The Xenon brings many advanced new capabilities to the world of routing switchers, building on a new generation design that starts with a solid, multi-format router core.

▶Xenon: Excel Beyond Expectations

In today's broadcast environment, a router must be reliable, resilient and cost effective. The Xenon excels in all of these areas while offering the flexibility of multiformat operation, and the ability to add Signal Processing Technology.

Great care has been taken in the design of the Xenon to avoid single points of failure. Active assemblies are all hot swappable from the front of the frame. Power, control, cooling and reference generation are available in redundant configurations.

▶Features & Benefits

Configuration
The Xenon allows any mix of formats within a frame in independent blocks of 32 inputs or outputs. Any of the supported formats, 3G/HD/SD/AES/Analog can be expanded to fill an entire 128x128 frame. Additionally the Xenon supports optical routing from 3Mb/s to 3Gb/s in blocks of 32 inputs or outputs.

The Xenon is housed in a 4RU frame, switching up to 64 sources to 64 destinations, or in an 8RU frame switching up to 128 sources to 128 destinations. Additional input and output modules can be installed into the router at anytime.

Control
The Xenon router includes, as standard, an internal Frame Controller module which supports four Q-Link ports, two Ethernet ports and two Serial ports mounted on the rear of the router.

The Xenon has a number of control options, they are:
Remote Control Panel: Any panel(s) from the entire range of Quartz remote control panels can be used with the Xenon router connected via Q-Link.

External third party control: The Xenon router can be remotely controlled via an external third party control device, such as an automation system, when connected to the router's serial port.

Expansion
The input and output stages of the Xenon can be expanded in steps of 32 at any time by adding additional I/O modules. The Xenon can not be expanded beyond its frame size.

Power Supply
The power supplies for the Xenon are internal. The 4RU & 8RU frame can be fitted with an optional redundant power supply with separate AC power inlet & alarm output.

Designed for Performance Ultra Wide Band Routing
By offering a format independent data path, the Xenon supports signals from 3Mb/s all the way up to 3Gb/s including SD-SDI, HD-SDI, 3G-SDI, DVB-ASI, SMPTE 310M digital video formats as well as optical formats and other high data rate signals.

Video
Xenon supports 3G, HD, SD and ASI video routing. It is available as 3G/HD/SD or HD/SD or SD only, offering cost savings for those who do not require 3G and or HD capability. For those applications requiring the signal to be reclocked, reclocking modules can be added in blocks of 8 outputs.

Audio
Xenon supports AES Audio routing. Balanced AES or unbalanced AES on BNCs are supported in any mixture in blocks of 32 inputs or outputs. AES routing within the Xenon is performed as mono channels so signals can be shuffled amongst AES pairs. Xenon also supports Analog audio I/O. the audio is converted and routed as digital so that analog sources can route to AES destinations and AES sources can route to analog destinations. Analog blocks are in groups of 32 stereo pairs.

The Xenon audio router can be expanded beyond a single 128x128 frame by cascading multiple frames together with an external interface. Using this advanced solution provides the capability to route up to 8192x8192 mono audio channels within a single system.

Signal and System Monitoring
Xenon supports SNMP signal monitoring and comprehensive system monitoring, including power supply voltages, interior temperatures and fan speeds. System status may also be monitored remotely by a network based remote connection over TCP/IP or a direct serial connection to a PC. User-configurable closing contacts are also provided for connection to an external alarm system.

X-LINK
X-LINK outputs are an additional set of outputs from Evertz® standard router platforms. They are for the purpose of providing connectivity to monitoring devices. X-LINK outputs do not reduce the number of outputs on the router, X-LINK outputs are in addition to the standard video router outputs.

