

Specifications

IN1804 Series

TRUE 4K specifications

Max. 4K Capabilities		
Resolution and Refresh Rate	Chroma Sampling	Max. Bit Depth per Color
4096 x 2160 at 60 Hz ²	4:4:4	8 bit
3840 x 2160 at 60 Hz		10 bit
4096 x 2160 at 30 Hz		
3840 x 2160 at 30 Hz		
4096 x 2160 at 60 Hz	4:2:0	8 bit
3840 x 2160 at 60 Hz		

Frame rate ¹	24, 25, 30, 50, 60, 120, 144, or 240 fps
Chroma sampling ¹	4:4:4, 4:2:2, and 4:2:0
Color bit depth ¹	8 or 10 bits per color
Signal type.....	DVI 1.0, HDMI 1.4 and 2.0, DisplayPort 1.2, HDCP 1.4 and 2.3
Max. video data rate ¹	
HDMI.....	18 Gbps (6 Gbps per color)
DisplayPort.....	21.6 Gbps (5.4 Gbps per lane)

NOTES:

- ¹Subject to the maximum data rate limit. Use our calculator at www.extron.com/8KdataRate to determine video parameters supported by this data rate.
- ²4096 x 2160/50-60 at 4:4:4 is available only for HDMI and DisplayPort connections.

NOTE: DTP2 ports are backwards-compatible with DTP endpoints for resolutions up to 4K @ 30 Hz, 4:4:4, or 4K @ 60 Hz, 4:2:0.

Video input

Number/signal type	
All models.....	1 DisplayPort (HDCP compliant)
IN1804 and IN1804 DO.....	3 HDMI/DVI (HDCP compliant)
IN1804 DI and IN1804 DI/DO ..	2 HDMI/DVI (HDCP compliant)
	1 DTP2/XTP configurable (HDCP compliant)
Connectors	
All models.....	1 female DisplayPort
IN1804 and IN1804 DO.....	3 female HDMI type A
IN1804 DI and IN1804 DI/DO ..	2 female HDMI type A
	1 female RJ-45
Horizontal frequency	15 KHz to 270 KHz for resolutions up to 18 Gbps
Vertical frequency.....	24 Hz to 240 Hz for resolutions up to 18 Gbps
Resolution range.....	640x480 to 4096x2160, 480i, 480p, 576i, 576p, 720p, 1080i, 1080p, and 2K 3840x2160 (up to 60 Hz) to 4096x2160 (up to 60 Hz)
Input cable equalization.....	Automatic

Specification • IN1804 Series (Continued)

Input cable length At 4096x2160@ 60 Hz, 4:4:4, 8 color bits:
 HDMI Ultra/DisplayPort Ultra — Up to 12 feet (3.6 meters)
 HDMI Pro — 25 feet (7.6 meters)

NOTE: Lower resolutions may support longer transmission distances. Transmission distance varies depending on signal resolution, type of cable, and source device used in system.

Standards DVI 1.0, HDMI 1.4 and 2.0, DisplayPort 1.2, HDCP 1.4 and 2.3

Video processing

Digital sampling 8 or 10 bits per color; 600 MHz pixel clock maximum
 Colors 1.07 billion (10 bit 4:4:4 processing)

Video output

Number/signal type

IN1804 and IN1804 DI 2 HDMI/DVI (HDCP compliant)
 IN1804 DO and IN1804 DI/DO 1 HDMI/DVI (HDCP compliant)
 1 DTP2/XTP/HDBT configurable (HDCP compliant)

Connectors

IN1804 and IN1804 DI 2 female HDMI type A
 IN1804 DO and IN1804 DI/DO 1 female HDMI type A
 1 female RJ-45

Power for active cables

IN1804 and IN1804 DI 1.1 W max for each HDMI port
 2.2 W total power for all HDMI ports

IN1804 DO and IN1804 DI/DO 1.1 W max for the HDMI port

HDMI peripheral device power 250 mA per output (HDMI outputs only)

