EQXM
Large Enterprise SDI Router up to 1152x1152 with Audio TDM Embed/De-embed

The EQXM is an enterprise level router that was designed with large SDI based systems in mind, it can handle up to 1152x1152 I/O in a single frame. The EQXM is ideal for mission critical and demanding 24/7 environments, including network, local broadcaster, mobile production, cable, military, government and corporate applications.

▶ Compact Design and Expansion

The EQXM delivers high broadcast quality 1152x1152 routing capability in a dense 40RU frame, it can be expanded to a 2304x2304 system that is fully non-blocking with redundant.

▶ Outstanding Redundant Protection

The EQXM pedigree can be clearly seen for redundancy and protection, using the same ultimate design in terms of system availability as the EQX. The EQXM architecture contains redundant protection for all of the critical system elements. The architecture provides redundant cross-point configurations, Multi hot frame controllers, external redundant load sharing power supplies, redundant easy access cooling fans and a dedicated monitoring bus that is independent of the system cross-points. In the event of a failure, manual or automatic re-routing of signals on an output-by-output or path-by-path basis is fully supported by the system software.

▶ Extensive Redundant Crosspoint Protection

The EQXM supports manual or automatic re-routing of individual signals with quality verification prior to switching to the redundant path.

▶ Designed for Performance Ultra Wide Band Routing

By offering a format independent data path, the EQXM supports signals from 3Mb/s all the way up to 3Gb/s including SD-SDI, HD-SDI, DVB-ASI, SMPTE ST310-1 digital video formats as well as optical formats and other high data rate signals

▶ Optical Routing

The EQX Router can accept optical signals at any data rate between 3Mb/s and 3Gb/s. Whether it is SMPTE259M or 292M compliant signals over fiber, or proprietary optical signals such as Evertz G-Link or from a 3rd party the EQXM will accept the signals, route them through the digital core and re-launch them on fiber.

The EQXM can also take in digital signals via coax and launch them on fiber or accept optical signals and send them out electrically via coax

Optical connectivity is achieved by using SFPs or MTP connections. Either choice provides exceptionally low-loss and high connection integrity.
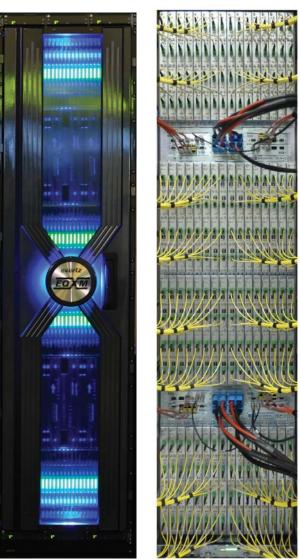
▶ Audio Routing

The EQXM router follow the same A Routing model used by the EQX, providing the first and best hybrid audio and video router solution in the industry. Evertz' hybrid video / audio system allows operators the ability to reduce cost and space while giving the flexibility to route embedded AES, discrete analog, discrete AES, MADI, and Studer A-Link inputs to embedded AES, discrete analog, discrete AES, MADI, and Studer A-Link outputs. Any audio input in the system can be routed to any output.

▶ Intelligent Auto-Configuration

The EQXM's exceptional Source-By-Source intelligent auto configuration facility allows the path to each destination to be independently and instantly reconfigured to suit the requirements of the source being switched. This includes auto selecting the Reclocking/Non-reclocking circuitry, the ASI mode as well as selecting the correct switch point.

▶ Advanced Control System

Evertz' MAGNUM Unified Control System addresses the ever-growing challenges broadcasters face as facilities become larger, more complex and distributed. MAGNUM has been designed to unify the control and operation of the routing core, master control, production switching, MAGNUM-SVDN and multiviewer. From a core routing perspective MAGNUM provides a superior, unified control / interfacing to Evertz EQXM and other Evertz routing products. Configuration and manage systems ranging from single router systems (with 100s of sources / destinations) to large enterprise sized systems (with 1000s of sources / destinations, that utilizes tie-lines).

