EQX10 — 180x180
Enterprise Hybrid Video/Audio/IP Router

The EQX10 shares much of the design characteristics and architecture of its larger siblings the EQX16 and EQX26, it features a new compact dense crosspoint utilizing the same green technology found the other EQX crosspoints. The EQX10 uses the time proven robust EQX frame controller module, as well all the input/output modules and rear plate options are shared across the 3 EQX frame sizes, 10RU, 16RU and 26U. This router clearly has the pedigree of a proven solution that is ideal for mission critical and demanding 24/7 environments.

The EQX10 offers X–Link connections from both of the EQX10 frame options; the EQX10–FR offers up to 6 X–Link connections and the EQX10–FR–XLINK offers up to 15 X–Link connections. The EQX10 now has an optional crosspoint solution that integrates TDM audio and video routing to reside inside any EQX10 frame. All this makes the EQX10 most suitable for small to mid–sized applications like stadiums, small networks, local broadcasters, corporate installations, smaller trucks and mobile flight packs.

▶ Green Technology

With the Flexibility of the EQX frame where all I/O and XPT active parts are modular and hot–swappable from the front of the router we have been able to take advantage of new technology that allows for reduced power consumption and heat dissipation in the input, output and XPT module. This provides a more efficient router with quieter fans, while still maintaining the industry leading performance of the EQX router platform.

▶ Ultra Wide Band Routing

By offering a format independent data path, the EQX supports signals from 3Mb/s all the way up to 3Gb/s, including SD–SDI, HD–SDI, 3G–SDI, DVB–ASI and SMPTE310 digital video formats, as well as IPG cards for SDVN Hybrid Routing solutions, optical formats and other high data rate signals. In addition, the EQX supports four independent timing planes which will provide independent SMPTE compliant switching for up to four different digital video signal formats.

▶ System Flexibility

The inspired modular approach of the EQX design provides excellent in–service expansion capabilities. In convenient steps of 18, the number of inputs and/or outputs can be increased from the base size of 18x18 up to 180x180, with square and non–square configurations.

▶ Intelligent Auto-configuration

The EQX has an exceptional source–by–source intelligent auto configuration facility allowing 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 and the ASI mode, as well as selecting the correct switch point.

▶ Independent Monitoring

The EQX provides extensive signal monitoring of both inputs & 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.

▶ Hybrid IP Routing SDVN

The Evertz IP Video Media Gateway family includes card(s) that will fit into any EQX frame, providing all existing and future EQX systems a union of traditional baseband EQX system and format agnostic IP switch fabrics. Traditional routing control aspect are preserved in this routing Hybrid solution with Evertz MAGNUM unified control system.

▶ 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 EQX will accept the signals, route them through the digital core and re–launch them on fiber. The EQX can also take in digital signals via coax and launch them on fiber or accept optical signals and send them out electrically via coax.

▶ Audio Routing

All EQX10 frames have now been enhanced by a 2nd crosspoint option that integrates an ADMX. The EQX10–XPTG–ADMX10 incorporates a 10 port ADMX audio TDM crosspoint with a traditional video crosspoint. For audio expansion the +AX5 license provides an additional 5 inputs and 5 outputs to be used as external TDM or MADI connections. The EQX10–XPTG–ADMX10 is supported in the main and optionally in the redundant crosspoint slots to provide path by path redundancy for video and audio.

▶ Input and Output Flexibility

The EQX offers a large number of Input and output options to meet the many different needs in a facility or mobile applications. We have options for audio embedding and de–embedding, Frame Sync, IP video, line sync outputs for soft/quiet switching to name a few. Contact the factory with your specific router needs for a precise router system solution.

▶ Multiview Processor Integration

X–Link is a high density interconnection used on a wide variety of Evertz® Multiviewer processors that DOES NOT use up standard router outputs. A 180x180 EQX10 will still have the full 180 outputs while supporting more than 400 additional outputs to a Multiview Processor. X–Link technology is a unique Evertz® signal interconnection carrying 32 uncompressed baseband signals over a single connector. The EQX10 Offers X–Link connection of the frame on both of the EQX10 Frames, the EQX10–FR offers up to 6 X–Link connections and the EQX10–FR–XLINK offers up to 15 X–link connections.

▶ Simple Maintenance

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

▶ Outstanding Redundant Protection

The EQX is the ultimate design in terms of system availability. The EQX architecture contains redundant protection for all of the critical system elements. This architecture provides redundant cross–point configurations, redundant 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, path–by–path basis is fully supported by the system software. Using the EQX monitoring capabilities, output quality can be verified prior to switching to redundant signal paths. The EQX is a fully SNMP–enabled system and supports seamless integration with VistaLINK® PRO command & control systems.

▶ Comprehensive Control

The EQX10 provides comprehensive connectivity to suit the most demanding installations. The internal frame controllers provide complete connectivity to any number of remote control panels and 3rd party control devices such as automation systems via multiple Q–Link, F–Link, Ethernet and Serial ports.

