

Specifications

NAV SD 101

TRUE 4K specification

Max. 4K Capabilities		
Resolution and Refresh Rate	Chroma Sampling	Max. Bit Depth per Color
4096 x 2160 at 60 Hz ¹	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	
3840 x 2160 at 60 Hz		

Frame rate² 24, 25, 30, 50, or 60 fps
 Chroma sampling² 4:4:4, 4:2:2, or 4:2:0
 Color bit depth² 8, or 10 bits per color
 Signal type DVI v 1.0, HDMI v1.4 and v2.0, HDCP v1.4 and v2.3
 Max. video data rate 18 Gbps (6 Gbps per color)

NOTE: ¹4096 x 2160 @ 50-60 Hz is available only for HDMI connectors.

NOTE: ²Subject to the maximum data rate limit. Use our calculator at www.extron.com/8KdataRate to determine video parameters supported by this data rate.

Video input stream

Number/signal type 1 PURE3[®] digital video over IP
 Connector 1 RJ-45 connector

Video processing

Digital sampling 8 or 10 bits per color; 600 MHz pixel clock maximum
 Compression PURE3
 Latency <1 frame (encode/decode)

NOTE: Indicates minimum end-to-end latency. Network and video processing dependencies may apply.

Scaling Vector[™]

Video output

NOTE: Appropriate DVI-D to HDMI or DisplayPort to HDMI cables or adapters are required for DVI or DisplayPort signal output.

Number/signal type 1 digital HDMI video
 Connectors 1 female HDMI type A
 Resolution range Up to 4K (4096x2160 at 60 Hz) and UHD (3840x2160 at 60 Hz)

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Scaled resolution	640x480 ⁸ , 800x600 ⁸ , 1024x768 ⁸ , 1280x768 ⁸ , 1280x800 ⁸ , 1280x1024 ⁸ , 1360x768 ⁸ , 1366x768 ⁸ , 1400x1050 ⁸ , 1440x900 ⁸ , 1600x900 ⁸ , 1600x1200 ⁸ , 1680x1050 ⁸ , 1920x1200 ⁸ , 2048x1200 ⁸ , 2048x1536 ⁸ , bypass* 480p ^{7,8} , 576p ⁶ , 720p ^{3,4,5,6,7,8} , 1080p ^{1,2,3,4,5,6,7,8} , 2048x1080 (2K) ^{1,2,3,4,5,6,7,8} , 2560x1080 ⁸ , 2560x1440 ⁸ , 2560x1600 ⁸ , 3840x2160 ^{1,2,3,4,5,6,7,8} , 4096x2160 ^{1,2,3,4,5,6,7,8} 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
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NOTE: When the output resolution is set to "bypass," the input signal is output without scaling.

Standards	DVI v1.0, HDMI v1.4 and v2.0, HDCP v1.4/v2.3
Formats	RGB and YCbCr digital video

Audio

Gain.....	Analog to analog: -6.5 dBu balanced, -12.5 dBu unbalanced HDMI to analog: -5.3 dBu balanced, -11.3 unbalanced
Frequency response	20 Hz to 20 kHz, ± 0.5 dB
THD + Noise	<0.1% @ 20 Hz to 20 kHz at nominal level
S/N.....	Analog to digital: >90 dB, at full scale output, unweighted Digital to analog: >90 dB, at maximum balanced output, unweighted Analog to analog: >90 dB, at maximum balanced output, unweighted
Crosstalk	≤ -80 dB @ 1 kHz, fully loaded
Stereo channel separation.....	>80 dB @ 1 kHz
Sampling rates.....	48 kHz
Bit depths	24 bit

Audio input stream

Number/signal type.....	1 audio over IP LPCM or AES67
Connector.....	1 RJ-45 connector

Audio output

Number/signal type.....	1 analog stereo, unbalanced or balanced 1 digital stereo, de-embedded from HDMI
Connectors.....	(1) 3.5 mm captive screw connector, 5 pole 1 female HDMI (shared with video output)
Supported formats.....	LPCM (2 channel), analog stereo
Impedance.....	50 ohms unbalanced, 100 ohms balanced
Maximum level (Hi-Z).....	>+15 dBv balanced, +9 dBv unbalanced
Gain error.....	± 0.5 dB channel to channel
Gain range.....	Adjustable, -18 dB to +24 dB
Volume control range	-100 dB to 0 dB (control 0 to 100 in 1 dB steps)

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

Network interconnection (NAV)

Connector type.....	1 RJ-45 female
Ethernet standards	1GbE (802.3ab), 10/100/1000 Base-T. half/full duplex with autodetect.
Termination	Auto-MDIX, TIA/EIA T568B
Power over Ethernet (PoE).....	Complies with IEEE 802.3at Type 2 (PoE+), class 4
Protocols	
Streaming.....	SRTP (AES-128) on video, audio, and USB
Transport.....	Multicast UDP
All supported	DHCP, HTTPS, IGMPv2/v3, IPv4, PTPv2, QoS, SSH, TCP, UDP
Security	AES-256, 802.1X, Active Directory authentication
Signal transmission distance.....	330' (100 m) using CAT 5e/6/6a/7 cables

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Communications - external devices

Serial

Quantity/type.....	1 bidirectional RS-232
Connector	(1) 3.5 mm captive screw connector, 5 pole (shared with IR port)
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
Pin configuration.....	Tx, Rx, and Gnd

IR control

Quantity/type.....	1 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 (shared with RS-232)
Pin configuration.....	S = signal and G = Gnd
IR output carrier frequency	30 kHz to 300 kHz

USB configuration port

Quantity/type.....	1 front panel USB mini-B
Standard	Ethernet over USB

General

Power supply	External Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 2.0 A, 24 watts
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NOTE: Each 1G endpoint can be powered either locally by an external power supply or remotely using optional PoE+.

Power consumption

Device	17.3 watts
Device and power supply	19.3 watts
PoE	Complies with IEEE 802.3at Type 2 (PoE+), class 4

Temperature/humidity

Storage:	-40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing
Operating:	+32 to +104 °F (0 to +40 °C) / 10% to 85%, noncondensing

Cooling

Fan, air flows from top to rear

Thermal dissipation

Device	58.1 BTU/hr
Device and power supply	65.0 BTU/hr
Device with PoE	62.1 BTU/hr

Mounting

Rack mount.....	Yes, with optional rack shelf
Furniture mount.....	Yes, with optional under desk mounting kit

Enclosure type

Metal

Enclosure.....

1.00" H x 8.75" W x 6.00" D (half rack wide) (25 mm H x 222 mm W x 152 mm D) (depth excludes connectors)
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Product weight

1.5 lbs (0.68 kg)

Regulatory compliance.....

CE, c-UL UL, C-tick, FCC Class A, ICES, KC, VCCI, Complies with the appropriate requirements of RoHS, 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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