

# Specifications

## FOX II T HD 4K

### TRUE 4K specification

Max. 4K Capabilities		
Resolution and Refresh Rate	Chroma Sampling	Max. Bit Depth per Color
4096 x 2160 at 30 Hz	4:4:4	8 bit
3840 x 2160 at 30 Hz		
4096 x 2160 at 120 Hz		
3840 x 2160 at 120 Hz		
4096 x 2160 at 60 Hz		10 bit
3840 x 2160 at 60 Hz		

Frame rate<sup>1</sup> ..... 24, 25, 30, 50, 60, or 120 fps

Chroma sampling<sup>1</sup> ..... 4:4:4

Color bit depth<sup>1</sup> ..... 8 or 10 bits per color

Signal type ..... DVI 1.0, HDMI 1.4a, HDCP 1.4

Max. video data rate ..... 8.91 Gbps per connection

**NOTE:** <sup>1</sup>Subject to the maximum data rate limit. Use our calculator at [www.extron.com/4KdataRate](http://www.extron.com/4KdataRate) to determine video parameters supported by this data rate.

**NOTE:** This product requires two parallel connections to achieve 4K at 50 or 60 fps at 8 bits per color.

**NOTE:** This product requires four parallel connections to achieve 4K at 50 or 60 fps at 10 bits per color.

**NOTE:** This product requires four parallel connections to achieve 4K at 120 fps at 8 bits per color.

**NOTE:** The analog audio signal(s) is (are) digitized in the transmitter, sent through the fiber cable, and converted back to analog audio in the compatible receiver.

**NOTE:** These transmitters are class 1 laser products. They meet the safety regulations of IEC-60825.

### Optical fiber interconnection between transmitter and receiver

Number/type ..... 2 fiber optic

Connectors ..... 2 LC connectors

Operating distance

    Singlemode ..... 30 km (18.75 miles) with singlemode (SM) cables

    Multimode ..... 300 m (984') with 62.5 μm OM1 multimode (MM) cables

    1 km km (3280') with 50 μm OM2 multimode (MM) cables

    2 km (6561') with 50 μm OM3/OM4 2000/4700 MHz bandwidth laser optimized multimode cables

**NOTE:** Operating distance is approximate. These are typical maximum distances that may vary 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, 1310 nm for singlemode
Data rate.....	4.25 Gbps
Transmission power	
Singlemode .....	-5 dBm, typical
Multimode .....	-5 dBm, typical
Maximum receiver sensitivity	
Singlemode .....	-18 dBm, typical
Multimode .....	-12 dBm, typical
Optical loss budget	
Singlemode .....	13 dB, maximum
Multimode .....	7 dB, maximum

## Video

**NOTE:** Appropriate HDMI to DVI cables or adapters are required for DVI signal output.

Maximum data rate.....	Up to 8.91 Gbps
Maximum pixel clock.....	300 MHz
Resolution range.....	640x480 up to 4096x2160 @ 24/30 Hz or UHD (3840x2160 @ 24/30 Hz, including 2K, and 1920x1200, including 480p, 576p, 720p, 1080i @ 25/30 Hz, 1080p @50/60/120Hz
Frame rate .....	24 fps, 25 fps, 30 fps, 50 fps, or 60 fps
Color space .....	4:4:4
Color bit depth.....	10 bits for resolutions up to 1080p, 8 bits for resolutions above 1080p
Signal type.....	DVI 1.0, HDMI 1.4a, HDCP 1.4, CEA-861E
Maximum effective data rate .....	Up to 10.2 Gbps (3.0 Gbps per color)
Horizontal frequency .....	24 kHz to 135 kHz
Vertical frequency.....	40 Hz to 120 Hz
Format.....	RGB, YCbCr, and xvYCC digital video
EDID .....	Supports emulation of custom or factory preset Extended Display Identification Data (EDID) tables.

