

Manageable 10/100/1000 Mbs Ethernet Modular Multi-Media Switch



Illustrated: SNMP Manageable Multimedia Switch

Canary's CMX-2400G, Manageable, 24-Port, 10/100/1000 Mbs Ethernet Switch is derived from our experience in developing the innovative CCN-2000 Manageable Converter Chassis and CSX-2000G Configurable Switch. The CMX-2400G, is a SNMP and Web Manageable, 24-Port Ethernet Switch that combines leading edge switching technology and high-port density within a slim 1-Rack Unit chassis. The CMX-2400G represents an industry first – no other switch on the market today can match its combination of low price, flexibility, and management via SNMP and Web-based applications. It offers two GBIC slots plus three large slots for card modules providing up to eight Ethernet network connections. Its power and flexibility are enhanced by SNMP configuration and monitoring that is easily accomplished across the network via in-band connections. A front-panel-mounted, Serial RS-232 Console port provides initial setup and configuration access. A broad selection of SNMP configuration and management options translate into increased efficiency and performance in network administration.

Installed success ... proven in the field

CMX-2400G

***SNMP/Web Manageable,
Modular Switch chassis
with two GBIC slots***

Features:

***Modules with eight
10/100 UTP or
LC Fiber ports:
CMX-8TX, CMX-8M6,
& CMX-8S6***

***Modules with four
SC or ST Fiber ports:
CMX-4M1/CMX-4M2
& CMX-4S1/CMX-4S2***

***Modules with
eight 10/100 UTP
or LC Fiber ports***

***Supports QoS, 2 output
queues/port-based,
high & normal priorities***

***High priority packet
forwarding, including
VLAN tags***

Supports 256 VLANs

***A manageable,
advanced technology 24
port 10/100/1000 Mbs
Ethernet switch.***



Product Specifications

Performance

- Throughput:
 - 14,880 packets per second (pps) [10 Mbps]
 - 148,800 pps at 100 Mbps
 - 1,488,000 pps at 1000 Mbps
- Switching Scheme: Store-and-forward
- Address Table: 14K Mac entries
- Flow Control:
 - IEEE802.3x for full-duplex
 - Back pressure for half-duplex, CSMA/CD
- Broadcast Suppression:
 - Discards broadcasts at a critical threshold

Connectors and Cabling

- RJ-45 connectors:
 - 10BASE-T: Two-pair, category 3, 4, or 5 UTP cable
 - 100BASE-TX: Two-pair, Category 5 UTP cable
 - 100BASE-FX: SC connector, 50/125 / 62.5/125-micron multi-mode fiber cable or 9/125-micron single-mode fiber cable
- Console Port: RS-232 [DB-9] connector

Slide-in GBIC Modules

- 1000BASE-SX Gigabit multi-mode Fiber port
- 1000BASE-LX Gigabit single-mode Fiber port
- 1000BASE-T Gigabit Unshielded twisted-pair port

Power Characteristics

- AC Input Voltage:
 - 100 - 120 / 200 - 240 VAC, 50 to 60 Hz (auto-ranging)
- Power Consumption:
 - 70W, 90W, 170W (maximum with 2 modules installed)

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Environmental Characteristics

- Operating Temperature: 0° to 50° C (32° to 122° F)
- Storage Temperature: -20° to 65° C (-4° to 149° F)
- Operating Humidity: 5% to 95% (non-condensing)

Electromagnetic Compatibility

- Emissions: FCC Class A
- CE Mark: EN50081-1, EN55022 Class A, EN50082-1, IEC 1000-4-2/3/4/6

Network Management

- System Configuration:
 - Console port, Telnet, Web browser, SNMP/ RMON NMS
- Management Agent:
 - SNMP Support, MIB II, Ethernet MIB, Bridge MIB, Canary's Private MIB, RMON MIB
- RMON Groups:
 - 1, 2, 3, 9 (Statistics, History, Alarm and Event)
- IEEE 802.1D Spanning Tree Algorithm:
 - Provides redundant link support
 - 802.1Q or Port-based VLANs:
 - Up to 256 VLANs, with GVRP for dynamic VLAN registration
- Link Aggregation:
 - 2~8 ports can be combined into a fat pipe, 8 trunks

Standards and Compliance

- IEEE 802.3: 10BASE-T specification
- IEEE 802.3u: 100BASE-TX / 100BASE-FX spec.
- IEEE 802.3x: 10BASE-T / 100BASE-T: Full-Duplex
- IEEE 802.3z: 1000BASE-SX / LX specification
- IEEE 802.3ab: 1000BASE-T specification
- IEEE 802.1D: Spanning-Tree Protocol
- IEEE 802.1p: Class of Service
- IEEE 802.1Q: VLAN Tagging
- RFC 1350: TFTP

