

# XE4-64x64, XE8-128x128

## Xenon Multi-Format Routers

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

Great care has been taken in the design of 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

Xenon allows any mix of formats within a frame in independent blocks of 32 inputs or outputs. Any of the supported formats, HD/SD/AES/Analog audio, can be expanded to fill an entire 128x128 frame.

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 in to the router at anytime.

#### Control

The Xenon router includes, as standard, an internal Frame Controller module which supports four Q-Link ports, two F-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.

#### Video

Xenon supports HD, SD and ASI video routing. It is available as HD/SD or SD only, offering cost savings for those who do not require HD capability. The signal path through Xenon is so clean that reclocking is not normally required. For those applications requiring it, reclocking modules can be added in blocks of 8 outputs.

#### Audio

Balanced AES or unbalanced AES on BNCs are supported in any mixture in blocks of 32 inputs or outputs.

#### Signal and System Monitoring

Xenon supports full signal monitoring of both inputs and outputs. It also incorporates comprehensive system monitoring, including power supply voltages, interior temperatures and fan speeds. Monitored data is available through SNMP for facility-wide monitoring systems. 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.

#### 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
- No controllers needed for slave frames
- Q-Link, F-Link, Ethernet and RS485 control interfaces
- Deterministic switching
- System monitoring with SNMP support
- Powerful and intuitive WinSetup Software

### 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 8281  
BBC PSF1/2: 250m min  
BBC PSF1/3: 150m min  
Connectors: BNC

##### 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

#### 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  
Signal Level: 800mV p-p nominal  
Impedance: 75Ω terminating  
Return Loss, 5 - 1485MHz:  
15dB typical  
Cable equalization: Belden 1694A, 90m  
Connectors: BNC

##### 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

#### Audio Inputs - AES:

Sample rates: 32kHz, 44.1kHz, 48kHz, and 96kHz  
Balanced version (D50)  
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 60169-8 Amendment 2

#### 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 60169-8 Amendment 2

#### Signal Path:

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

#### Switching Reference:

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

#### 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  
8RU: 31kg  
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 RS422/232: 2xD9 female  
Ethernet, 10baseT: 2xRJ45

#### Compliance:

Safety: Compliant with CSAC22.2 No 60065-03  
IEC 60065  
Complies with CE low voltage directive  
93/68/EEC  
EMC: Complies with FCC Part 15, Class A  
CE EMC Directive 89/336/EEC

### Ordering Information

#### XE4 Up To 64x64 Base Systems

**XE4-3232S** Xenon 4RU 32x32 SDI Router  
**XE4-3232H** Xenon 4RU 32x32 HD/SD Router  
**XE4-3232AESB** Xenon 4RU 32x32 Digital Audio Router (Balanced)  
**XE4-3232AESU** Xenon 4RU 32x32 Digital Audio Router (Unbalanced)

#### XE8 Up To 128x128 Base Systems

**XE8-3232S** Xenon 8RU 32x32 SDI Router  
**XE8-3232H** Xenon 8RU 32x32 HD/SD Router  
**XE8-3232AESB** Xenon 8RU 32x32 Digital Audio Router (Balanced)  
**XE8-3232AESU** Xenon 8RU 32x32 Digital Audio Router (Unbalanced)

#### 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:

**XE-IP32S** 32 Standard Definition inputs  
**XE-IP32H** 32 HD/SD inputs  
**XE-OP32HS** 32 HD/SD outputs  
**XE-OP32S** 32 Standard Definition inputs  
**XE-IP32-AESB** 32 AES Balanced inputs  
**XE-IP32-AESU** 32 AES Unbalanced inputs  
**XE-OP32-AESB** 32 AES Balanced outputs  
**XE-OP32-AESU** 32 AES Unbalanced outputs