## Video input and loop through – transmitters

Number/signal type.....	1 HDMI input 1 HDMI loop-through
Connectors.....	1 female HDMI input 1 female HDMI loop-through

## Video output – See specifications for the connected receiver

### Audio

Gain	
Range .....	Adjustable, -18 dB to +24 dB
Default	
Captive screw connector ...	Balanced output: 0 dB (default); unbalanced output: -6 dB
Mini stereo jack.....	Unbalanced output: 0 dB
Frequency response .....	20 Hz to 20 kHz, $\pm 0.5$ dB
THD + Noise.....	0.10% @ 1 kHz at nominal level
S/N.....	>90 dB at maximum output (unweighted)
CMRR.....	65 dB @ 20 Hz to 20 kHz
Audio bits per sample .....	16, 20, 24 bit
Sampling rate.....	32 kHz, 44.1 kHz, 48 kHz

## Audio input

Number/signal type.....	1 digital audio, de-embedded from HDMI or 2 inputs: 1 balanced stereo 1 unbalanced stereo or 2 unbalanced mono
Connectors.....	1 female HDMI (shared with video input) (1) 3.5 mm stereo jack (1) 3.5 mm captive screw connector, 5 pole
Impedance.....	≥ 20k ohms balanced
Nominal level.....	+4 dBu (1.23 Vrms), -10 dBV (316 mVrms)
Maximum level.....	+21.0 dBu, balanced at 1% THD+N (5-pole); +15.0 dBV, unbalanced (3.5 mm stereo)
Source formats.....	LPCM, Dolby Digital EX, Dolby® Digital 2/0, Dolby Digital 2/0 Surround, DTS Digital Surround 5.1, DTS-ES Matrix 6.1, DTS-ES Discrete 6.1

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

## Audio output – See specifications for the connected receiver

## Audio return input – See specifications for the connected receiver

### Audio return output

Number/signal type.....	1 stereo/mono, balanced
Connectors.....	(1) 3.5 mm captive screw connector, 5 pole
Impedance.....	100 ohms balanced (analog only)
Nominal level.....	+4 dBu (1.23 Vrms)
Maximum level (Hi-Z).....	+12.0 dBu , balanced at 1% THD+N

## Communications

Serial control port	
Control.....	1 female mini USB port B (front panel) 1 RS-232, 3.5 mm captive screw connector, 5-pole (3 pins are used), rear panel
Pass-through.....	1 RS-232, 3.5 mm captive screw connector, 5-pole (3 pins are used), rear panel
Baud rate and protocol	
Control.....	9600 baud, 8 data bits, 1 stop bit, no parity
Pass-through.....	9600 to 115,200 baud
Serial control pin configuration.....	Captive screw: 1 = Tx, 2 = Rx, 3 = Gnd
Program control.....	Extron control/configuration program for Windows® Extron Simple Instruction Set (SIS™)
IR control port.....	(1) 3.5 mm captive screw connector, 5 pole (connector is shared with RS-232 pass thru) TTL level (0 to 5V) modulated infrared control from 30kHz to 40 kHz
IR control pin configuration.....	3 = Gnd, 4 = IR Tx, 5 = IR Rx

## General

Power supply.....	Internal Input: 100-240 VAC, 50-60 Hz
Power consumption.....	18.5 watts, 12 VDC
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, front to back
Thermal dissipation.....	62.1 BTU/hr
Mounting	
Rack mount.....	Yes, with optional rack shelf
Furniture mount.....	Yes, with optional under desk mounting kit
Enclosure type.....	Metal

Enclosure dimensions .....	1.75" H x 8.7" W x 8.5" D (half rack wide) (4.4 cm H x 22.1 cm W x 21.6 cm D) (Depth excludes connectors.)
Product weight .....	2.2 lbs (1.0 kg)
Vibration .....	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety .....	CE, c-UL, UL
EMI/EMC.....	CE, C-tick, FCC Class A, ICES, VCCI
Environmental.....	Complies with the appropriate requirements of RoHS, WEEE.
Warranty .....	3 years parts and labor

**NOTE:** All nominal levels are at  $\pm 10\%$ .

**NOTE:** Specifications are subject to change without notice.

**NOTE:** Shipping weights and dimensions are available at [www.extron.com](http://www.extron.com).

8.1-110316-D5