CentreCOM® GS980MX Series

Stackable Multi-Gigabit Layer 3 Lite Switches

The Allied Telesis Centre COM GS980MX Series of Layer 3 Gigabit switches feature high-capacity, resiliency and easy management. Power over Ethernet models with Multi-Gigabit support make them an ideal solution for high-speed connectivity at the network edge.

ACTIVE Fiber Monitoring™ | EPSRing™ | VCStack™ | VCStack™ LD | AMF™ | AMF-Sec | AT-VISTA MANAGER™ EX | AlliedWare Plus™ OPERATING SYSTEM | IPv6 READY

Overview

Allied Telesis GS980MX Series are high-performing, feature-rich, and versatile for today's networks. With Gigabit/Multi-Gigabit ports and 10 Gigabit uplinks, plus the power of Allied Telesis Virtual Chassis Stacking (VCStack™), the GS980MX Series enable flexible deployment and a resilient solution.

The Power over Ethernet models offer 2.5G and 5G Multi-Gigabit ports to support connecting and powering high-speed Wi-Fi 6 wireless networks, and other high bandwidth applications. The GS980MX/10HSm can provide up to 90 Watts (PoE++) per port. This enables powering high power devices such as high resolution PTZ cameras with heater/blowers for outdoor applications, enhanced infrared lighting, and more.

Specifications

Performance

- 10KB L2 and 9KB L3 jumbo frames
- 4094 configurable VLANs
- Up to 16K MAC addresses
- 1GB DDR3 SDRAM
- 256MB NAND flash memory
- Packet Buffer memory: 1.5MB

Reliability

- Modular AlliedWare Plus operating system
- Full environmental monitoring of PSUs, fans, temperature and internal voltages. SNMP traps alert network managers in case of any failure
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Expandability

- Stack up to 4 units in a VCStack at any port speed

Diagnostic tools

- Active Fiber Monitoring detects tampering on optical links
- Built-In Self test (BIST)
- Cable fault locator (TDR)
- Find-me device locator
- Automatic link flap detection and port shutdown
- Optical Digital Diagnostic Monitoring (DDM)
- Ping polling for IPv4 and IPv6
- Port mirroring
- Trace Route for IPv4 and IPv6
- Uni-Directional Link Detection (UDLD)

IP Features

- Equal Cost Multi Path (ECMP) routing
- Static routing and RIP for IPv4
- Static routing for IPv6
- Device management over IPv6 networks with SNMPv6, Telnetv6, SSHv6
- IPv6 hardware ACLs
- Log to IPv6 hosts with Syslog v6
- IPv6 Ready certified

Management

- Front panel 7-segment LED provides at-a-glance status and fault information
- Allied Telesis Autonomous Management Framework (AMF) enables powerful centralized management and zero-touch device installation and recovery
- Manage the GS980MX Series with Vista Manager EX—our graphical single-pane-of-glass monitoring and management tool for AMF networks, which also supports wireless and third party devices
- AMF Security (AMF-Sec) enables a self-defending network—managing the GS980MX Series (or other AMF switches) to automatically block the spread of malware by quarantining suspect end user devices
- 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 with built-in text editor
- Web-based Graphical User Interface (GUI)
- USB interface allows software release files, configurations and other files to be stored for backup and distribution to other devices
- Comprehensive SNMP MIB support for standards based device management
- Event-based triggers allow user-defined scripts to be executed upon selected system events Wirespeed forwarding

Quality of Service (QoS)

- 8 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
- IPv6 QoS support
- Policy-based QoS based on VLAN, port, MAC and general packet classifiers

Key Features

- AlliedWare Plus Enterprise-class operating system
- Autonomous Management Framework™ (AMF) edge node
- Vista Manager EX compatible
- AMF-Security compatible
- VCStack™ up to 4 switches
- VCStack LD for long distance stacking
- EPSR transit node
- 10 Gigabit uplinks
- 2.5/5G with PoE for high-speed wireless APs (PSm and HSm models)
- IEEE 802.3at PoE+ (30W per port on PSm models)
- IEEE 802.3bt PoE++ (90W per port on HSm model)
- Continuous PoE
- Active Fiber Monitoring (AFM)
- IPv6 features
- Eco-Friendly
- Device GUI for web-based management