The Complete Solution Provider

▶ Features & Benefits

High Performance Format Agnostic Platform
- 3G–SDI, SD–SDI, HD–SDI, DVB–ASI, SMPTE 310M
- Any fiber optical signals from 3Mb/s up to 3Gb/s
- 10GE Video over IP gateway interface SDVN
- Audio embedding and de-embedding
- Scalable to 180x180 in a single 10RU frame
- Input & output expansion in steps of 18
- Up to 15 X–Link (480 monitoring outputs)
- 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
- Supports the full range of Quartz remote control panels
- Full VistaLINK® PRO command & control, SNMP & Audio Video Monitoring (AVM)
- Ethernet, Serial RS–422/232, F–Link and Q–Link port
- MAGNUM Unified Control System
- VUE user interface
- CP–2232/2116 Advanced Control Panels

Integrated ADMX Audio
- EQX10–XPTG–ADMX10 provides 10x10 ADMX compatible with all existing TDM enabled modules

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

Configuration (excluding frame X–Link outputs)
- 180x180 (360 available) in 10RU:
- PSU separate 1RU
- Inputs & Outputs: Selectable in blocks of 18

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

Video Inputs
Formats:	SMPTE 259M, 292M, 310M, 424M, ASI, 10G
Optical Formats:	SMPTE 292M, GLINK, any optical signal between 3Mb/s and 3Gb/s
Signal Level:	800mV p–p
Impedance:	75Ω 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
Connectors:	BNC IEC 61169.8 Annex A

Video Outputs
Signals Supported:	SMPTE 259M, 292M, 310M, 424M, ASI, 10G
Reclocking:	Configurable
Non-reclocking:	Configurable
Impedance:	75Ω terminating
Return Loss:	> 15db typical (5–1500 MHz) / >10db typical (1.5–3GHz)
DC Offset:	0 ±0.5V
Output Jitter:	0.2 UI
Connectors:	BNC IEC 61169.8 Annex A

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

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:	75Ω terminating (active loop out optional)
Reference Timing:	4 independent timing planes, programmable output by output

Control
Q–Link:	4 X 75Ω video cable (maximum length 500m)
Serial RS–422/232:	4 X D9 female
Ethernet:	10/100baseT, 4 X RJ–45

Physical
Height:	17.5"(44.5cm), 10RU
Width:	19" (48.3cm), 19" Rack Mount
Depth:	19.4" (49.3cm) over hinges and BNCs
Operating Temp.:	0°C to 40°C
Cooling:	Fan cooled, front to rear

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 700W for a Green 10RU populated as a 180x180
Redundancy:	Separate 1RU frame with up to 4 PS modules for 1:1 redundancy available

▶ Ordering Information

EQX10 Base Packages
EQX10G–18X18–3G	18 input, 18 output 3G/HD/SDI/ASI Video Router with 3 X–LINK and potential for 3 additional X–LINK, 1 Frame controller, 1 Crosspoint board includes I/O with power & noise reduction
EQX10G–18X18–3G–XLINK	
	18 input, 18 output 3G/HD/SDI/ASI Video Router with potential for 15 X–Link, 1 Frame controller, 1 Crosspoint board includes I/O with power & noise reduction
EQX10G–18X18H	18 input, 18 output HD/SDI/ASI Video Router with 3 X–LINK and potential for 3 additional X–LINK, 1 Frame controller, 1 Crosspoint board includes I/O with power & noise reduction
EQX10G–18X18H–XLINK	
	18 input, 18 output HD/SDI/ASI Video Router with potential for 15 X–Link, 1 Frame controller, 1 Crosspoint board includes I/O with power & noise reduction

Ordering Options
EQX–FC	Redundant frame controller
EQX–PS	Additional Power Supply Module
EQX–PS–FR–B	1RU Frame for Power Supply Modules (holds up to 4 EQX–PS modules)
EQX–GX–OP18H	18 Output HD/SDI/ASI Module
EQX–GX–OP18–3G	18 Output 3G/HD/SDI/ASI Module
EQX–G–IP18–3G	18 Input 3G/HD/SDI/ASI Module
EQX–G–IP18H	18 Input HD/SDI/ASI Module
EQX–IP18FSAD–3G	18 Input Frame Sync and Audio de-embed Module
+F	Fiber rear–plate option
EQX–FK–DSP	Audio signal processing option
EQX–FK–AE	Audio embedding option
EQX–IP18–IPG	18 Input IP Video Gateway module (Frame Sync and Audio de–embed Module)
EQX–OP18–IPG	18 Output IP Video Gateway module
EQX10–XPTG–180x288	Green Crosspoint Module, made compact for the EQX10
EQX10–XPTG–ADMX10	
	A 180x244 video XPT with an integrated ADMX 10x10 that is to be used exclusively in the EQX10FR and EQX10FR–XLINK frames
+AX5	License option for the EQX10–XPTG–ADMX10 to add an additional 5x5 audio ports available via DIN connectors and are software selectable to be either TDM or MADI

Please contact the Factory for additional EQX modules

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