The pages that follow provide ordering information for Canary's Manageable 10/100 Mbs Ethernet Modular Multi-Media Switch and modules:

- SNMP/Web Manageable, Modular Switch chassis with two GBIC slots CMX-2400G**

SNMP Standards

- RFC 1213: MIB II
- RFC 1493: Bridge MIB
- RFC 1757: RMON MIB
- RFC 1643: Ethernet MIB
- CANARY: Proprietary MIB

Physical Characteristics

- Dimensions: (D x W x H)
- Depth: 11.8" (30cm)
- Width: 17.3" (44cm)
- Height: 1.73" (4.4cm)
- Weight: 7.9 lb (3.6kg)
- Mounting: 19" rack mountable

Warranty:

- Three (3) Years, parts and labor



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Manageable 10/100/1000 Mbs Ethernet Modular Multi-Media Switch

CMX-2400G – SNMP/Web Manageable, Modular Switch chassis with two GBIC slots

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- Management access by Console, Telnet, SNMP/RMON and Web browser User Interfaces
 - Three chassis slots for switch modules with (8) 10/100 Ethernet Ports, plus 2 GBIC slots
 - Switch modules providing (8) LC Fiber Ports or four (4) SC or ST Fiber ports
 - Modular Fast Ethernet and GBIC ports compatible with CMX-2400G manageable and CSX-2400G 'Smart' unconfigurable Switch
 - Link aggregation of up to eight 10/100 Mbs port groups and 2 gigabit ports
 - Provides 802.1Q VLAN configuration including VLAN Tags and TOS/DS
 - Programmable Frame Aging time: default is 300 seconds
 - Automatic MDI/MDI-X crossover on RJ-45 ports
 - Internal auto-sensing power supply
 - IEEE 802.3x PAUSE Flow Control for full-duplex operation
 - Back-pressure Flow Control for half duplex operation
 - Broadcast storm control and Port mirroring
 - MIB-II and RMON statistics counters
 - Supports 14K MAC address entries
 - Serial I/O management interface
 - FCC Class A & CE approved
 - Store-and-forward switching at full wire speed
 - Indicator LEDs for device status and port Diagnostics
 - Console and Telnet configuration using Menu Driven Interface
 - Supports QoS, 2 output queues per port, high and normal priorities
 - Extended distances ranging from 2km (multi-mode fiber) to 30km (single-mode fiber)
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Extensive management options, together with a wide range of modular interfaces, enables a CMX-2400G to offer very economical feature and performance tuning, including complete flexibility to "mix-and-match" cabling types (fiber and copper), together with VLAN services and 10 Mb Ethernet through Gigabit Ethernet data rates.

Presenting twenty-four 10/100 Mbs RJ-45 or 100BASE-FX ports arrayed as 8-port modules, a CMX-2400G Switch delivers exceptional high-port density performance and unrivalled value as the primary backbone switch for small and medium sized companies that are employing SNMP and/or Web management. Its configuration flexibility plus optional GBIC modules allow a CMX-2400G to function as a high-performance backbone or workgroup switch, easily tuned to fit in the largest enterprise.

Management access is by an in-band connection located anywhere across the network. Management configuration is used for accessing, selecting and assigning services such as RMON Monitoring, VLAN groups, Quality of Service (QoS), Flow Control and Port speed and duplex modes. The serial Console port provides a means for basic system configuration before deploying in-band, management.

Scalability is a hallmark of the CMX-2400G design. Configured and used as an Access Point, a network administrator can launch eight subscriber (user) lines then add modules to provide 16 or 24 ports as the number of users grow. By connecting up to 4 CMX-2400G switches together, it is possible to cascade 96-ports on a single Gigabit uplink connection.

The CMX-2400G supports port-based VLANs (Virtual LANs) that aid in network traffic segmentation and broadcast domain extension. The CMX-2400G delivers the increased network security and performance promised by VLAN technology ... VLAN tagging permits the maximum length of an Ethernet frame to be extended from 1518-bytes to 1522-bytes.

Ordering information on the following page.