Specifications

Product Specifications

PRODUCT	10/100/1000T (RJ-45) COPPER PORTS	100M/1/2.5/5 GIGABIT PORTS	1/10 GIGABIT SFP+ PORTS	STACKING PORTS	POE ENABLED PORTS	SWITCHING FABRIC	FORWARDING RATE
GS980MX/10HSm	-	8	2	2*	8	120Gbps	89.2Mpps
GS980MX/28	24	-	4	2*	-	160Gbps	119 Mpps
GS980MX/28PSm	20	4	4	2*	24	160Gbps	119 Mpps
GS980MX/52	48	-	4	2*	-	240Gbps	179Mpps
GS980MX/52PSm	40	8	4	2*	48	240Gbps	179Mpps

*Any port/s can be used for stacking

Physical Specifications

PRODUCT	WIDTH X DEPTH X HEIGHT	MOUNTING	WEIGHT		PACKAGED DIMENSIONS
			UNPACKAGED	PACKAGED	
GS980MX/10HSm	210 x 362 x 42.5 mm (8.26 x 14.25 x 1.67 in)	Rack-mount	3.5 kg (7.7 lb)	5.5 kg (12.1 lb)	461 x 371 x 153 mm (18.15 x 14.60 x 6.02 in)
GS980MX/28	441 x 323 x 44 mm (17.36 x 12.72 x 1.73 in)	Rack-mount	4.3 kg (9.5 lb)	6.3 kg (13.8 lb)	563 x 534 x 128 mm (22.16 x 21.02 x 5.04 in)
GS980MX/28PSm	441 x 421 x 44 mm (17.36 x 16.57 x 1.73 in)	Rack-mount	5.6 kg (12.4 lb)	7.6 kg (16.7 lb)	563 x 534 x 128 mm (22.16 x 21.02 x 5.04 in)
GS980MX/52	441 x 323 x 44 mm (17.36 x 12.72 x 1.73 in)	Rack-mount	4.8 kg (10.1 lb)	6.8 kg (14.9 lb)	563 x 534 x 128 mm (22.16 x 21.02 x 5.04 in)
GS980MX/52PSm	441 x 421 x 44 mm (17.36 x 16.57 x 1.73 in)	Rack-mount	6.1 kg(13.5 lb)	8.1 kg(17.8 lb)	563 x 632 x 128 mm (22.16 x 24.88 x 5.04 in)

Power and Noise Characteristics

PRODUCT	NO POE LOAD			FULL POE LOAD			MAXIMUM POE POWER	POE SOURCING PORTS				
	MAX POWER CONSUMPTION	MAX HEAT DISSIPATION	NOISE	MAX POWER CONSUMPTION	MAX HEAT DISSIPATION	NOISE		POE (7.5W)	POE (15.4W)	POE+ (30W)	POE++ (60W)	POE++ (90W)
GS980MX/10HSm	60	204	64	605	2065	64	500W	8	8	8	8	5
GS980MX/28	39	133	42*	-	-	-	-	-	-	-	-	-
GS980MX/28PSm	70	239	42*	510	1741	42*	370W	24	24	12	-	-
GS980MX/52	60	205	42*	-	-	-	-	-	-	-	-	-
GS980MX/52PSm	95	324	42*	530	1809	42*	370W	48	24	12	-	-

* This figure is under 30 degree C ambient temperature

Noise: tested to ISO7779; front bystander position

Latency (microseconds)

PRODUCT	PORT SPEED				
	100MBPS	1GBPS	2.5GBPS	5GBPS	10GBPS
GS980MX/10HSm	8.24µs	7.89µs	5.63µs	3.49µs	2.12µs
GS980MX/28	8.29µs	7.63µs	-	-	1.63µs
GS980MX/28PSm	8.29µs	7.63µs	7.41µs	4.97µs	1.63µs
GS980MX/52	8.34µs	7.75µs	-	-	1.67µs
GS980MX/52PSm	8.34µs	7.75µs	7.51µs	5.06µs	1.67µs

- Policy-based storm protection
- Extensive remarking capabilities
- Taildrop for queue congestion control
- Queue scheduling options for Strict priority, weighted round robin or mixed scheduling
- Type of Services (ToS) 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 Super-Loop Protection (SLP) and enhanced recovery for extra resiliency
- Long-Distance VCStack with fiber modules (VCStack LD)
- Loop protection: loop detection and thrash limiting
- PVST+ compatibility mode
- STP root guard
- VCStack fast failover minimizes network disruption

