

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

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





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

100-240 VAC, 50-60Hz, 2.4A maximum

| 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 | - | - | - | - | - | - |

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 802.1AX Link aggregation (static and LACP)
- IEEE 802.2 Logical Link Control (LLC)
- IEEE 802.3 Ethernet
- IEEE 802.3ab1000T
- IEEE 802.3ad Static and dynamic link aggregation
- 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 100X
- IEEE 802.3x Flow control - full-duplex operation
- IEEE 802.3z 1000X

IPv4 Features

- RFC 791 Internet Protocol (IP)
- RFC 792 Internet Control Message Protocol (ICMP)
- 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 1256 ICMP router discovery messages
- RFC 1518 An architecture for IP address allocation with CIDR
- RFC 1519 Classless Inter-Domain Routing (CIDR)
- RFC 1918 IP addressing

IPv6 Features

- RFC 2460 IPv6 specification
- RFC 2464 Transmission of IPv6 packets over Ethernet networks
- RFC 3484 Default address selection for IPv6
- RFC 3596 DNS extensions to support IPv6
- RFC 4007 IPv6 scoped address architecture
- RFC 4193 Unique local IPv6 unicast addresses
- RFC 4291 IPv6 addressing architecture
- 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
- AMF MIB and SNMP traps
- AT Enterprise MIB
- 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 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 3164 Syslog protocol
- 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 SNMPv2 MIB for TCP using SMIv2
- RFC 4113 SNMPv2 MIB for UDP using SMIv2
- RFC 4188 Definitions of managed objects for bridges
- RFC 4292 IP forwarding table MIB
- RFC 4293 SNMPv2 MIB for IP using SMIv2
- RFC 4318 Definitions of managed objects for bridges with RSTP
- RFC 4560 Definitions of managed objects for remote ping, traceroute and lookup operations

Multicast Support

- IGMP snooping (v1, v2 and v3)
- IGMP snooping fast-leave
- MLD snooping (v1 and v2)

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 802.1D MAC bridges
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)

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
- TACACS+ Accounting, Authentication, Authorization (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 2246 TLS protocol v1.0
- RFC 2865 RADIUS
- RFC 2866 RADIUS accounting
- RFC 2868 RADIUS attributes for tunnel protocol support
- RFC 3546 Transport Layer Security (TLS) extensions
- RFC 3579 RADIUS support for Extensible Authentication Protocol (EAP)
- 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

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 DHCP
- RFC 2132 DHCP options and BootP vendor extensions
- RFC 2554 SMTP service extension for authentication
- 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

Environmental Specifications

- Operating ambient temp. 0°C to 50°C (32°F to 113°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

Country of origin

- China



CentreCOM GS970M Series | Managed Gigabit Ethernet Switches

Ordering Information

AT-GS970M/10PS

L3 switch with 8 x 10/100/1000T PoE ports and 2 x 100/1000X SFP ports

AT-GS970M/10

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

AT-GS970M/18PS

L3 switch with 16 x 10/100/1000T PoE ports and 2 x 100/1000X SFP ports

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-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-SPLX10/I

1000LX GbE single-mode 1310 nm fiber up to 10 km industrial temperature

AT-SPBD10-13

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

AT-SPBD10-14

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



Feature Licenses

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