

## Specifications

### NAV 10E 101

#### TRUE 4K specification

Max. 4K Capabilities		
Resolution and Refresh Rate	Chroma Sampling	Max. Bit Depth per Color
4096 x 2160 at 60 Hz <sup>1</sup>	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 rate<sup>2</sup> ..... 24, 25, 30, 50, or 60 fps

Chroma sampling<sup>2</sup> ..... 4:4:4, 4:2:2, or 4:2:0

Color bit depth<sup>2</sup> ..... 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:** <sup>1</sup>4096 x 2160 @ 50-60 Hz is available only for HDMI connectors.

**NOTE:** <sup>2</sup>Subject to the maximum data rate limit. Use our calculator at [www.extron.com/8Kdatarate](http://www.extron.com/8Kdatarate) to determine video parameters supported by this data rate.

#### Video input and loop through

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

Number/signal type ..... 1 digital HDMI video\*

1 digital HDMI video (loop through)

Connectors ..... 2 female HDMI type A: 1 for input, 1 for loop through

Resolution range ..... Up to 4K (4096x2160 at 60 Hz) and UHD (3840x2160 at 60 Hz)

Standards ..... DVI v1.0, HDMI v1.4 and v2.0, HDCP v1.4/v2.3

#### Video processing

Digital sampling ..... 8 or 10 bits per color; 600 MHz pixel clock maximum

Compression ..... PURE3®

Bit rate ..... 150 Mbps to 9.5 Gbps

Latency ..... <1 frame (encode/decode)\*\*

**NOTE:** \*\*Indicates minimum latency. Network and video processing dependencies apply.

#### Video output stream

Number/signal type ..... 1 PURE3 digital video over IP

Connector ..... 1 SFP+ connector (SM or MM)

## Specifications • NAV 10E 101 (Continued)

### 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, $\pm 0.5$ 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 .....	$\leq -80$ dB @ 1 kHz, fully loaded
Stereo channel separation.....	>80 dB @ 1 kHz
Sampling rates.....	32, 44.1, 48 kHz
Bit depths .....	16, 20, 24 bit

### Audio input

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 type A (shared with video input)
Supported formats.....	LPCM (2 channel), analog stereo input
Impedance.....	$\geq 10$ kohms unbalanced, $\geq 20$ kohms balanced
Nominal level.....	+4 dBu, -10 dBV configurable
Maximum level.....	+21 dBu balanced, +15 dBu unbalanced
Gain adjustment range.....	Adjustable, -18 dB to +10 dB

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

### Audio output stream

Number/signal type.....	1 audio over IP LPCM 1 audio over IP AES67*
Connector.....	1 SFP+ connector (SM or MM)

**NOTE:** \*AES67 specifications are compatible with the Extron DSPs.

### 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
Signal transmission distance	
Singlemode .....	10 km (6.25 miles) with singlemode (SM) cables with 10GBASE-LR (SFP+)
Multimode .....	400 m (1312') with 50/125 $\mu$ m 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

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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
Contact closure	
Quantity/type.....	1 contact closure input
Connector .....	(1) 3.5 mm captive screw connector, 2 pole (shared with tally)
Input voltage range.....	0 to 5 VDC, clamped at +5.1 VDC
Pin configuration.....	C = contact input (+5 VDC) (Ground is supplied by HDMI connector on an Extron Show-Me cable)
Tally port	
Quantity/type.....	1 tally output
Connector .....	(1) 3.5 mm captive screw connector, 2 pole (shared with contact closure)
Pin configuration.....	T = tally output (GND) (+5 VDC is supplied by HDMI connector on an Extron Show-Me cable)
USB configuration port	
Quantity/type.....	1 front panel USB mini-B
Standard .....	Ethernet over USB

# Specifications • NAV 10E 101 (Continued)

## 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
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 ±10%.

**NOTE:** Specifications are subject to change without notice.

**NOTE:** Shipping weights and dimensions are available at [www.extron.com](http://www.extron.com).

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