Feature Summary
• Multiple signal formats within a single frame
• Optional output reclocking in blocks of 8 outputs
• All outputs can switch in one TV frame
• Dual reference inputs
• Advanced audio features including Soft Switching
• Dolby-E™ signal compatible
• Redundant internal controllers
• Q-Link, Ethernet and RS-485 control interfaces
• Deterministic switching

The Complete Solution Provider

▶Specifications

Configuration:
Inputs:	Selectable in blocks of 32
Outputs:	Selectable in blocks of 32

Standard Definition:
SD Video Inputs:
Signals supported:	SMPTE 259M 1997, ASI DVB standard
Signal Level:	800mV p-p nominal
Impedance:	75Ω terminating
Return Loss:	
5 - 270MHz	15dB typical
Cable equalization:	Belden 1694A, 250m
Connectors:	BNC per IEC 61169-8 Annex A

SD Video Outputs:
Signal Level:	800mV p-p ±10%
Impedance:	75Ω terminating
Return Loss:	
5 - 270MHz	15dB typical
DC Offset:	0 ±0.5V
Connectors:	BNC per IEC 61169-8 Annex A

Signal Path:
Rise/fall times:	< 0.4ns
Path Length:	12ns, typical
Output jitter:	0.2 UI p-p with < 250m input cable

High Definition:
HD Video Inputs:
Signals supported:	SMPTE 292M, SMPTE 424M
Signal Level:	800mV p-p nominal
Impedance:	75Ω terminating
Return Loss:	
5 - 1485MHz	15dB typical
Cable equalization:	Belden 1694A, 90m
	65m @ 2.97Gb/s
Connectors:	BNC per IEC 61169-8 Annex A

HD Video Outputs:
Signal Level:	800mV p-p ±10%
Impedance:	75Ω terminating
Return Loss:	
5 - 1485MHz	15dB typical
DC Offset:	0 ±0.5V
Connectors:	BNC per IEC 61169-8 Annex A

Signal Path:
Rise/fall times:	< 0.4ns
Path Length:	12ns, typical
Output jitter:	0.2 UI p-p with < 95m input cable

Fiber Inputs/Outputs:
SFP1T13-2:	Dual Optical SFP Transmitter, Up to 3Gb/s, 1310nm
Connector:	LC/PC
Wavelengths:	1310nm
Output Power:	-2dBm ±1dBm

SFP1R-2:
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

Audio Inputs - AES:
Balanced version (D50):
Sample rates:	32kHz, 44.1kHz, 48kHz, and 96kHz
Standard:	AES3-1992
Signal level:	0.2-7V p-p
Impedance:	110Ω ±20% Transformer coupled
DC on input:	±50V
Connectors:	D50 female carrying 16 signals

Unbalanced Version (BNC):
Standard:	SMPTE 276M
Impedance:	75Ω
Return loss:	25dB, 0.1-6.0kHz
Connectors:	BNC per IEC 61169-8 Annex A

Audio Outputs - AES:
Balanced version (D50)
Signal level:	2-5V p-p
Impedance:	110Ω Transformer coupled
DC isolation:	±50V
Rise/fall time:	3.5-10ns
Connectors:	D50 female carrying 16 signals

Unbalanced version (BNC):
Signal level:	1.0V p-p ±50%
Impedance:	75Ω
Return loss:	25dB, 0.1-6.0kHz
Jitter:	Conforms to ANSI S4.40 - 1992
Connectors:	BNC per IEC 61169-8 Annex A

Analog to Digital Audio Conversion:
Sampling Freq:	48kHz or 96kHz
Connectors:	50 way "D" type female
Freq Response:	± 0.05dB
Input Impedance:	12kΩ minimum
Signal Level:	0dBfs - 18dBu or 24dBu
Noise:	-113dB A-weighted
THD+N:	> 95dB (typically >98dB)
CMRR:	> 85dB @1kHz
Crosstalk:	< -95dB
I/O Delay:	0.85ms @48kHz or 0.43ms @96kHz