Security Features

- Access Control Lists (ACLs) based on layer 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)
- DoS attack blocking and virus throttling
- 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)
- Secure File Transfer (SFTP) client
- Strong password security and encryption
- Tri-authentication: MAC-based, web-based and IEEE 802.1x
- Web-based authentication

Environmental specifications

- Operating temperature range:
  0°C to 50°C (32°F to 122°F)
  Derated by 1°C per 305 meters (1,000 ft)
- Storage temperature range:
  -25°C to 70°C (-13°F to 158°F)
- Operating relative humidity range:
  5% to 90% non-condensing

- Storage relative humidity range: 5% to 95% non-condensing
- Operating altitude range: Up to 3,000 meters maximum (9,843 ft)

Electrical approvals and compliances

- EMC: EN55024 FCC Class A, EN55032 Class A, EN61000-3-2, EN61000-3-3, VCCI Class A, RCM
- Immunity: EN55024, EN61000-3-levels 2 (Harmonics), and 3 (Flicker) – AC models only

Safety

- Standards: UL60950-1, CSA-C22.2 No. 60950-1, EN60950-1, UL62368-1
- Certifications: cUL, cULus, TUV

Restrictions on Hazardous Substances (RoHS) Compliance

- EU RoHS compliant
- China RoHS compliant

Standards and Protocols

Authentication

RFC 1321 MD5 Message-Digest algorithm
RFC 1828 IP authentication using keyed MD5

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 Standards

IEEE 802.2 Logical Link Control (LLC)
IEEE 802.3 Ethernet
IEEE 802.3ab 1000BASE-T
IEEE 802.3ae 10 Gigabit Ethernet
IEEE 802.3af Power over Ethernet (PoE)
IEEE 802.3at Power over Ethernet plus (PoE+)
IEEE 802.3az Energy Efficient Ethernet (EEE)
IEEE 802.3bt Power over Ethernet Plus Plus (PoE++)
IEEE 802.3bz 2.5GBASE-T and 5GBASE-T ("multi-gigabit")
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 951 Bootstrap Protocol (BootP)
RFC 1027 Proxy ARP
RFC 1035 DNS client
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 1256 ICMP router discovery messages
RFC 1518 An architecture for IP address allocation with CIDR
RFC 1519 Classless Inter-Domain Routing (CIDR)
RFC 1542 Clarifications and extensions for BootP
RFC 1591 Domain Name System (DNS)
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 3056 Connection of IPv6 domains via IPv4 clouds
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 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
RFC 5175 IPv6 Router Advertisement (RA) flags option
RFC 6105 IPv6 Router Advertisement (RA) guard

Management

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 2011 SNMPv2 MIB for IP using SMIv2
RFC 2012 SNMPv2 MIB for TCP using SMIv2
RFC 2013 SNMPv2 MIB for UDP using SMIv2
RFC 2096 IP forwarding table 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 2787 Definitions of managed objects for VRRP
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 4188 Definitions of managed objects for bridges
RFC 4318 Definitions of managed objects for bridges with RSTP
RFC 4560 Definitions of managed objects for remote ping, traceroute and lookup operations
RFC 6527 Definitions of managed objects for VRRPv3

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, 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
RFC 5798 Virtual Router Redundancy Protocol version 3 (VRRPv3) for IPv4 and IPv6

Routing Information Protocol (RIP)

RFC 1058 Routing Information Protocol (RIP)
RFC 2081 RIPng protocol applicability statement
RFC 2082 RIP-2 MD5 authentication
RFC 2453 RIPv2

Security Features

SSH remote login
SSLv2 and SSLv3
TACACS+ Accounting and Authentication
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 2818 HTTP over TLS ("HTTPS")
RFC 3546 Transport Layer Security (TLS) extensions
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 DHCPv4 (server, relay and client)

