

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		
4096 x 2160 at 30 Hz		10 bit
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	24, 25, 30, 50, or 60 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 v1.0, HDMI v1.4 and v2.0, DisplayPort v1.2, HDCP v1.4 and v2.2
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/4Kdata rate to determine video parameters supported by this data rate.
- ²4096 x 2160/50-60 at 4:4:4 is only available for HDMI and DisplayPort connections.

Video input

Number/signal type	
All models	1 DisplayPort (HDCP compliant)
IN1804 and IN1804 DO	3 HDMI/DVI (HDCP compliant)
IN1804 DI	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	2 female HDMI type A
	1 female RJ-45
Horizontal frequency	15 kHz to 135 kHz
Vertical frequency	24 Hz to 75 Hz
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)
Standards	DVI v1.0, HDMI v1.4 and v2.0, DisplayPort v1.2, HDCP v1.4 and v2.2

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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.....	1 HDMI/DVI (HDCP compliant) 1 DTP2/XTP/HDBT configurable (HDCP compliant)
Connectors	
IN1804 and IN1804 DI.....	2 female HDMI type A
IN1804 DO.....	1 female HDMI type A 1 female RJ-45
HDMI peripheral device power	250 mA per output (HDMI outputs only)
Scaled resolution	640x480 ⁸ , 800x600 ⁸ , 1024x768 ⁸ , 1280x768 ⁸ , 1280x800 ⁸ , 1280x1024 ⁸ , 1360x768 ⁸ , 1366x768 ⁸ , 1440x900 ⁸ , 1400x1050 ⁸ , 1600x900 ⁸ , 1680x1050 ⁸ , 1600x1200 ⁸ , 1920x1200 ⁸ , 2048x1200 ⁸ , 2048x1536 ⁸ , 2560x1080 ⁸ , 2560x1440 ⁸ , 2560x1600 ⁸ , 3840x2160 ^{1,2,3,4,5,6*,7*,8*} , 4096x2160 ^{1,2,3,4,5,6**,7**,8**} 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} , 2K ^{1,2,3,4,5,6,7,8} *4.4.4 chroma available only over HDMI or DTP2 outputs **4.4.4 chroma available only over HDMI outputs
Vertical frequency.....	23.98 Hz ¹ , 24 Hz ² , 25 Hz ³ , 29.97 Hz ⁴ , 30 Hz ⁵ , 50 Hz ⁶ , 59.94 Hz ⁷ , 60 Hz ⁸
Standards	DVI v1.0, HDMI v1.4 and v2.0, HDCP v1.4 and v2.2

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

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.....	(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

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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 only).

Audio output

Number/signal type

All models..... 1 stereo/mono, balanced or unbalanced
IN1804 and IN1804 DI..... 2 HDMI, embedded
IN1804 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..... 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).

Communications

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

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)

NOTE: The "Over TP" IR connections are simply pass-through connections to twisted pair endpoints, and there is no IR insert from any IN1804 control port. RS-232 can be inserted from the IN1804 Ethernet connection.

IR control pass-through ports TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 60 kHz

IN1804 DI input/TP Tx..... IR via (1) 3.5 mm, 3 pole captive screw connector

IN1804 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

Specification • IN1804 Series (Continued)

Serial control insert via Ethernet

Baud rates.....	Up to 115200 baud
Protocol.....	6 - 8 data bits 1 or 2 stop bits no parity (default) even or odd parity flow control = XON, XOFF, none

General

Power supply	Internal Input: 100-240 VAC, 50-60 Hz
Power consumption	
Full power	
IN1804	28 watts
IN1804 DI	36 watts
IN1804 DO	38 watts
Power save mode	
IN1804	19 watts
IN1804 DI	26 watts
IN1804 DO	26 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	2 fans, air flows front to rear
Fan noise	TBD dB (A)
Thermal dissipation	
Full power	
IN1804	91 BTU/hr
IN1804 DI	112 BTU/hr
IN1804 DO	110 BTU/hr
Power save mode	
IN1804	63 BTU/hr
IN1804 DI	78 BTU/hr
IN1804 DO	71 BTU/hr
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	
IN1804	2.9 lbs (1.3 kg)
IN1804 DI	2.9 lbs (1.3 kg)
IN1804 DO	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.