EQXM Front View

EQXM Rear View
MTP Rear Plate wired for
1152x1152

▶ System Flexibility

The inspired by the modular approach used in the EQX platform the EQXM design provides excellent in service expansion capabilities. In convenient steps of 18 for router inputs and 36 for router outputs that can grow from 18x36 architecture all the way up to 1152x1152, in square and non-square configurations.

▶ Simple Maintenance

The advanced design of the EQXM ensures that all active components, including input, output, crosspoint modules, frame controllers, cooling fans and power supplies are accessible from the front and can be hot swapped at any time for maintenance.

▶ Independent Monitoring

EQXM provides extensive signal monitoring of both inputs and outputs, power supply voltages, interior temperatures and fan speeds. All monitored data is available through SNMP for facility-wide monitoring systems such as VistaLINK PRO.

The Complete Solution Provider

▶Features & Benefits

High Performance Format Agnostic Platform
- 3G-SDI, SD-SDI, HD-SDI, DVB-ASI, SMPTE 310M and more!
- Any fiber optical signals from 3Mb/s up to 3Gb/s
- Scalable to 1152x1152 in a single 40RU frame
- Input expansion in steps of 18
- Output expansion in steps of 36
- Up to 2304x2304 non-blocking with redundancy in multiple frames
- Source-by-source intelligent auto-configuration:
- Input equalization (On/Off)
- Output reclocking (On/Off)
- ASI Mode (On/Off)
- Switch Point (Variable)

Advanced System Control & Interfacing
- Full VistaLINK® PRO command & control, SNMP & Audio Video Monitoring (AVM)
- Ethernet, Serial RS-422/232
- MAGNUM Unified Control System
- VUE user interface
- CP-2232/2116 Advanced Control panels

High Availability, 24/7 Design
- Full modular design
- All modules are hot swappable
- Passive I/O
- Full redundant design
- Path by path crosspoint redundancy
- Redundant frame controller
- Redundant power supply (separate 1RU)
- Redundant cooling fans
- Comprehensive system monitoring bus
- VistaLINK® PRO SNMP
- AVM Monitoring of I/O & crosspoint modules
- Temperature monitoring
- Power supply monitoring

▶Specifications

Physical Dimentions
Height:	40 RU (69.874)
Width:	Rack width (19)
Depth:	(19 + Door)

Redundant Protection
Redundant Crosspoint
Redundant Frame Controller
Redundant Power Supply
Redundant Cooling Fans

Video Inputs
Formats:	SMPTE 259M, 292M, 310M, 424M, ASI
Optical Formats:	SMPTE 292M, GLINK, any optical signal between 3Mb/s and 3Gb/s
Signal Level:	800mV p-p
Impedance:	75ohms terminating
Return Loss:	> 15db typical (5-1500 MHz) / > 10db typical (1.5-3GHz)
Cable Equalization:	Belden 1694A @ 270MHz 300m to 500m
	Belden 1694A @ 1.5GHz 100m to 200m
	Belden 1694A @ 3GHz 90m to 150m

Video Outputs
Signals Supported:	SMPTE 259M, 292M, 310M, 424M, ASI

Relocking:	Configurable
Non-relocking:	Configurable
Impedance:	75ohms terminating
Return Loss:	> 15db typical (5-1500 MHz) / > 10db typical (1.5-3GHz)
DC Offset:	0 ±0.5V
Output Jitter:	0.2 UI

Fiber Inputs/Outputs
SFP1R-2:	Dual Optical SFP Receiver, Up to 3Gb/s
Connector:	LC/PC
Operating Wavelength:	1270nm to 1610nm
Maximum Input Power:	-1dBm
Optical Sensitivity:	-21dBm+/-1dBm
SFP1T13-2:	Dual Optical SFP Transmitter, Up to 3Gb/s, 1310nm
Connector:	LC/PC
Wavelengths:	1310nm
Output Power:	-2dBm ±1dBm
EQXM-IP9-MTP:	9 Optical Receivers + 1 monitoring optical transmitter, Up to 3Gb/s
Connector:	12 Fiber position single mode angle polished
Operating Wavelength:	1270nm to 1610nm
Maximum Input Power:	-1dBm
Typical Optical Sensitivity:	-20dBm+/-1dBm

