Specifications

IN1808 Series

TRUE 4K specification

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[3]
3840 x 2160 at 30 Hz		
4096 x 2160 at 60 Hz	4:2:0[4]	
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 and 4:2:2; 4:2:0 (at input only)
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:

- [1] Subject to the maximum data rate limit. Use our calculator at **www.extron.com/8Kdatarate** to determine video parameters supported by this data rate.
- [2] 4096 x 2160/50-60 at 4:4:4 is only available for HDMI and DisplayPort connections.
- [3] DTP2 and XTP are 8 bits per color for all 4096 x 2160 formats.
- [4] 4:2:0 chroma sub-sampling is supported at input only.

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 ..... 1 DisplayPort
5 HDMI/DVI
1 HDMI/DVI loop-out, configurable (non-scaled, with CEC)
2 DTP2/XTP-configurable
Connectors ..... 1 female DisplayPort
5 female HDMI type A
1 female HDMI type A loop-out
2 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 @ 60 Hz through 4096x2160 @ 60 Hz with 4:4:4 chroma sampling
Includes 480i, 480p, 576i, 576p, 720p, 1080i, 1080p, 2K, and 4K.
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	1 HDMI/DVI (with CEC) 1 DTP2/XTP/HDBT, configurable (with CEC)
Connectors	1 female HDMI type A 1 female RJ-45
Power for active cables	1.1 W max. for the HDMI and loop out ports
Peripheral device power	250 mA per output (HDMI and loop 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**], and Custom 1-8 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] [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 *Available on the HDMI output or to a DTP2 Rx **Available on the HDMI output only
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 up to 2.0/24-bit/96 kHz
HDMI pass-through	LPCM up to 7.1/24-bit/192 kHz, Dolby Atmos, Dolby TrueHD, and Dolby legacy formats, DTS:X, DTS-HD Master Audio, DTS 96/24, and DTS legacy formats

Audio input

Number/signal type	2 stereo line level, balanced or unbalanced 2 mono mic/line level, balanced or unbalanced, (with available phantom power) 6 stereo, de-embedded from HDMI/DisplayPort (PCM only) 2 DTP2/XTP (de-embedded HDMI—PCM only, or remote unbalanced analog*) *Available only in DTP mode
Connectors	(2) 3.5 mm, 5 pole captive screw for line (2) 3.5 mm, 3 pole captive screw for mic/line 5 female HDMI type A 1 female DisplayPort 2 RJ-45 female
Impedance	>10K ohms unbalanced, >20K ohms balanced
Nominal level	Line inputs: +4 dBu (1.23 Vrms), -10 dBV (316 mVrms), adjustable Mic/line inputs: -60 dBV, +4 dBu, -10 dBV, adjustable
Maximum level	Line inputs: +21 dBu balanced, +15 dBu unbalanced Mic/line inputs: -60 dBV, +4 dBu, -10 dBV, adjustable
CMRR	70 dB @ 1 kHz
Input gain adjustment	Line inputs: -18 dB to +24 dB in 0.1 dB steps, adjustable per input LPCM-2Ch inputs: -18 dB to +24 dB in 0.1 dB steps, adjustable per input Mic/line inputs: -18 dB to +60 dB in 0.1 dB steps, adjustable per input
DC phantom power	+48 VDC ±10% (can be switched on or off per mic/line input)

NOTE: Unbalanced analog inputs applied at a DTP2 transmitter input have +12 dB of gain applied to bring the signal up to a nominal level.

Audio output — Line out

Number/signal type	2 stereo or 4 mono, balanced/unbalanced 2 HDMI, embedded (Loop Out does not support breakaway or audio DSP.) 1 DTP2/XTP/HDBT (embedded digital, and remote balanced/unbalanced analog*) *Available only in DTP mode
Connectors	(2) 3.5 mm, 5 pole captive screw 2 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 0.1 dB steps (Volume control not available on loop output)

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

Audio output — power amplifier — IPCP models only

Number/signal type	
SA models	1 stereo (default) or 2 mono (2 channels total)
MA 70 models	1 mono, 70 V line
Connectors	
SA models	(1) 5 mm, 4 pole, screw lock captive screw
MA 70 models	(1) 5 mm, 2 pole, screw lock captive screw

NOTE: The 5 mm screw lock captive screw connector accepts wires of 22 AWG to 12 AWG.

