

## Specifications

### DTP DVI 230 4K Tx/Rx

#### 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 60 Hz	4:2:0	
3840 x 2160 at 60 Hz		

Frame rate<sup>1</sup> ..... 24, 25, 30, 50, or 60 fps  
 Chroma sampling<sup>1</sup> ..... 4:4:4, 4:2:2, or 4:2:0  
 Color bit depth<sup>1</sup> ..... 8 bits per color  
 Signal type ..... HDMI 1.4, HDCP 2.2  
 Max. video data rate ..... 10.2 Gbps (3.4 Gbps per color)

**NOTE:** <sup>1</sup>Subject to the maximum data rate limit. Use our calculator (<http://www.extron.com/product/videotools.aspx>) to determine video parameters supported by this data rate.

**NOTE:** This product consists of a transmitter (DTP DVI 4K 230 Tx) and a receiver (DTP DVI 4K 230 Rx), sold separately, with a twisted pair cable linking the transmitter and receiver.

**NOTE:** \*Appropriate DVI-D to HDMI cables or adapters are required for DVI signal input/output.

#### Video

Maximum data rate ..... 10.2 Gbps (3.4 Gbps per color)  
 Maximum pixel clock ..... 300 MHz  
 Resolution range ..... Up to 2560x1600\* @ 60 Hz or  
 4K (4096x2160) @ 30 Hz, UHD (3840x2160) @ 30 Hz,  
 4K/UHD @ 60 Hz with 4:2:0 chroma subsampling  
 (\* reduced blanking)  
 Color bit depth ..... 8, 10, or 12 bits — subject to the maximum data rate limit  
 Formats ..... RGB and YCbCr digital video  
 Standards ..... DVI 1.0, HDMI 1.4, HDCP 2.2, CEA-861E

#### Video input – transmitter

Number/signal type ..... 1 single link DVI-D (or HDMI\*) input  
 1 single link DVI-D (or HDMI\*) local loop-through  
 Connectors ..... 2 female DVI-I

#### Interconnection between transmitter and receiver

Connectors ..... 1 female RJ-45 per unit  
 Termination standard ..... TIA/EIA T568B  
 Signal transmission distance  
 1080p @ 60 Hz ..... Up to 230' (70 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable  
 2560x1600 @ 60 Hz ..... Up to 130' (40 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable  
 4K/UHD @ 30Hz and 60 Hz .... Up to 130' (40 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable

## Specification • DTP DVI 230 4K Tx/Rx (Continued)

Cable requirements.....	Solid conductor, 24 AWG or better
Cable recommendations.....	400 MHz bandwidth, STP (shielded twisted pair)

**NOTE:** Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance.

### Video output – receiver

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

### Audio

Gain.....	Unbalanced output: 0 dB; balanced output +6 dB
Frequency response .....	20 Hz to 20 kHz, $\pm 0.5$ dB
THD + Noise.....	0.03% @ 20 Hz to 20 kHz at maximum output
S/N.....	>90 dB, at maximum output (15 dBu), balanced (unweighted)
Stereo channel separation.....	>80 dB @ 1 kHz to 20 kHz

### Audio input

Number/signal type.....	1 PC level stereo, unbalanced
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**NOTE:** Analog audio is not embedded onto the digital video signal. Embedded digital audio is not de-embedded from the digital video signal.

Connectors.....	(1) 3.5 mm stereo jack, 2 channel; tip (L), ring (R), sleeve (ground)
Impedance.....	>10k ohms, DC coupled
Nominal level.....	-10 dBV (316 mVrms)
Maximum level.....	+7 dBV (unbalanced)

**NOTE:** 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV  $\approx$  2 dBu

### Audio output

Number/signal type.....	1 stereo (2 channel), balanced/unbalanced
Connectors.....	(1) 3.5 mm captive screw connector, 5 pole
Impedance.....	50 ohms unbalanced, 100 ohms balanced
Gain error.....	$\pm 0.1$ dB channel to channel
Maximum level (600 ohm) .....	>+11 dBu, balanced

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

Serial control port input/output	
Transmitter .....	RS-232 via (1) 3.5 mm, 5 pole captive screw connector for RS-232 control ( $\pm 5$ V) (connector is shared with IR control port)
Receiver .....	1 set of proprietary signals on a female RJ-45 jack
Serial control port output/input	
Transmitter .....	1 set of proprietary signals on a female RJ-45 jack
Receiver .....	RS-232 via a 3.5 mm, 3 pole captive screw connector
Baud rate and protocol .....	300 to 115200 baud, 8 or 7 data bits, 1 or 2 stop bits, non-parity (default), even or odd parity
Serial control pin configuration .....	1 = Tx, 2 = Rx, 3 = GND
IR control port.....	(1) 3.5 mm, captive screw connector, 5 pole (connector is shared with RS-232 control port) TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 60 kHz
IR control pin configuration .....	3 = GND, 4 = IR Tx, 5 = IR Rx

# Specification • DTP DVI 230 4K Tx/Rx (Continued)

## General

Power supply ..... External  
Input: 100-240 VAC, 50-60 Hz  
Output: 12 VDC, 1.5 A, 18 watts

### Power consumption

#### Transmitter

Device ..... 3.4 watts, 12 VDC  
Device and power supply... 4.8 watts, 100-240 VAC, 50-60 Hz

#### Receiver

Device ..... 4.2 watts, 12 VDC  
Device and power supply... 5.8 watts, 100-240 VAC, 50-60 Hz

**NOTE:** Each transmitter or receiver can be powered either locally by an external power supply or remotely by receiver or transmitter on the other end of the twisted pair cable.

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

#### Transmitter

Device ..... 10.3 BTU/hr  
Device and power supply... 15.1 BTU/hr

#### Receiver

Device ..... 13.0 BTU/hr  
Device and power supply... 18.6 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

Transmitter ..... 1.0" H x 4.3" W x 3.0" D (quarter rack wide)  
(2.5 cm H x 10.9 cm W x 7.6 cm D)  
(Depth excludes connectors.)

Receiver ..... 1.0" H x 4.3" W x 6.0" D (quarter rack wide)  
(2.5 cm H x 10.9 cm W x 15.2 cm D)  
(Depth excludes connectors.)

### Product weight

Transmitter ..... 0.5 lbs (0.3 kg)

Receiver ..... 1.0 lb (0.5 kg)

Regulatory compliance..... CE, c-UL UL, CE\*\*, C-tick, FCC Class A\*\*, ICES, VCCI,  
UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release,  
excluding the power supply.  
Complies with the appropriate requirements of RoHS, WEEE

**NOTE:** \*\*CE and FCC testing is conducted with STP (shielded twisted pair) I/O cable.

Product warranty ..... 3 years parts and labor

Everlast power supply warranty..... 7 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](http://www.extron.com).

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