EQXM-OP9-MTP:	9 optical transmitters + 1 monitoring optical transmitters , Up to 3Gb/s
Connector:	12 Fiber position single mode angle polished
Wavelengths:	1310nm
Typical Output Power:	-2.5dBm ±1dBm

Reference Timing
Switching Reference:	Analog 525/625/tri-level HD looping connections
Connector:	2 BNC IEC 61169.8 Annex A
Signal Level:	1V p-p ±3dB
Impedance:	75ohms terminating
Reference Timing:	Multiple timing planes supported

Control
Ethernet:	10GbE and 1GbE connections supported
Serial:	RS422/232 supported

Power
Voltage:	Auto ranging 100 to 240V 50/60Hz Up to 4 load sharing PS modules in 1RU frame
	Separate main input for each module or external 48V DC
Power:	1200W per PS module
Redundancy:	Multiple 1RU frame(s) with up to 4 PS each modules for 1:1 redundancy available

▶Ordering Information

Frames Power and Contorl
EQXM-40R	EQXM 40RU chassis
EQXM-XC	EQXM system manager board set
EQXM-PS-FR	1RU external Power supply chassis for EQXM
EQXM-PS	EQXM power supply
EQXM-FAN-FR	1RU external fan chassis for EQXM
EQXM-FAN	EQXM Fan bin

Crosspoints
EQXM-XPTG-576X576	576x576 EQXM crosspoint with Green platform that utilizes significantly less power and cooling than traditional crosspoints designs

I/O modules
EQXM-IP18	EQXM 18 channel coax input card with AVM functionality. Includes future AVIP capability through s/w license (EQXM-IP18-FK-AVIP)
EQXM-IP18-MS	EQXM 18 channel MTP/SFP input card with AVM functionality. Includes future AVIP capability through s/w license (EQXM-IP18-FK-AVIP)
EQXM-OP36	EQXM 36 channel coax output card with AVM functionality. Includes future AVOP capability through s/w license (EQXM-OP36-FK-AVIP)
EQXM-OP36-MS	EQXM 36 channel MTP/SFP output card with AVM functionality. Includes future AVOP capability through s/w license (EQXM-OP36-FK-AVIP)

Rear Plate Options
EQXM-IO18-DIN-RP2	EQXM 2 slot coax DIN based rear plate for EQXM-IP18 and EQXM-OP18 cards
EQXM-IP18-SFP-RP2	EQXM 2 slot standard SFP based rear plate for EQXM-IP18-MS cards
EQXM-OP18-SFP-RP2	EQXM 2 slot standard SFP based rear plate for EQXM-OP18-MS cards
EQXM-IP18-MTP-RP2	EQXM 2 slot MTP based rear plate for EQXM-IP18-MS cards
EQXM-IP9-MTP	EQMX 9 input MTP module to be used with EQXM-IP18-MTP-RP2
EQXM-OP18-MTP-RP2	EQXM 2 slot MTP based rear plate for EQXM-OP18-MS cards
EQXM-OP9-MTP	EQMX 9 output MTP module to be used with EQXM-OP18-MTP-RP2

Ordering Options
EQXM-IP18-FK-AVIP	AVIP software license option for EQXM-IP18 and EQXM-IP18-MS. Enables full 18 channel de-embedding used in Evertz audio TDM systems.
EQXM-OP36-FK-AVOP	AVOP software license option for EQXM-OP36 and EQXM-IP36-MS. Enables full 36 channel de-embedding used in Evertz audio TDM systems

For fiber optics options and systems greater than 1152 x 1152, contact factory

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