Extron
Specifications

FOX3 Matrix 320x

TRUE 4K specification

Max. 4K Capabilities		
Resolution and Refresh Rate	**Chroma Sampling**	**Max. Bit Depth per Color**
4096 x 2160 at 60 Hz[1]	4:4:4	8 bit
3840 x 2160 at 60 Hz[1]		
4096 x 2160 at 30 Hz[1]		10 bit
3840 x 2160 at 30 Hz[1]		
4096 x 2160 at 60 Hz[2]	4:2:2	12 bit
3840 x 2160 at 60 Hz[2]		
4096 x 2160 at 30 Hz[2]	4:4:4	
3840 x 2160 at 30 Hz[2]		

Frame rate[3] ..... 24, 25, 30, 50, or 60 fps
Chroma sampling[3] 4:4:4, 4:2:2
Color bit depth[2,3] ..... 8, 10, or 12 bits per color
Signal type ..... HDMI 2.0, HDCP 2.3
Max. video data rate ..... 18.0 Gbps

NOTE: [1]Supports lossless 4K video over one fiber or uncompressed 4K video over two fibers.
[2]Supports 12-bit color bit depth for uncompressed 4K video over two fibers. When using a FOX3 SR scaling receiver, the scaler must be in bypass mode to pass 4K video with a 12-bit color bit depth.
[3]Subject to the maximum data rate limit. Use our calculator at **www.extron.com/8Kdatarate** to determine video parameters supported by this data rate.

NOTE: This product contains Class 1 laser. It meets the safety regulation of IEC 60825-1, FDA 21 CFR 1040.10, and FDA 21 CFR 1040.11.

NOTE: HDMI protocol exceptions:
Consumer Electronics Control (CEC) signaling across the HDMI interface is not supported.
Ethernet signal transport is not supported (HDMI pin 14 is not connected).
Return Audio channel (ARC) is not supported (HDMI pin 14 is not connected).

Software

Configuration software ..... Product Configuration Software (PCS)
Utilities ..... Toolbelt, embedded web page

Optical specifications

Number/type ..... 8 singlemode or 8 multimode SFPs per board
Connectors ..... 16 LC connectors per I/O board
Signal type ..... 8 to 320 fiber optic signals
Routing ..... 8 x 8 up to 320 x 320 unidirectional matrix or
4 x 4 up to 160 x 160 bidirectional matrix

Specifications • FOX3 Matrix 320x (Continued)

Operating distance

Singlemode	20 km (12.4 miles) with singlemode (SM) cables
Multimode	500 m (1640 feet) with 50 µm OM4 4700 MHz bandwidth laser optimized multimode cables

NOTE: The system works with OM1, OM2, and OM3 fiber at reduced distances.

NOTE: Operating distance is approximate. These are typical distances. The maximum distance may be greater than these typical numbers depending on factors such as fiber type, fiber bandwidth, connector splicing, losses, modal or chromatic dispersion, environmental factors, and kinks.

Nominal peak wavelength	850 nm for multimode (MM), 1310 nm for singlemode (SM)
Transmission power	
Singlemode	-5.2 dBm, minimum
Multimode	-2.8 dBm, minimum
Receiver sensitivity	
Singlemode	-12.6 dBm, maximum
Multimode	-11.1 dBm, maximum
Optical loss budget	
Singlemode	+7.4 dB, maximum
Multimode	+8.3 dB, maximum
Maximum channel data rate	10 Gbps

Audio input/output board

Number/signal type	4 analog stereo inputs, balanced/unbalanced 4 analog stereo outputs, balanced/unbalanced
Connectors	(8) 3.5 mm captive screw connector, 5 pole
Source formats	2 channel LPCM
Impedance	≥10 k ohms unbalanced, ≥20 k ohms balanced
Nominal level	+4 dBu (1.23 Vrms), -10 dBV (316 mVrms)
Maximum level	+21 dBu balanced, +15 dBu unbalanced
Gain range	Adjustable, -18 dB to +24 dB, 1 dB steps
Gain	Unbalanced output: -6 dB; balanced output 0 dB (default)
Frequency response	20 Hz to 20 kHz, ±0.5 dB
THD + Noise	<0.1% @ 20 Hz to 20 kHz at nominal level
S/N	>90 dB at maximum output (unweighted)
CMRR	65 dB @ 20 Hz to 20 kHz
Output impedance	50 ohms unbalanced, 100 ohms balanced (analog only)
Maximum level (Hi-Z)	+21 dBu balanced, +15 dBu unbalanced
Gain error	± 0.5 dB channel to channel
Volume control range	-100 dB to 0 dB (0-100 in 1 dB steps)
Crosstalk	≤-80 dB @ 1 kHz, fully loaded
Stereo channel separation	>80 dB @ 1 kHz
Bit depth	16, 20, 24
Sampling rate	48 kHz

