

Specifications

NAV SD 501

TRUE 4K specification – NAV SD Decoder

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	10 bit
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 v2.2
 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/4Kdata rate 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™

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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)
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 ⁸ , 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

NOTE: When the output resolution is set to "bypass," the input signal is output without scaling.

Standards.....	DVI v1.0, HDMI v2.0, HDCP v1.4/v2.2
Formats.....	RGB and YCbCr digital video

Audio

Gain.....	Unbalanced output: 0 dB, balanced output: +6 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 output, balanced (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).....	>+12 dBV balanced, +6 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

Specifications • NAV SD 501 (Continued)

Network interconnection (NAV)

Connector type.....	1 RJ-45
Ethernet standards	1 GbE (802.3ab), 10/100/1000 Base-T, half/full duplex with auto-detect
Termination	Auto-MDIX, TIA/EIA T568B
Power over Ethernet (PoE)	PoE power rating TBD
Protocols	
Streaming.....	SRTP (AES-128) on video and audio
Transport.....	Multicast UDP
All supported	DHCP, HTTPS, IGMPv2/v3, IPv4, PTPv2, QoS, SNMP (v2c), SSH, TCP, UDP, VLAN tagging
Security	AES-256, 802.1x, Active Directory authentication
Signal transmission distance	330' (100 m) using CAT 5e/6/6a/7 cables

Network extension (EXT)

Connector.....	1 RJ-45 female
Termination	Auto-MDIX, TIA/EIA T568B
Ethernet standards	100Mbps (802.3u), 10/100 Base-T, half/full duplex with autodetect
Signal transmission distance.....	330' (100 m) using CAT-5e/6/6a/7 cables

USB extension (USB)

Quantity/type	1 USB type-C port
Power	900 mA (max)
Configuration	Host or hub (default)
Host support.....	xHCI (USB 3.0), EHCI (USB 2.0), OHCI/UHCI
Data rates	Low speed (1.5 Mbps), full speed (12 Mbps), high speed (480 Mbps)
Traffic types.....	Bulk, control, interrupt, and isochronous
Hub usage.....	Min: 0 (host/per emulation off) Max: 2 (all emulation on)

NOTE: Hub usage is dependent on the system configuration.

Network switch hops	5 hops (typical)
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NOTE: Network switch hop limitations may apply. Typical limit is up to five network switches.

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

Specifications • NAV SD 501 (Continued)

General

Power supply External
Input: 100-240 VAC, 50-60 Hz
Output: TBD

NOTE: Each 1G endpoint can be powered either locally by an external power supply or remotely using optional PoE.

Power consumption
Device TBD watts nominal, TBD watts max.
Device and power supply TBD watts nominal, TBD watts max.
PoE TBD 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 85%, noncondensing

Cooling Fan, air flows from top to rear

Thermal dissipation
Device TBD BTU/hr
Device and power supply TBD 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)

Product weight TBD lbs (TBD 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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