

Specifications

NAV 10SD 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/8Kdata rate to determine video parameters supported by this data rate.

Video input stream

Number/signal type 1 PURE3[®] digital video over IP
 Connector 1 SFP+ connector (SM or MM)

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

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Resolution range.....	Up to 4K (4096x2160 at 60 Hz) and UHD (3840x2160 at 60 Hz)
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 , 2056x1080 ⁸ , 2560x1080 ⁸ , 2560x1440 ⁸ , 2560x1600 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} 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

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: -6.5dBu balanced, -12.5 dBu unbalanced HDMI to analog: -5.3 dBu balanced, -11.3 dBu 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 SFP+ connector (SM or MM)

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 dBu balanced, +9 dBu 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)

Number/signal type.....	2 fiber optic
Connectors.....	(1) 10G SFP+ connector, 2 LC connectors
Termination	MDI (SFP+)
Ethernet standards	10 Gb Ethernet (802.3ae), 10GBase-LR (SFP+) SM, and 10GBase-SR (SFP+) MM
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

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Signal transmission distance

Singlemode	10 km (6.25 miles) with singlemode (SM) cables with 10GBASE-LR (SFP+)
Multimode	400 m (1312') with 50/125 µm OM4 cables with 10GBase-SR (SFP+)

NOTE: Operating distance is approximate. These are typical maximum distances that may vary depending on factors such as fiber type, fiber bandwidth, connector splicing, losses, modal or chromatic dispersion, environmental factors, and kinks.

Nominal peak wavelength 850 nm for multimode, 1310 nm for singlemode

Transmission power

Singlemode	-5.2 dBm, minimum
Multimode	-3.3 dBm, minimum

Maximum receiver sensitivity

Singlemode	-12.6 dBm, maximum
Multimode	-13.0 dBm, maximum

Optical loss budget

Singlemode	7.4 dB, maximum
Multimode	9.7 dB, maximum

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

CEC control 1 HDMI type A connector

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

Power consumption

Device	21 watts
Device and power supply	24 watts

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	71.7 BTU/hr
Device and power supply	81.9 BTU/hr

Mounting

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

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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)
Product weight	1.5 lbs (0.68 kg)
Regulatory compliance.....	CE, c-UL UL,C-tick, FCC Class A, ICES, 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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