Manageable 10/100/1000 Mbs Ethernet Modular Multi-Media Switch

CMX-2400G – SNMP/Web Manageable, Modular Switch chassis with two GBIC slots

Fiber Port Specifications (Module Connectors):

Model Numbers	Min. Tx PWR	Max. Tx PWR	Rx Sensitivity	Min. PWR Budget	Max. PWR Budget	Max. Input PWR	Connector Type	Wavelength (nm)	Transmit Distance
CMX-4M1	-20.0 dBm	-14.0 dBm	-31.0 dBm	11.0 dB	17.0 dB	-8.0 dBm	(4) SC	1310 nm	2000 m
CMX-4M2	-20.0 dBm	-14.0 dBm	-31.0 dBm	11.0 dB	17.0 dB	-8.0 dBm	(4) ST	1310 nm	2000 m
CMX-8M6	-20.0 dBm	-14.0 dBm	-31.0 dBm	11.0 dB	17.0 dB	-8.0 dBm	(8) LC	1310 nm	2000 m
CGB-55SX	-9.5 dBm	-4.0 dBm	-17.0 dBm	7.5 dB	13.0 dB	0.0 dBm	(1) SC	850 nm	220/550 m

Specifications above in blue are for multi-mode, fiber connectors. Specifications below for single-mode, fiber connectors.

CMX-4S1	-15.0 dBm	-8.0 dBm	-34.0 dBm	19.0 dB	26.0 dB	-7.0 dBm	(4) SC	1310 nm	30 Km
CMX-4S2	-15.0 dBm	-8.0 dBm	-34.0 dBm	19.0 dB	26.0 dB	-7.0 dBm	(4) ST	1310 nm	30 Km
CMX-8S6	-20.0 dBm	-14.0 dBm	-31.0 dBm	11.0 dB	17.0 dB	-8.0 dBm	(8) LC	1310 nm	20 Km
CGB-31LX	-10.0 dBm	-3.0 dBm	-20.0 dBm	10.0 dB	17.0 dB	-3.0 dBm	(1) SC	1310 nm	10 Km

NOTE: Manageable CMX-XXX modules can be ordered with Long-Reach single-mode and Single-Fiber Bi-Directional single-mode fiber connectors. For special orders, contact Canary for information.

Ordering Information

Model Numbers	Product Description	Number of UTP Ports	Number of Fiber Ports	Fiber Connector	Transmit Distance
CMX-2400G	Manageable Multimedia Switch: 3-slots for media blades (up to 24 ports) plus two GBIC ports	See Below	See Below	See Below	See Below
CMX-8TX	Configurable 10/100 Mbs Switch module: 8-port twisted pair with RJ-45 type, Cat-5 connectors	(8) RJ-45	N/A	N/A	100 m
CMX-8M6	Configurable 100 Mbs Switch module: 8-port multi-mode with LC-type Fiber connectors	N/A	(8) m/m	LC	2000 m
CMX-8S6	Configurable 100 Mbs Switch module: 8-port single-mode with LC-type Fiber connectors	N/A	(8) s/m	LC	30 Km
CMX-4M1	Configurable 100 Mbs Switch module: 4-port multi-mode with SC-type Fiber connectors	N/A	(4) m/m	SC	2000 m
CMX-4M2	Configurable 100 Mbs Switch module: 4-port multi-mode with ST-type Fiber connectors	N/A	(4) m/m	ST	2000 m
CMX-4S1	Configurable 100 Mbs Switch module: 4-port single-mode with SC-type Fiber connectors	N/A	(4) s/m	SC	30 Km
CMX-4S2	Configurable 100 Mbs Switch module: 4-port single-mode with ST-type Fiber connectors	N/A	(4) s/m	ST	30 Km
CGB-55SX	Configurable 1000 Mbs Switch module: 1-port multi-mode with SC-type Fiber connector	N/A	(1) m/m	SC	220/550 m
CGB-31LX	Configurable 1000 Mbs Switch module: 1-port single-mode with SC-type Fiber connector	N/A	(1) s/m	SC	10 Km
CGB-1000T	Configurable 1000 Mbs Switch module: 1-port twisted-pair with RJ-45 type, Cat-5 connector	(1) RJ-45	N/A	N/A	100 m

NOTE: Manageable CMX-XXX models can be ordered with Long-Reach single-mode and Single-Fiber Bi-Directional single-mode fiber connectors. For special order, please contact Canary for additional information.

More versions of CMX-XXXX modules may be found on the Canary web site as they become available.



Manageable 10/100/1000 Mbs Ethernet Modular Multi-Media Switch

CMX-2400G – SNMP/Web Manageable, Modular Switch chassis with two GBIC slots

Figure 1