RFC 2132	DHCP options and BootP vendor extensions
RFC 2616	Hypertext Transfer Protocol - HTTP/1.1
RFC 2821	Simple Mail Transfer Protocol (SMTP)
RFC 2822	Internet message format
RFC 3046	DHCP relay agent information option (DHCP option 82)
RFC 3315	DHCPv6 (relay and client)
RFC 3633	IPv6 prefix options for DHCPv6
RFC 3646	DNS configuration options for DHCPv6
RFC 3993	Subscriber-ID suboption for DHCP relay agent option
RFC 4330	Simple Network Time Protocol (SNTP) version 4
RFC 5905	Network Time Protocol (NTP) version 4

VLAN support

Generic VLAN Registration Protocol (GVRP)
IEEE 802.1Q Virtual LAN (VLAN) bridges
IEEE 802.1v VLAN classification by protocol and port

Voice over IP (VoIP)

LLDP-MED ANSI/TIA-1057
Voice VLAN

Feature Licenses

NAME	DESCRIPTION	INCLUDES	STACK LICENSING
AT-FL-G98MX-CP	Continuous PoE license	▶ Continuous PoE power for PSm model	▶ One license per stack member
AT-FL-G98MX-UD	UDLD license	▶ UniDirectional Link Detection	▶ One license per stack member

Ordering Information

AT-GS980MX/10HSm-xx
8-ports 100M/1/2.5/5G PoE++ stackable switch with 2 SFP+ ports and a single fixed power supply

AT-GS980MX/28-xx
24-ports 10/100/1000T stackable switch with 4 SFP+ ports and a single fixed power supply

AT-GS980MX/28PSm-xx
20-ports 10/100/1000T PoE+ and 4-ports 100M/1/2.5/5G PoE+ stackable switch with 4 SFP+ ports and a single fixed power supply

AT-GS980MX/52-xx
48-ports 10/100/1000T stackable switch with 4 SFP+ ports and a single fixed power supply

AT-GS980MX/52PSm-xx
40-ports 10/100/1000T PoE+ and 8-ports 100M/1/2.5/5G PoE+ stackable switch with 4 SFP+ ports and a single fixed power supply

AT-RKMT-J15
Rack mount shelf kit for GS980MX/10HSm

AT-BRKT-J24
Wall mount kit for GS980MX/10HSm

AT-BRKT-J22
Wall-mount kit for GS980MX/28 & 52

AT-VT-Kit3
Management Cable (USB to Serial Console)

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

10G SFP+ Modules

AT-SP10TM
1G/2.5G/5G/10G, 100m copper, TAA[1]

AT-SP10SR
10GSR 850 nm short-haul, 300 m with MMF

AT-SP10SR/I
10GSR 850 nm short-haul, 300 m with MMF industrial temperature

AT-SP10LRa/I
10GBASE-LR, 1310 nm, 10 km with SMF, I-Temp, TAA[4]

AT-SP10ZR80/I
10GER 1550nm long-haul, 80 km with SMF industrial temperature

AT-SP10BD10/I-12
10G Bi-Di, 1270 nm TX/1330 nm RX, 10km, industrial temperature, TAA[1]

AT-SP10BD10/I-13
10G Bi-Di, 1330 nm TX/1270 nm RX, 10km, industrial temperature, TAA[1]

AT-SP10BD20-12
10G Bi-Di, 1270 nm TX/1330 nm RX, 20km, TAA[1]

AT-SP10BD20-13
10G Bi-Di, 1330 nm TX/1270 nm RX, 20km, TAA[1]

AT-SP10BD40/I-12
10G Bi-Di, 1270 nm TX/1330 nm RX, 40km, industrial temperature, TAA[1]

AT-SP10BD40/I-13
10G Bi-Di, 1330 nm TX/1270 nm RX, 40km, industrial temperature, TAA[1]

AT-SP10TW1
1 meter SFP+ direct attach cable

AT-SP10TW3
3 meter SFP+ direct attach cable

1000Mbps SFP Modules

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-SPLX10a
1000LX SFP, LC, SMF, 1310nm (10km), TAA[1]

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-SPBD40-13/I
1000LX GbE single-mode Bi-Di (1310 nm Tx, 1490 nm Rx) fiber up to 40 km, industrial temperature

AT-SPBD40-14/I
1000LX GbE single-mode Bi-Di (1490 nm Tx, 1310 nm Rx) fiber up to 40 km, industrial temperature

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

[1]TAA = Trade Act Agreement Compliant

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