Digital to Analog Audio Conversion:
Sampling Freq:	48kHz or 96kHz
Connectors:	50 way "D" type female
Freq Response:	± 0.06dB
Output Impedance:	400Ω
Signal Level:	0dBfs - 18dBu or 24dBu
Noise:	-115dB A-weighted
THD+N:	> 95dB (typically >98dB)
DC Offset:	> ±30mV
Crosstalk:	< -95dB
I/O Delay:	1.3ms @48kHz or 0.66ms @96kHz
Dynamic Range:	24 bits

Analog Audio Performance:
Sampling Freq:	48kHz or 96kHz
Connectors:	50 way "D" type female
Freq Response:	± 0.08dB
Output Impedance:	400Ω
Input Impedance:	12kΩ minimum
Signal level:	0dBfs = 18dBu or 24dBu
Noise:	-110dB A-weighted
THD+N:	> 95dB (typically >98dB)
DC Offset:	> ±30mV
Crosstalk:	< -95dB
I/O Delay:	1.3ms @48kHz or 0.66ms @96kHz
Dynamic Range:	24 bits

Switching Reference:
Ref inputs (SD)	:2x, BNC, analog 525/625
Ref inputs (HD/SD)	:Tri-level analog 625 or 525
Signal level:	1V p-p ±3dB
Impedance:	75Ω terminating
Line switching:	Lines 6/319 (625), Lines 10/273 (525) Line 7 (HD)
Connectors:	BNC per IEC 61169-8 Annex A

Electrical:
Supply:	Auto ranging 100 to 240V AC 50/60Hz
Power 8RU:	Typical 300VA, Max 500VA
4RU:	Typical 150VA, Max 250VA
	Not including the SPT modules
Backup:	Optional

Physical:
Height 4RU:	7" (178mm)
8RU:	14" (355mm)
Width:	19" (483mm)
Depth:	17 3/4" (450mm)
Weight 4RU:	16kg (35lbs)
8RU:	31kg (68lbs)
Operating Temp:	Spec. maintained to 30°C Operation to 40°C
Ventilation:	Fan cooled from the front to the rear of the left hand and right hand side of the router

Control:
Q-Link:	4x75Ω video cable (max length 500m)
F-Link:	2xRJ45
Serial RS-422/232:	2xD9 female
Ethernet, 10baseT:	2xRJ45

Compliance:
Safety:	CSA listed to 60065 Complies with CE low voltage directive
EMC:	Complies with FCC Part 15, Class A CE EMC Directive

▶Ordering Information

XE4 Up To 64x64 Base Systems
XE4-3232SX	Xenon 4RU 32x32 SD Router
XE4-3232SX+F	Xenon 4RU 32x32 SD Router (fiber capable - no modules)
XE4-3232SX+XLINK	Xenon 4RU 32x32 SD Router with 3 X-LINK outputs
XE4-3232HX	Xenon 4RU 32x32 HD/SD Router
XE4-3232HX+F	Xenon 4RU 32x32 HD/SD Router (fiber capable - no modules)
XE4-3232HX+XLINK	Xenon 4RU 32x32 HD/SD Router with 3 X-LINK outputs
XE4-3232-3G	Xenon 4RU 32x32 3G/HD/SD Router
XE4-3232-3G+F	Xenon 4RU 32x32 3G/HD/SD Router (fiber capable - no modules)
XE4-3232-3G+XLINK	Xenon 4RU 32x32 3G/HD/SD Router with 3 X-LINK outputs
XE4-3232-AESB	Xenon 4RU 32x32 Digital Audio Router (Balanced)
XE4-3232-AESB+MADI	Xenon 4RU 32x32 Digital Audio Router (Balanced) with MADI Expansion
XE4-3232-AESU	Xenon 4RU 32x32 Digital Audio Router (Unbalanced)
XE4-3232-AESU+MADI	Xenon 4RU 32x32 Digital Audio Router (Unbalanced) with MADI Expansion
XE4-3232-AA	Xenon 4RU 32x32 Analog Audio Router
XE4-3232-AA+MADI	Xenon 4RU 32x32 Analog Audio Router with MADI Expansion

XE8 Up To 128x128 Base Systems
When ordering a Xenon 8RU base system, use the same part numbers as the 4RU base systems but substitute **XE4** with **XE8**. All 8RU base systems ship in 32x32 configurations.

