

EQX16 — 288x288

Enterprise Hybrid Video/Audio/IP Router



The EQX platform is Evertz® flagship routing & distribution solution designed for high availability by adopting extensive industry leading redundancy for all critical system elements. With its time proven robustness and redundancy, the EQX is ideal for mission critical and demanding 24/7 environments.

The EQX16 platform has the ability to route up to 288x288 signals all in a compact 16RU frame, in addition to the 288 outputs the EQX16-FRQT-XLINK come with 9 X-Link connections, the EQX16-FRQT-XLINK2 has 18 X-Link connections, and a colossal 27 X-Link connections with the EQX16-FRQT-XLINK3 frame. All this makes the EQX26 most suitable for applications like network and local broadcasters, mobile production, mobile flight packs, cable, military, government and corporate applications.

▶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 288x288, 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 relocking/non-relocking 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.

▶Comprehensive Control

The EQX16 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.



▶Audio Routing

The EQX16 supports the ability to De-embed AES from any input signal deliver it as discrete AES, Analog Audio, MADI, Studer A-LINK or to be recombined with other de-embedded AES channels, Analog inputs, Discrete AES, MADI, Studer A-LINK inputs and Re-embedded on any output video.

▶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 288x288 EQX16 will still have the full 288 outputs while supporting more than 1000 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 EQX16-FRQT-XLINK offers up to 9 X-Link connections, 18 for the EQX16-FRQT-XLINK2 and a substantial 27 X-Links are offered on the EQX16-FRQT-XLINK3.

▶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.

► 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 288x288 in a single 16RU frame
- Input & output expansion in steps of 18
- Up to 27 X–Link (864 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

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)

- 288x288 (576 available) in 16RU:
- 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: 28”(71cm), 16RU
- Width: 19” (48.3cm), 19” Rack Mount
- Depth: 19.4” (49.3cm) over hinges and BNCs

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
- 1100W for a Green 16RU populated as a 288x288
- Redundancy: Separate 1RU frame with up to 4 PS modules for 1:1 redundancy available

► Ordering Information

EQX16 Base Packages

- EQX16G–18X18–3G** 18 input, 18 output 3G/HD/SDI/ASI Video Router, 1 Frame controller, 1 Crosspoint board includes I/O with power & noise reduction
- EQX16G–18X18–3G–F1** 18 input, 18 output 3G/HD/SDI/ASI Video Router, 1 Frame controller, 1 Crosspoint board includes I/O with Fiber SFPs power & noise reduction
- EQX16G–18X18–3G–XLINK** 18 input, 18 output 3G/HD/SDI/ASI Video Router with X–Link, 1 Frame controller, 1 Crosspoint board includes I/O with power & noise reduction
- EQX16G–18X18H** 18 input, 18 output HD/SDI/ASI Video Router, 1 Frame controller, 1 Crosspoint board includes I/O with single power & noise reduction
- EQX16G–18X18H–XLINK** 18 input, 18 output HD/SDI/ASI Video Router with 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–XPTG–288x288** Green Crosspoint Module
- EQX–XPTG–576x576** Green Crosspoint Module
- 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

Please contact the Factory for additional EQX modules



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