Centre COM® 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.

PoE plus™ AlliedWare Plus™ OPERATING SYSTEM IP6 READY

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
- 10KB L2 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
- IPv6 Ready certified

Management
- Allied Telesis Autonomous Management Framework™ Plus (AMF Plus) enables powerful centralized management and zerotouch device installation and recovery
- Manage the GS970M Series with Vista Manager EX—our graphical single-pane-of-glass monitoring and management tool for AMF Plus networks, which also supports wireless and third party devices
- From AW+ 5.5.2-2, an AMF Plus license operating in the network provides all standard AMF network management and automation features, and also enables the AMF Plus intent-based networking features menu in Vista Manager EX (from version 3.10.1 onwards)
- Console management port on the front panel for ease of access
- NETCONF/RESTCONF northbound interface with YANG data modelling
- 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)
- DoS attack blocking and virus throttling
- Dynamic VLAN assignment

Key Features

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

VISTA MANAGER™EX   AMF PLUS   EPSRING™   ACTIVE FIBER MONITORING™

Product Specifications

PRODUCT	10/100/1000T (RJ-45) COPPER PORTS	100/1000X SFP PORTS	TOTAL PORTS	POE ENABLED 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	-	-	-	-	-	-

► 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

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	
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	
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 Plus edge node[1]

AT Enterprise MIB including AMF Plus MIB and SNMP traps

SNMPv1, v2c and v3

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

RFC	
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	
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	
RFC 2211	Specification of the controlled-load network element service

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

RFC	
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	
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	
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 5176	RADIUS CoA (Change of Authorization)
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	
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

Feature Licenses

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

Ordering Information

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

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

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

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

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

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, 1490 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