4862 IPv6 Stateless Address Auto-Configuration (SLAAC)
RFC 5014 IPv6 socket API for source address selection
RFC 5095 Deprecation of type 0 routing headers in IPv6

Management

AMF edge node[1]
AT Enterprise MIB including AMF MIB and SNMP traps
SNMPv1, v2c and v3
IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 1155 Structure and identification of management information for TCP/IP-based Internets
RFC 1157 Simple Network Management Protocol (SNMP)
RFC 1212 Concise MIB definitions
RFC 1213 MIB for network management of TCP/IP-based Internets: MIB-II
RFC 1215 Convention for defining traps for use with the SNMP
RFC 1227 SNMP MUX protocol and MIB
RFC 1239 Standard MIB
RFC 1724 RIPv2 MIB extension
RFC 2578 Structure of Management Information v2 (SMIv2)
RFC 2579 Textual conventions for SMIv2
RFC 2580 Conformance statements for SMIv2
RFC 2674 Definitions of managed objects for bridges with traffic classes, multicast filtering and VLAN extensions
RFC 2741 Agent extensibility (AgentX) protocol
RFC 2819 RMON MIB (groups 1,2,3 and 9)
RFC 2863 Interfaces group MIB
RFC 3411 An architecture for describing SNMP management frameworks
RFC 3412 Message processing and dispatching for the SNMP
RFC 3413 SNMP applications
RFC 3414 User-based Security Model (USM) for SNMPv3
RFC 3415 View-based Access Control Model (VACM) for SNMP
RFC 3416 Version 2 of the protocol operations for the SNMP
RFC 3417 Transport mappings for the SNMP
RFC 3418 MIB for SNMP
RFC 3621 Power over Ethernet (PoE) MIB
RFC 3635 Definitions of managed objects for the Ethernet-like interface types
RFC 3636 IEEE 802.3 MAU MIB
RFC 4022 MIB for the Transmission Control Protocol (TCP)
RFC 4113 MIB for the User Datagram Protocol (UDP)
RFC 4188 Definitions of managed objects for bridges
RFC 4292 IP forwarding table MIB
RFC 4293 MIB for the Internet Protocol (IP)
RFC 4318 Definitions of managed objects for bridges with RSTP
RFC 4560 Definitions of managed objects for remote ping, traceroute and lookup operations
RFC 5424 The Syslog protocol

Multicast Support

IGMP query solicitation
IGMP snooping (IGMPv1, v2 and v3)
IGMP snooping fast-leave
MLD snooping (MLDv1 and v2)
RFC 2715 Interoperability rules for multicast routing protocols
RFC 3306 Unicast-prefix-based IPv6 multicast addresses
RFC 4541 IGMP and MLD snooping switches

Quality of Service (QoS)

IEEE 802.1p Priority tagging
RFC 2211 Specification of the controlled-load network element service
RFC 2474 DiffServ precedence for eight queues/port
RFC 2475 DiffServ architecture
RFC 2597 DiffServ Assured Forwarding (AF)
RFC 2697 A single-rate three-color marker
RFC 2698 A two-rate three-color marker
RFC 3246 DiffServ Expedited Forwarding (EF)

Resiliency Features

IEEE 802.1AX Link aggregation (static and LACP)
IEEE 802.1D MAC bridges
IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
IEEE 802.3ad Static and dynamic link aggregation

Routing Information Protocol (RIP)

RFC 1058 Routing Information Protocol (RIP)
RFC 2082 RIP-2 MD5 authentication
RFC 2453 RIPv2

Security Features

SSH remote login
SSLv2 and SSLv3
TACACS+ Accounting, Authentication and Authorisation (AAA)
IEEE 802.1X authentication protocols (TLS, TTLS, PEAP and MD5)
IEEE 802.1X multi-supplicant authentication
IEEE 802.1X port-based network access control
RFC 2560 X.509 Online Certificate Status Protocol (OCSP)
RFC 2818 HTTP over TLS ("HTTPS")
RFC 2865 RADIUS authentication
RFC 2866 RADIUS accounting
RFC 2986 PKCS #10: certification request syntax specification v1.7
RFC 3546 Transport Layer Security (TLS) extensions
RFC 3580 IEEE 802.1x RADIUS usage guidelines
RFC 3748 PPP Extensible Authentication Protocol (EAP)
RFC 4251 Secure Shell (SSHv2) protocol architecture
RFC 4252 Secure Shell (SSHv2) authentication protocol
RFC 4253 Secure Shell (SSHv2) transport layer protocol
RFC 4254 Secure Shell (SSHv2) connection protocol
RFC 5246 Transport Layer Security (TLS) v1.2
RFC 5280 X.509 certificate and Certificate Revocation List (CRL) profile
RFC 5425 Transport Layer Security (TLS) transport mapping for Syslog
RFC 5656 Elliptic curve algorithm integration for SSH
RFC 6125 Domain-based application service identity within PKI using X.509 certificates with TLS
RFC 6614 Transport Layer Security (TLS) encryption for RADIUS
RFC 6668 SHA-2 data integrity verification for SSH Services