Load impedance	
SA models	4 ohms minimum
MA 70 models	50 ohms minimum
Amplifier type	Class D
Output power	
SA models	25 watts per channel, 8 ohms, 1 kHz, 0.1% THD, or 50 watts per channel, 4 ohms, 1 kHz, 0.1% THD
MA 70 models	100 watts (rms) @ 70 V, 1 kHz, 0.1% THD
Protection	Clip limiting, thermal, short circuit, DC output
Frequency response	20 Hz to 20 kHz, -3 dB to +1 dB @ 1 W
THD + Noise	<0.1% @ 1 kHz, 3 dB below clipping
S/N	>90 dB, 20 Hz to 20 kHz, unweighted

Communications

Serial control port	1 bidirectional RS-232, 3.5 mm, 3 pole captive screw connector (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* *IPCP models use IPCP Ethernet ports.
Ethernet data rate	10/100/1000Base-T, half/full duplex with autodetect
Ethernet protocol	ARP, DHCP, DNS, HTTP (redirect), HTTPS, IEEE 802.1X, ICMP, NTP, SFTP, SMTP, SNMP, SSH, TCP/IP, Telnet, UDP/IP

Ethernet default settings	Link speed and duplex level = autodetected IP address = 192.168.254.254 Subnet mask = 255.255.255.0 Gateway = 0.0.0.0 DHCP = off
Storage	512 MB user memory
Program control	Extron Product Configuration Software (PCS) program for Windows® Extron Simple Instruction Set (SIS™) Microsoft® Internet Explorer®

Communications — IPCP Pro Control Processor with AV LAN — IPCP models only

Control processor	
IPCP models	IPCP Pro 355M
IPCP Q models	IPCP Pro 355MQ xi
Memory	
SDRAM	
IPCP models	512 MB
IPCP Q models	2 GB
Flash	
IPCP models	4.5 GB
IPCP Q models	8 GB
Software and control options	
Configuration software	Extron Global Configurator Plus and Professional for Windows®
Programming software	Global Scripter®
Control applications	GlobalViewer®, eBus®, TouchLink® for Web, Touchlink for iPad®, or TouchLink Pro touchpanels
Resource management software	GlobalViewer® Enterprise
Utilities	Toolbelt, embedded web page
Hardware user interface	
Hardware	TouchLink® Pro touchpanels, NBP button panels, or eBUS® button panels
Ethernet control	
Network interface controllers (NICs)	2: 1 LAN, 1 AV LAN
AV LAN network switch	1 unmanaged 3 port switch
Connectors	
LAN	1 female RJ-45
AV LAN	3 female RJ-45
Ethernet data rate	10/100/1000Base-T, half/full duplex with autodetect
Protocols	ARP, DHCP, DNS, HTTP (redirect), HTTPS, IEEE 802.1X, ICMP, NTP, SFTP, SMTP, SNMP, SSH, TCP/IP, UPD/IP
Default settings	
LAN	IP address = 192.168.253.250 Subnet mask = 255.255.255.0 Gateway = 0.0.0.0 DHCP = Off DNS = 127.0.0.1
AV LAN	Link speed and duplex level = autodetect DHCP server = disabled IP address = 192.168.254.250 Subnet mask = 255.255.255.0 Gateway = 0.0.0.0
DHCP server disabled	IP address = 192.168.254.250 DNS = 127.0.0.1
DHCP server enabled	IP address = 192.168.254.1 Dynamic leased IP address pool = 192.168.254.100 – 192.168.254.149 Maximum lease count = 50 Lease time = 24 hours

Serial

Quantity/type	1 bidirectional RS-232, RS-422, RS-485 (port 1) 2 bidirectional RS-232 (ports 2 and 3)
Connectors	(1) 3.5 mm captive screw connector, 5 pole (2) 3.5 mm captive screw connectors, 3 pole
Baud rate and protocol	300 to 115200 baud (9600 baud = default) 8 (default) or 7 data bits 1 (default) or 2 stop bits no parity (default), even, or odd parity

NOTE: The 5-pole ports support both hardware and software flow control.
The 3-pole ports support software flow control.
The default for both types of ports is no flow control.