Scaled resolution 640x480⁸, 800x600⁸, 1024x768⁸, 1280x768⁸, 1280x800⁸, 1280x1024⁸,
 1360x768⁸, 1366x768⁸, 1440x900⁸, 1400x1050⁸, 1600x900⁸, 1680x1050⁸,
 1600x1200⁸, 1920x1200⁸, 2048x1200⁸, 2048x1536⁸, 2560x1080⁸, 2560x1440⁸,
 2560x1600⁸, 3840x2160^{1,2,3,4,5,6^{*},7^{*},8^{*}}, 4096x2160^{1,2,3,4,5,6^{**},7^{**},8^{**}}
 480p^{7,8}, 576p⁶, 720p^{3,4,5,6,7,8}, 1080i^{6,7,8}, 1080p^{1,2,3,4,5,6,7,8}, 2K^{1,2,3,4,5,6,7,8}

¹23.98 Hz, ²24 Hz, ³25 Hz, ⁴29.97 Hz, ⁵30 Hz, ⁶50 Hz, ⁷59.94 Hz, ⁸60 Hz

^{*}4.4 chroma available only over HDMI or DTP2 outputs

^{**}4.4 chroma available only over HDMI outputs

Output cable length At 4096x2160 @ 60 Hz, 4:4:4, 8 color bits:
 HDMI Ultra — Up to 9 feet (2.7 meters)
 HDMI Pro — Up to 25 feet (7.6 meters)

NOTE: Lower resolutions may support longer transmission distances. Transmission distance varies depending on the signal resolution, type of cable, and equalization capabilities of the display in the system.

Standards DVI 1.0, HDMI 1.4 and 2.0, HDCP 1.4 and 2.3

Audio

Gain Unbalanced output: -6 dB; balanced output: 0 dB

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 balanced output (unweighted)

Crosstalk ≤-80 dB @ 1 kHz, fully loaded

Stereo channel separation >80 dB @ 1 kHz

Supported formats

Analog de-embedding LPCM-2Ch

HDMI pass-through LPCM up to 7.2/24-bit/192 kHz, Dolby TrueHD, Dolby Digital Plus,
 Dolby Digital EX, Dolby Digital 5.1, Dolby Digital 2/0 Surround, Dolby Digital 2/0,
 Dolby Atmos 7.2, DTS-HD, DTS ES Discrete 6.1, DTS ES Matrix 6.1,
 DTS Digital Surround 5.1, DTS 2-channel

Specification • IN1804 Series (Continued)

Audio input

Number/signal type	
IN1804 and IN1804 DO.....	1 stereo, line level, balanced or unbalanced 4 embedded HDMI/DisplayPort
IN1804 DI.....	2 stereo line level, balanced or unbalanced (1 analog, 1 DTP2) 3 embedded HDMI/DisplayPort 1 embedded DTP2/XTP
Connectors	
IN1804 and IN1804 DO.....	(1) 3.5 mm, 5 pole captive screw 1 female DisplayPort 3 female HDMI type A
IN1804 DI and IN1804 DI/DO ..	(1) 3.5 mm, 5 pole captive screw 1 female DisplayPort 2 female HDMI type A 1 female RJ-45
Impedance.....	>10k ohms unbalanced, >20k ohms balanced
Nominal level.....	Line input: +4 dBu (1.23 Vrms), -10 dBV (316 mVrms), adjustable
Maximum level.....	+21 dBu balanced, +15 dBu unbalanced
CMRR.....	>65 dB @ 1 kHz
Input gain adjustment.....	-18 dB to +24 dB (analog input only)

NOTE: Unbalanced analog inputs applied at a DTP2 transmitter input have +12 dB of gain applied to bring the signal to a nominal level (IN1804 DI and IN1804 DI/DO only).

Audio output

Number/signal type	
All models.....	1 stereo/mono, balanced or unbalanced
IN1804 and IN1804 DI.....	2 HDMI, embedded
IN1804 DO and IN1804 DI/DO	1 HDMI, embedded 1 DTP2/XTP/HDBT (embedded digital and remote balanced/unbalanced analog*) *Available only in DTP2 mode
Connectors	
All models.....	(1) 3.5 mm, 5 pole captive screw
IN1804 and IN1804 DI.....	2 female HDMI type A
IN1804 DO and IN1804 DI/DO	1 female HDMI type A 1 female RJ-45
Impedance.....	50 ohms unbalanced, 100 ohms balanced
Gain error.....	±0.5 dB channel to channel
Maximum level (Hi-Z).....	>+21 dBu, balanced; >+15 dBu, unbalanced
Output volume range	0 to -100 dB in 1 dB steps

NOTE: System gain for the analog DTP2 receiver output is rated at -12 dB (unbalanced) and -6 dB (balanced) (IN1804 DO and IN1804 DI-DO only).

