

Specifications

XTP FR HD 4K

TRUE 4K Specification

Max. 4K Capabilities		
Resolution and Refresh Rate	Chroma Sampling	Max. Bit Depth per Color
4096 x 2160 at 24 Hz	4:4:4	8 bit
3840 x 2160 at 30 Hz		
3840 x 2160 at 60 Hz	4:2:0	

Frame rate¹ 24, 25, 30, 50, or 60 fps
 Chroma sampling¹ 4:4:4, 4:2:2, or 4:2:0
 Color bit depth¹ 8 bits per color
 Signal type DisplayPort 1.1, DVI 1.0, HDMI 1.4a, HDCP 1.4
 Max. video data rate 8.91 Gbps (2.97 Gbps per color)

NOTE: ¹Subject to the maximum data rate limit. Use our calculator at www.extron.com/4Kdata rate to determine video parameters supported by this data rate.

NOTE: The XTP FR HD 4K receiver can be used with XTP transmitters, with a fiber optic cable linking the transmitter and receiver, or with other Extron XTP products.

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

Video

Gain Unity
 Resolution range Up to 2560x1600 @ 60 Hz* or
 4K (4096x2160) @ 24 Hz, UHD (3840x2160) @ 30 Hz,
 UHD @ 60 Hz with 4:2:0 chroma subsampling
 * reduced blanking
 Signal type Single-link HDMI (or DVI-D or DisplayPort)
 Color bit depth 8, 10, or 12 bits — subject to the maximum data rate limit
 Maximum data rate 8.91 Gbps (2.97 Gbps per color)
 Maximum pixel clock 300 MHz
 Formats RGB and YCbCr digital video
 Standards DisplayPort 1.1, DVI 1.0, HDMI 1.4a, HDCP 1.4

Specifications • XTP FR HD 4K (Continued)

Optical fiber interconnection between transmitter and receiver

Number/signal type.....	1 set of proprietary signals
Connectors.....	1 LC fiber connector
Operating distance	

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.

Singlemode.....	10 km (6.21 miles) with singlemode cable
Multimode.....	400 m (1312') with 50 μ m OM3 2000 MHz bandwidth laser optimized multimode cable
	500 m (1640') with 50 μ m OM4 4700 MHz bandwidth laser optimized multimode cable

NOTE: Multimode units are compatible with OM1 and OM2 multimode cables, but at reduced operating distances.

Nominal peak wavelength	
Singlemode.....	1490 nm, 1550 nm, 1310 nm
Multimode.....	850 nm, 980 nm, 780 nm
Data Rate.....	8.5 Gbps
Transmission power	
Singlemode.....	-6 dBm, typical
Multimode.....	-5 dBm, typical
Maximum receiver sensitivity	
Singlemode.....	-15 dBm, typical
Multimode.....	-13 dBm, typical
Optical loss budget	
Singlemode.....	9 dB, maximum
Multimode.....	8 dB, maximum

Video output

Number/signal type.....	1 single link HDMI (or DVI-D)
Connectors.....	1 female HDMI type A

Audio

Gain.....	Unbalanced output: 0 dB; balanced output: +6 dB
Frequency response.....	20 Hz to 20 kHz, \pm 0.05 dB
THD + Noise.....	<0.1% @ 20 Hz - 20 kHz at nominal level
S/N.....	>90 dB, at maximum balanced output (unweighted)
Crosstalk.....	\leq -80 dB @ 1 kHz, fully loaded
Stereo channel separation.....	>80 dB @ 1 kHz
Sampling rates.....	32 kHz, 44.1 kHz, 48 kHz, 96 kHz, 192 kHz
Bit depths.....	16, 20, 24 bit

Specifications • XTP FR HD 4K (Continued)

Audio output

Number/signal type.....	1 analog stereo (2-channel), balanced/unbalanced 1 digital audio, embedded with HDMI output 1 digital audio via S/PDIF output connector
Connectors.....	(1) 3.5 mm captive screw connector, 5 pole 1 female HDMI type A (shared with video output) 1 female RCA jack
Supported formats	
HDMI.....	LPCM up to 7.1/192 kHz, Dolby Atmos™, Dolby TrueHD, Dolby Digital Plus™, Dolby Digital EX, Dolby Digital 5.1, Dolby Digital 2/0 Surround, Dolby Digital 2/0, DTS-HD Master Audio™, DTS-HD, DTS-ES Discrete 6.1, DTS-ES Matrix 6.1, DTS-Digital Surround 5.1
S/PDIF.....	2-channel LPCM up to 48 kHz, Dolby® Digital EX, Dolby Digital 5.1, Dolby Digital 2/0 Surround, Dolby Digital 2/0, DTS-ES Discrete 6.1, DTS-ES Matrix 6.1, DTS Digital Surround 5.1
Analog.....	Analog stereo
Impedance	
Analog.....	50 ohms unbalanced, 100 ohms balanced
Digital	75 ohms (for S/PDIF output)
Maximum level (Hi-Z).....	>+12 dBV balanced; +6 dBV unbalanced
Gain error.....	±0.5 dB channel to channel
Volume control range	-100 dB to 0 dB (control 0 to 100 in 1 dB steps)

NOTE: Attenuation = volume number minus 64. The default is 0 dB = volume number 64.

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

Communications – receiver

USB control ports	1 front panel female mini USB B
USB standards	USB 2.0, low speed
Program control.....	Extron control/configuration program for Windows® Extron Simple Instruction Set (SIS™)

Communications – external device (pass-through, unidirectional or bidirectional)

Serial control pass-through port.....	RS-232 (±5 V) via (1) 3.5 mm, 5-pole captive screw connector (uses 3 poles) (connector is shared with the IR control port)
Baud rates.....	Up to 115200 baud
Protocol.....	Data bits = 5 - 8 Stop bits = 1 or 2 Parity = odd, even, none Flow control = XON, XOFF, none
Serial control pin configuration	1 = Tx, 2 = Rx, 3 = Gnd
IR control port.....	(1) 3.5 mm, captive screw connector, 5 pole (uses 3 poles) (connector is shared with the RS-232 control port) TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 56 kHz
IR control pin configuration	3 = Gnd, 4 = IR Tx, 5 = IR Rx
Ethernet pass-through port.....	1 female RJ-45 connector
Ethernet data rate	10/100Base-T, full duplex with autodetect
Relay number/type.....	2 normally open relays
Relay control connectors	(1) 3.5 mm captive screw connectors, 4 pole
Relay control contact rating.....	24 V, 1 A

Specifications • XTP FR HD 4K (Continued)

General

Power supply	External Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 1.5 A, 18 watts
Power consumption	
Device	5.4 watts
Device and power supply	6.8 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	Convection, vents on sides and top
Thermal dissipation	
Device	17.2 BTU/hr
Device and power supply	22.1 BTU/hr
Mounting	
Rack mount.....	Yes, with optional 1U high rack shelf
Furniture mount.....	Yes, with optional under-desk mounting kit
Enclosure type	Metal
Enclosure dimensions	1.0" H x 8.75" W x 6.0" D (half rack wide) (2.5 cm H x 22.2 cm W x 15.2 cm D) (Depth excludes connectors.)
Product weight	1.6 lbs (0.7 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety.....	CE, c-UL, UL, IEC 60825-1
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 ±10%.

NOTE: Specifications are subject to change without notice.

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

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