Base systems include a frame, non-redundant power supplies, a single controller module and a single reference module.

Ordering Options
+2PS	Redundant Power Supply (1 required for 4RU Frame), (2 required for 8RU Frame)
+FU	Redundant Controller Module
+REF	Redundant Reference module (Can only be fitted on frames with 64 or more, outputs)
+R8	Reclocking option for 8 HD/SD outputs
+R16	Reclocking option for 16 HD/SD outputs
+R24	Reclocking option for 24 HD/SD outputs
+R32	Reclocking option for 32 HD/SD outputs
+SS	Synchronous AES Audio
+SRC	Sample Rate Converters for AES audio

Accessories:
XE4-FRAME	Xenon 4RU Router Chassis
XE8-FRAME	Xenon 8RU Router Chassis

XE-IP32SX	32 SD inputs
XE-IP32SX+F	32 SD inputs (fiber capable)
XE-IP32HX	32 HD/SD inputs
XE-IP32HX+F	32 HD/SD inputs (fiber capable)
XE-IP32-3G	32 3G/HD/SD inputs
XE-IP32-3G+F	32 3G/HD/SD inputs (fiber capable)
XE-IP32-AESB	32 AES Balanced inputs
XE-IP32-AESB-MADI	32 AES Balanced inputs, plus 2 MADI outputs via mini-BNC (DIN)
XE-IP32-AESU	32 AES Unbalanced inputs
XE-IP32-AESU-MADI	32 AES Unbalanced inputs, plus 2 MADI outputs via mini-BNC (DIN)
XE-IP32-AA	32 Analog inputs
XE-IP32-AA-MADI	32 Analog inputs, plus 2 MADI outputs via mini-BNC (DIN)
XE-OP32HX	32 HD/SD outputs
XE-OP32HX+F	32 HD/SD outputs (fiber capable)
XE-OP32HX-XLINK	32 HD/SD outputs via mini-BNC (DIN), plus 3 X-LINK outputs (only 1 card can be fitted in the 4RU frame and only 2 cards can be fitted in the 8RU frame)
XE-OP32SX	32 SD outputs
XE-OP32SX+F	32 SD outputs (fiber capable)
XE-OP32SX-XLINK	32 SD outputs via mini-BNC (DIN), plus 3 X-LINK outputs (only 1 card can be fitted in the 4RU frame and only 2 cards can be fitted in the 8RU frame)
XE-OP32-3G	32 3G/HD/SD outputs
XE-OP32-3G+F	32 3G/HD/SD outputs (fiber capable)
XE-OP32-3G-XLINK	32 3G/HD/SD outputs via mini-BNC (DIN), plus 3 X-LINK outputs (only 1 card can be fitted in the 4RU frame and only 2 cards can be fitted in the 8RU frame)
XE-SPT-AVP-H	HD/SD Line Synchronizer and Audio SoftSwitch module with video and audio processing functions
XE-OP32-AESB	32 AES Balanced outputs
XE-OP32-AESB-MADI	32 AES Balanced outputs, plus 2 MADI inputs via mini-BNC (DIN)
XE-OP32-AESU	32 AES Unbalanced outputs
XE-OP32-AESU-MADI	32 AES Unbalanced outputs, plus 2 MADI inputs via mini-BNC (DIN)
XE-OP32-AA	32 Analog outputs
XE-OP32-AA-MADI	32 Analog outputs, plus 2 MADI inputs via mini-BNC (DIN)

Fiber Optic Modules:
SFP1T-13-2	Dual optical SFP fiber transmitter module
SFP1R-2	Dual optical SFP fiber receiver module