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

AT ports — Dante audio transport

Transmission type	Dante/AES-67, software selectable
Connectors	2 RJ-45 to Dante interface
Inputs	Up to 32 stereo channels
Outputs	Up to 32 stereo channels
Audio format	24 bit uncompressed at 48 kHz sampling rate
Latency	Deterministic, based on user selections: 0.25 ms, 0.5 ms, 1.0 ms (default), 2.0 ms, 5.0 ms

Specifications • FOX3 Matrix 320x (Continued)

EXP port

Transmission type	Proprietary
Connector	1 RJ-45
Inputs	8 stereo channels Rx
Outputs	8 stereo channels Tx
Audio format	Uncompressed, 24-bit, 48 kHz
EXP cable	Shielded CAT6 up to 10 meters

Communications

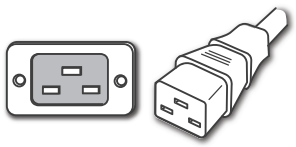
USB configuration port	
Number/type	1 front panel mini USB B, female
Standard	Ethernet over USB
Serial control port	1 RS-232, 3.5 mm captive screw connector, 3-pole, female, rear panel
Baud rate and protocol	300 to 115200 baud (default: 9600), 8 data bits, 1 stop bit, no parity
Serial control pin configuration	Captive screw: 1 = Tx, 2 = Rx, 3 = GND
Ethernet control	
Ethernet port	1 RJ-45 connector, female
Ethernet data rate	10/100/1000Base-T, half/full duplex with autodetect
Protocols	ARP, ICMP (ping), DHCP, DNS, HTTPS, SFTP, SSH, TCP/IP, UDP/IP
Default settings	Link speed and duplex level = autodetected IP address = 192.168.254.254 Subnet mask = 255.255.255.0 Gateway = 0.0.0.0 DHCP = off
Web server	Up to 200 simultaneous sessions 7.0 MB non-volatile memory
Program control	Extron Product Configuration Software Extron Simple Instruction Set (SIS™)

USB host ports

Number/signal type	1-port USB HID 1-port USB 2.0
Connectors	0 (Virtual USB)
USB 2.0	
Maximum built-in USB hubs	1
Minimum built-in USB hubs	1
USB HID	
Maximum built-in USB hubs	0
Minimum built-in USB hubs	0

General

Power supply	Internal **(IEC 60320 C20 inlet)** North America: Input: 120 VAC, 50-60 Hz, **20A** Input: 240 VAC, 50-60 Hz, **15A** Other regions: Input: 100-120 VAC, 50-60 Hz, minimum **15A** Input: 200-240 VAC, 50-60 Hz, minimum **7A** A redundant power supply is standard.



Specifications • FOX3 Matrix 320x (Continued)

Power consumption	Enclosure without boards: 178 watts Enclosure fully loaded with 40 MM boards: 1001 watts Enclosure fully loaded with 40 SM boards: 1165 watts Each MM board: 20.1 watts Each SM board: 23.1 watts
Ambient temperature/humidity.....	Storage: -40 to +158°F (-40 to +70°C) / 10% to 90%, noncondensing Operating: +32 to +122°F (0 to +50°C) / 10% to 90%, noncondensing
Cooling.....	Fan, right to left (as viewed from front panel)
Thermal dissipation, full load	MM: 3416 BTU/hr SM: 3977 BTU/hr
Mounting	
Rack mount	Yes
Enclosure type	Metal
Enclosure dimensions.....	21.0" H x 17.0" W x 20.0" D (12U high, full rack wide) (53.3 cm H x 43.2 cm W x 50.8 cm D) (Depth excludes connectors and handles. Width excludes rack ears.)
Product weight (fully loaded).....	126 lbs (57 kg)
Regulatory compliance	CE, c-UL, C-tick, FCC Class A, ICES, UL, VCCI Complies with the appropriate requirements of RoHS, WEEE.
Product warranty.....	3 years parts and labor

NOTE: All nominal levels are at ±10%.

NOTE: Specifications are subject to change without notice.

NOTE: Shipping weights and dimensions are available at **www.extron.com**.

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