Services

RFC 854 Telnet protocol specification
RFC 855 Telnet option specifications
RFC 857 Telnet echo option
RFC 858 Telnet suppress go ahead option
RFC 1091 Telnet terminal-type option
RFC 1350 Trivial File Transfer Protocol (TFTP)
RFC 1985 SMTP service extension
RFC 2049 MIME
RFC 2131 DHCPv4 client
RFC 2616 Hypertext Transfer Protocol - HTTP/1.1
RFC 2821 Simple Mail Transfer Protocol (SMTP)
RFC 2822 Internet message format
RFC 4330 Simple Network Time Protocol (SNTP) version 4
RFC 5905 Network Time Protocol (NTP) version 4

VLAN support

IEEE 802.1Q Virtual LAN (VLAN) bridges
IEEE 802.1v VLAN classification by protocol and port
IEEE 802.3ac VLAN tagging

Voice over IP (VoIP)

LLDP-MED ANSI/TIA-1057
Voice VLAN

[1] AMF edge is for products used at the edge of the network, and only support a single AMF link. They cannot use cross links or virtual links.

Ordering Information

AT-GS970M/10PS-R[1]
L3 switch with 8 x 10/100/1000T PoE ports and 2 x 100/1000X SFP ports with rack mount kit

AT-GS970M/10
L3 switch with 8 x 10/100/1000T ports and 2 x 100/1000X SFP ports

AT-GS970M/18PS-R[1]
L3 switch with 16 x 10/100/1000T PoE ports and 2 x 100/1000X SFP ports with rack mount kit

AT-GS970M/18
L3 switch with 16 x 10/100/1000T ports and 2 x 100/1000X SFP ports

AT-GS970M/28PS
L3 switch with 24 x 10/100/1000T PoE ports and 4 x 100/1000X SFP ports

AT-GS970M/28
L3 switch with 24 x 10/100/1000T ports and 4 x 100/1000X SFP ports

AT-RKMT-J05
Rack mount kit for GS970M/10

AT-RKMT-J13
Rack mount kit for GS970M/18 and 18PS

AT-RKMT-J14
Rack mount kit for GS970M/10PS

AT-RKMT-J15
Rack mount shelf kit for two GS970M/10 units

AT-BRKT-J23
Wall mount kit for GS970M/10

AT-BRKT-J24
Wall mount kit for GS970M/18, 28, 10PS, 18PS and 28PS

SFP modules

AT-SPFX/2
100FX multi-mode 1310 nm fiber up to 2 km

AT-SPFX/15
100FX single-mode 1310 nm fiber up to 15 km

AT-SPFXBD-LC-13
100BX Bi-Di (1310 nm Tx, 1550 nm Rx) fiber up to 10 km

AT-SPFXBD-LC-15
100BX Bi-Di (1550 nm Tx, 1310 nm Rx) fiber up to 10 km

AT-SPTX
1000T 100 m copper

AT-SPSX
1000SX GbE multi-mode 850 nm fiber up to 550 m

AT-SPSX/I
1000SX GbE multi-mode 850 nm fiber up to 550 m industrial temperature

AT-SPEX
1000X GbE multi-mode 1310 nm fiber up to 2 km

AT-SPLX10
1000LX GbE single-mode 1310 nm fiber up to 10 km

AT-SPLXI0/I
1000LX GbE single-mode 1310 nm fiber up to 10 km industrial temperature

AT-SPBDI0-13
1000LX GbE Bi-Di (1310 nm Tx, 1490 nm Rx) fiber up to 10 km

AT-SPBDI0-14
1000LX GbE Bi-Di (1490 nm Tx, 1310 nm Rx) fiber up to 10 km

AT-SPLX40
1000LX GbE single-mode 1310 nm fiber up to 40 km

AT-SPZX80
1000ZX GbE single-mode 1550 nm fiber up to 80 km

AT-SPBD20-13/I
1000BX GbE Bi-Di (1310 nm Tx, 1550 nm Rx) fiber up to 20 km, industrial temperature

AT-SPBD20-14/I
1000BX GbE Bi-Di (1490 nm Tx, 1310 nm Rx) fiber up to 20 km, industrial temperature

[1]PS-R models only available in North America and Asia Pacific regions

Feature Licenses

NAME	DESCRIPTION	INCLUDES
AT-FL-GS97-UDLD	UniDirectional Link Detection	▶ UDLD

© 2020 Allied Telesis, Inc. All rights reserved.

617-000622 RevJ