

Specifications

FOX3 Matrix 40x

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 rate³ 24, 25, 30, 50, or 60 fps
 Chroma sampling³ 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: ¹Supports lossless 4K video over one fiber or uncompressed 4K video over two fibers.
²Supports 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.
³Subject 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.

Optical specifications

Number/type 8 singlemode or 8 multimode SFPs per board
 Connectors 16 LC connectors per I/O board
 Signal type 8 to 40 fiber optic signals
 Routing 8 x 8 up to 40 x 40 unidirectional matrix or
 4 x 4 up to 20 x 20 bidirectional matrix
 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.

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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)
Data rate.....	10.0 Gbps (1 fiber) or 20.0 Gbps (2 fibers)
Transmission power	
Singlemode	-5.2 dBm, typical
Multimode	-3.3 dBm, typical
Maximum receiver sensitivity	
Singlemode	-12.6 dBm, typical
Multimode	-13.0 dBm, typical
Optical loss budget	
Singlemode	+7.4 dB, maximum
Multimode	+9.7 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

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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.....	
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™)

General

Power supply	Internal, 2* (positive-negative), primary and redundant, hot-swappable
	Input: 100-240 VAC, 50-60 Hz
	*A redundant power supply is standard.
Power consumption.....	Enclosure without boards: 66 watts
	Enclosure fully loaded with 5 MM boards: 157 watts
	Enclosure fully loaded with 5 SM boards: 174 watts
	Each MM board: 20.1 watts
	Each SM board: 23.1 watts
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: 535 BTU/hr
	SM: 594 BTU/hr
Mounting	
Rack mount.....	Yes
Enclosure type	Metal
Enclosure dimensions	7.0" H x 17.0" W x 20.0" D (4U high, full rack wide)
	(17.8 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)	45 lbs (20 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%.

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NOTE: Specifications are subject to change without notice.

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

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