Pin configurations

Serial, 5-pole captive screw	
RS-232 (default)	Pin 1 = Tx, 2 = Rx, 3 = Gnd, 4 = RTS, 5 = CTS
RS-422	Pin 1 = Tx-, 2 = Rx-, 3 = Gnd, 4 = Tx+, 5 = Rx+
RS-485	Pins 1 and 2 (tied together) = data-, 3 = Gnd, 4 and 5 (tied together) = data+
Serial, 3-pole captive screw	Pin 1 = Tx, 2 = Rx, 3 = Gnd

Digital I/O

Quantity/type	4 digital input/output (configurable)
Connectors	(1) 3.5 mm captive screw connector, 5 pole
Digital inputs	
Input voltage range	0 to 24 VDC, clamped at +30 VDC
Input impedance	>10k ohms
Programmable pullup	1k ohms to +5 VDC
Threshold low to high	2.8 VDC
Threshold high to low	2.0 VDC
Digital outputs	250 mA sink from 24 VDC max.
Pin configurations	1, 2, 3, 4 = digital I/Os 1, 2, 3, 4; 5 = Gnd

IR/serial

Quantity/type	2 programmable: unidirectional RS-232 (±5 V), or TTL level (0 to 5 V) infrared (carrier and non-carrier) up to 300 kHz
Connector	(1) 3.5 mm captive screw connector, 5-pole
Baud rate and protocol (RS-232)	300 to 115200 baud (9600 baud = default); 8 (default) or 7 data bits; 1 (default) or 2 stop bits; no parity (default), even, or odd parity
Pin configurations	For each port, pin 1 = signal, 2 = Gnd
IR output carrier frequency	30 kHz to 300 kHz

Relay

Quantity/type	4 normally open relays
Relay control connectors	(1) 3.5 mm captive screw connector, 6 pole
Relay control contact rating	24 VDC, 1 A

eBUS control

eBUS control ports	(1) 3.5 mm captive screw connector, 5 pole (uses 4 poles)
eBUS pin configuration	+V = +12 VDC; +S = + signal; -S = - signal; G = ground
Recommended cable type	Extron STP20-2/1000 or STP20-2P/1000 cable
Maximum system cable length	1000 feet (305 meters) sum total for the eBUS system, regardless of topology. Power injection may be required depending on system cabling topology and primary power supply wattage. See the ***eBUS Technology Reference Guide*** for details.
eBUS power output	6 watts

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

Serial control pass-through ports	DTP2 Tx/XTP matrix to IN1808: RS-232 can be transmitted to and from DTP2 Tx/XTP matrix via Ethernet insertion. IN1808 to DTP2 Rx/HDBT Rx/XTP matrix: RS-232 can be transmitted to and from DTP2 Rx/HDBT Rx/XTP matrix via Ethernet insertion.
Baud rates	Up to 115200 baud
Protocol	6 to 8 data bits 1 or 2 stop bits Even or odd parity, no parity Flow control = XON, XOFF, none
IR control pass-through port	IN1808 to TP Rx: (1) 3.5 mm, 3 pole captive screw connector TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 60 kHz
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	
IN1808	94 watts
IN1808 IPCP models	140 watts
Power save mode	
IN1808	34 watts (65 watts for Psav2)
IN1808 IPCP models	70 watts (95 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	
IN1808	2 fans, air flows from right to left (when viewed from the front)
IN1808 IPCP models	1 fan, air flows from right to left (when viewed from the front)
Thermal dissipation	
Full power	
IN1808	197 BTU/hr
IN1808 IPCP models	313 BTU/hr
Power save mode	
IN1808	116 BTU/hr (152 BTU/hr for Psav2)
IN1808 IPCP models	177 BTU/hr (190 BTU/hr for Psav2)
Mounting	
Rack mount	Yes, with included, preinstalled brackets
Enclosure type	Metal
Enclosure dimensions	
IN1808	1.75" H x 17.5" W x 10.5" (1U high, full rack wide) (44 mm H x 444 mm W x 267 mm D)
IN1808 IPCP models	3.50" H x 17.5" W x 10.5" D (2U high, full rack wide) (89 mm H x 444 mm W x 267 mm D)
Product weight	
IN1808	5.3 lbs (2.4 kg)
IN1808 IPCP SA and IN1808 IPCP MA 70	8.0 lbs (3.6 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 ±10%.

NOTE: Specifications are subject to change without notice.

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

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