

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/8Kdata rate 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 (HDCP compliant) 5 HDMI/DVI (HDCP compliant) 1 HDMI/DVI loop-out, configurable (HDCP compliant, non-scaled) 2 DTP2/XTP-configurable, HDCP compliant |
| 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 2.0, DisplayPort 1.2, HDCP 1.4 and 2.3 |

Specifications • IN1808 Series (Continued)

Video processing

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|-----------------------|---|
| 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 (HDCP compliant) 1 DTP2/XTP/HDBT, configurable (HDCP compliant) |
| 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} |
| Standards | 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-2Ch |
| HDMI pass-through..... | LPCM up to 7.1/24-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 Master Audio, 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..... | 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 |

Specifications • IN1808 Series (Continued)

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|----------------------------|---|
| 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 \pm 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..... | \pm 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 | |
| IN1808 IPCP SA..... | 1 stereo (default) or 2 mono (2 channels total) |
| IN1808 IPCP MA 70 | 1 mono, 70 V line |
| Connectors | |
| IN1808 IPCP SA..... | (1) 5 mm, 4 pole, screw lock captive screw |
| IN1808 IPCP MA 70 | (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 | |
| IN1808 IPCP SA..... | 4 ohms minimum |
| IN1808 IPCP MA 70 | 50 ohms minimum |
| Amplifier type | Class D |
| Output power | |
| IN1808 IPCP SA..... | 25 watts per channel, 8 ohms, 1 kHz, 0.1% THD, or 50 watts per channel, 4 ohms, 1 kHz, 0.1% THD |
| IN1808 IPCP MA 70 | 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 |

Specifications • IN1808 Series (Continued)

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, ICMP (ping), IP, TCP, DHCP, HTTP, Telnet |
| Ethernet default settings..... | Link speed and duplex level = autodetected IP address = 192.168.254.254 Subnet mask = 255.255.255.0 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

Memory

| | |
|-------------|--------|
| SDRAM | 512 MB |
| Flash | 4.5 GB |

Software and control options

| | |
|------------------------------|---|
| Configuration software..... | Extron Global Configurator Plus and Professional for Windows® |
| Programming software | Global Scriptor® |
| 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 |
|-------------------------|---|

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|----------------|---|
| Protocols..... | DHCP, DNS, HTTP, HTTPS, ICMP, IEEE 802.1X, 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 |
|------------------------|---|

Specifications • IN1808 Series (Continued)

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 <i>eBUS Technology Reference Guide</i> for details. |
| eBUS power output..... | 6 watts |

Specifications • IN1808 Series (Continued)

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 SA | 127 watts |
| IN1808 IPCP MA 70 | 126 watts |
| Power save mode | |
| IN1808 | 34 watts (65 watts for Psav2) |
| IN1808 IPCP SA | 67 watts (95 watts for Psav2) |
| IN1808 IPCP MA 70 | 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) |
| Fan noise | |
| IN1808 | 42 dB(A) (ISO3746:2010 variable speed fan measured at max. speed) |
| IN1808 IPCP models | 37 dB(A) (ISO3746:2010 variable speed fan measured at max. speed) |
| Thermal dissipation | |
| Full power | |
| IN1808 | 197 BTU/hr |
| IN1808 IPCP SA | 246 BTU/hr |
| IN1808 IPCP MA 70 | 242 BTU/hr |
| Power save mode | |
| IN1808 | 116 BTU/hr (152 BTU/hr for Psav2) |
| IN1808 IPCP SA | 165 BTU/hr (190 BTU/hr for Psav2) |
| IN1808 IPCP MA 70 | 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) (4.4 cm H x 44.4 cm W x 26.7 cm D) |
| IN1808 IPCP models | 3.50" H x 17.5" W x 10.5" D (2U high, full rack wide) (8.9 cm H x 44.4 cm W x 26.7 cm D) |

Specifications • IN1808 Series (Continued)

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|--------------------------------------|-----------------------------------|
| 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 $\pm 10\%$.

NOTE: Specifications are subject to change without notice.

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

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