Specifications

XTP SFR 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 rate[1] ..... 24, 25, 30, 50, or 60 fps
Chroma sampling[1] ..... 4:4:4, 4:2:2, or 4:2:0
Color bit depth[1] ..... 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: [1]Subject to the maximum data rate limit. Use our calculator at **www.extron.com/4Kdatarate** to determine video parameters supported by this data rate.

NOTE: The XTP SFR HD 4K scaling receiver can be used with XTP transmitters, with fiber optic cables 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
** bypass mode only
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 (600 MHz for 4K rates with 4:2:0 chroma subsampling)
Formats ..... RGB and YCbCr digital video
Standards ..... DisplayPort 1.1, DVI 1.0, HDMI 1.4a, HDCP 1.4

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 µm OM3 2000 MHz bandwidth laser optimized multimode cable
700 m (2297') with 50 µm 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 processing

Digital sampling..... 24 bit, 8 bits per color, 297 MHz standard

Colors..... 16.78 million

Video output

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

Connectors..... 1 female HDMI type A

Scaled resolutions..... 640x480[8], 800x600[8], 1024x768[8], 1280x768[8], 1280x800[8], 1280x1024[8], 1360x768[8], 1366x768[8], 1400x1050[8], 1440x900[8], 1600x900[8], 1600x1200[8], 1680x1050[8], 1920x1200[8], 2048x1200[8], 2048x1536[8], 2560x1080[8], 2560x1440[8], 2560x1600[8], bypass*
HDTV: 480p[7,8], 576p[6], 720p[3,4,5,6,7,8], 1080i[6,7,8], 1080p[1,2,3,4,5,6,7,8], 1920x2160[1,2,3,4,5,6,7,8], 2048x1080[1,2,3,4,5,6,7,8], 2048x2160[1,2,3,4,5,6,7,8], 3840x2160[1,2,3,4,5], bypass*
[1] = 23.98 Hz, [2] = 24 Hz, [3] = 25 Hz, [4] = 29.97 Hz, [5] = 30 Hz, [6] = 50 Hz, [7] = 59.94 Hz, [8] = 60 Hz.

NOTE: * When the output resolution is set to "bypass," the input signal is output without being scaled.

Audio

Gain	Unbalanced output: 0 dB; balanced output: +6 dB
Frequency response	20 Hz to 20 kHz, ±0.5 dB
THD + Noise	<0.1%, 20 Hz - 20 kHz at nominal level
S/N	>90 dB, at maximum balanced output (unweighted)
Crosstalk	≤-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

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

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 (tip, ring)
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 unblanced
Gain error	±0.5 dB channel to channel
Volume control	-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.

Communications — receiver

Serial control port	1 bidirectional RS-232: 1 rear panel 3.5 mm captive screw connector, 3 pole
Baud rate and protocol	9600 (default) to 115200 baud, 8 data bits, 1 stop bit, no parity
Serial control pin configuration	1 = Tx, 2 = Rx, 3 = Gnd
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

General

External power supply	External Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 1.5 A, 18 watts
Power consumption	
Device	7.6 watts
Device and power supply	9.4 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, no vents
Thermal dissipation	
Device	24.6 BTU/hr
Device and power supply	30.8 BTU/hr
Mounting	
Rack mount	Yes, with optional 1U rack shelf
Furniture mount	Yes, with optional under-desk mounting kit
Pole mount	Attachable to a projector mount pole with optional PMK 350 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	CE, c-UL, UL, IEC 60825-1, C-tick, FCC Class A, ICES, VCCI Complies with the appropriate requirements of RoHS and 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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