Communications – scaling presentation switcher

Serial control port.....	1 bidirectional RS-232, 3.5 mm, 3 pole captive screw (rear panel)
Baud rate and protocol	9600, 8 data bits, 1 stop bit, no parity (default)
Serial control pin configuration	1 = Tx, 2 = Rx, 3 = Gnd
USB control port.....	1 female mini USB B (front panel)
USB standards	USB 2.0, high speed

Specification • IN1804 Series (Continued)

Ethernet	
Connector	1 female RJ-45
Ethernet data rate.....	10/100/1000Base-T, half/full duplex with autodetect
Ethernet protocol.....	ARP, ICMP (ping), IP, TCP, DHCP, HTTP, Telnet
Ethernet default settings.....	Link speed and duplex level = autodetected IP address = 192.168.254.254 Subnet mask = 255.255.0.0 Gateway = 0.0.0.0 DHCP = off
Storage	512 MB user memory
Contact/tally ports	7 sets (2 pins each) of contact and tally ports 1 set (1 pin each) of +V and G Tally output power +5 VDC, 0.2 A
Program control.....	Extron Product Configuration Software (PCS) for Windows® Extron Simple Instruction Set™ (SIS™) Microsoft® Internet Explorer®

Communications — external device (RS-232/IR over DTP2/XTP/HDBaseT)

Serial control pass-through port.....	RS-232 can be transmitted to and from twisted pair endpoints via Ethernet insertion (IN1804 DI, IN1804 DO, and IN1804 DI/DO only).
Baud rates.....	Up to 115200 baud
Protocol.....	6 to 8 data bits 1 or 2 stop bits Even or odd parity, no parity (default) Flow control = XON, XOFF, none
IR control pass-through ports	TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 60 kHz
IN1804 DI and IN1804 DI/DO input/TP Tx	IR via (1) 3.5 mm, 3 pole captive screw connector
IN1804 DO and IN1804 DI/DO output/TP Rx	IR via (1) 3.5 mm, 3 pole captive screw connector
IR control pin configuration.....	1 = Tx, 2 = Rx, 3 = Gnd

General

Power supply	Internal Input: 100-240 VAC, 50-60 Hz
Power consumption	
Full power	
IN1804	29 watts
IN1804 DI	46 watts
IN1804 DO	42 watts
IN1804 DI/DO.....	57 watts
Power save mode	
IN1804	16 watts
IN1804 DI	17 watts (24 watts for Psav2)
IN1804 DO	19 watts (24 watts for Psav2)
IN1804 DI/DO.....	18 watts (33 watts for Psav2)
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	2 fans, air flows front to rear
Fan noise	39 dB(A) (ISO3746:2010 variable speed fan measured at max speed)

Specification • IN1804 Series (Continued)

Thermal dissipation

Full power

IN1804	94 BTU/hr
IN1804 DI	127 BTU/hr
IN1804 DO	124 BTU/hr
IN1804 DI/DO	156 BTU/hr

Power save mode

IN1804	50 BTU/hr
IN1804 DI	54 BTU/hr (74 BTU/hr for Psav2)
IN1804 DO	61 BTU/hr (67 BTU/hr for Psav2)
IN1804 DI/DO	56 BTU/hr (92 BTU/hr for Psav2)

Mounting

Rack mount	Yes, with optional rack shelf
Furniture mount	Yes, with optional under-desk or through-desk mounting kit

Enclosure type Metal

Enclosure dimensions 1.66" H x 8.68" W x 11.5" D (1U high, half rack wide)
(4.2 cm H x 22.0 cm W x 29.2 mm D)
(Depth excludes connectors and buttons.)

Product weight 2.9 lbs (1.3 kg)

Regulatory compliance..... CE, c-UL, UL, PSE, RoHs, and WEEE

Product warranty 3 years parts and labor

Everlast power supply warranty..... 7 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.

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