

Extron

Specifications

SMP 400 Series

TRUE 4K specification

HDMI

Max. 4K Capabilities		
Resolution and Refresh Rate	Chroma Sampling	Max. Bit Depth per Color
4096 x 2160 at 60 Hz	4:4:4	8 bit
3840 x 2160 at 60 Hz		
4096 x 2160 at 30 Hz		12 bit
3840 x 2160 at 30 Hz		
4096 x 2160 at 60 Hz	4:2:0	
3840 x 2160 at 60 Hz		

SDI

Max. 4K Capabilities		
Resolution and Refresh Rate	Chroma Sampling	Max. Bit Depth per Color
4096x2160 at 30 Hz	4:4:4	10 bit
3840x2160 at 30 Hz		
4096x2160 at 60 Hz	4:2:2	
3840x2160 at 60 Hz		

Frame rate ¹	24, 25, 30, 50, or 60 fps
Chroma sampling ¹	4:4:4, 4:2:2, or 4:2:0
Color bit depth ¹	8, 10, or 12 bits per color
Signal type	HDMI v1.4 and v2.0, HDCP v1.4 and v2.2, 6G-SDI, 12G-SDI
Max. video data rate	
HDMI	18.0 Gbps (6 Gbps per color)
SDI	11.88 Gbps

NOTE: ¹Subject to the maximum data rate limit. Use our calculator at www.extron.com/8Kdata rate to determine video parameters supported by this data rate.

Input

Number/signal type	3 HDMI/DVI digital video (HDCP compliant)
	SDI model: 1 12G/6G/3G/HD/SD-SDI
Connectors	3 female HDMI type A
	SDI model: 1 female BNC
Nominal level	0.8 Vp-p for 3G-SDI
Impedance	75 ohms for SDI
Horizontal frequency	24 kHz to 75 kHz
Vertical frequency	24 Hz to 75 Hz
Resolution range	Up to 4K (4096x2160 at 60 Hz) and UHD (3840x2160 at 60 Hz), 480i, 576i and 1080i supported on Channel A only
Return loss	≥15 dB @ 5 MHz to 2.97 GHz for SDI

Specifications • SMP 400 Series (Continued)

Standards.....	HDMI 1.4 and 2.0, HDCP 1.4, HDCP 2.2, DVI 1.0 SDI: SMPTE 292M, SMPTE 424M, SMPTE 372M, SMPTE ST-2081, SMPTE ST-2082 ITU-RBT.601, ITU-BT.709, ITU-RTU.1120
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Video processing

Digital sampling.....	8-, 10-, or 12-bits per channel
Digital processing.....	4:2:2, 10-bits per color
Compression.....	H.264/AVC, H.265/HEVC Encoding profiles: High, Main, Baseline, Main 10, Main 4:2:2 10 Encoding levels: 5.2, 5.1, 4.1, 4.0, 3.2, 3.1, 3.0; configurable GOP
Bit rate.....	200 kbps to 200 Mbps
Bit rate control.....	Selectable (variable, constrained, or constant)
Latency	Encode: 55 msec* Encode/decode: 350 msec* *Indicates minimum latency. Encoder, decoder, and network dependencies apply.

Video output

Number/signal type	4 H.264/AVC or H.265/HEVC digital video over Ethernet 1 HDMI/DVI (HDCP compliant)
Connectors.....	2 female RJ-45 (streaming) 1 female HDMI type A
Scaled resolution	640x480, 848x480, 1024x768, 1280x720, 1280x1024, 1920x1080*, 2048x1080, 2560x1440, 2560x1600, 3840x2160, 4096x2160, custom
Frame rate	Up to 60 fps for all output rates
Maximum total encoded resolution	4096x2160 at 60 fps
Formats.....	H.264/AVC, H.265/HEVC

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

Recording and storage

File system for USB storage	FAT32, NTFS, VFAT long file name extensions, exFAT, EXT2, EXT3, EXT4
File types.....	H.264/H.265 and AAC in an MP4 container, JPEG, JSON, XML
File transfer protocols	FTP, SFTP, NFS
Network file share protocols.....	SMB 2.0, 2.1, 3.0, 3.1, NFS
Resolution	640x480, 848x480, 1024x768, 1280x720, 1280x1024, 1920x1080*, 2048x1080, 2560x1440, 2560x1600, 3840x2160, 4096x2160, custom
Recording frame rate support	Up to 60 fps for all output rates
Internal storage capacity.....	512 GB (430 GB for recording files)
External USB ports	1 (front panel), 1 (rear panel), USB 3.1 (Each port is current limited to 1.5 A.)
Logo & background image format.....	PNG

Audio input

Analog	
Number/signal type	1 stereo, balanced or unbalanced 1 stereo, balanced or unbalanced, or 2 mono mic/line level balanced or unbalanced (with available phantom power)
Connectors	(1) 3.5 mm captive screw connectors, 5-pole (2) 3.5 mm captive screw connectors, 3-pole for mic/line
Digital	
Number/signal type	3 stereo, digital de-embedded from HDMI SDI model: 1 stereo, digital de-embedded
Connectors	3 female HDMI type A SDI model: 1 female BNC
Impedance	>10k ohms unbalanced, >20k ohms balanced
Nominal level	+4 dBu (1.23 Vrms), -10 dBV (316 mVrms), adjustable via input gain

Specifications • SMP 400 Series (Continued)

Maximum level.....	+18 dBu, (balanced or unbalanced)
CMRR	>70 dB @ 20 Hz to 20 kHz
Input gain adjustment.....	Line inputs: -18 dB to +24 dB, 1 dB steps, adjustable per input Mic/line inputs: -18 dB to +60 dB, 1 dB steps, adjustable per input
DC phantom power.....	+48 VDC $\pm$ 10% (can be switched on or off per mic input)

Audio system (line input to line output)

Gain	-6 dB unbalanced, 0 dB balanced
Frequency response	20 Hz to 20 kHz, $\pm$ 0.5 dB
THD + Noise	<0.03%, 20 Hz to 20 kHz at maximum output
S/N	>90 dB, at maximum balanced output (unweighted)
Stereo channel separation	>90 dB @ 1 kHz
Crosstalk	$\leq$ -103 dB, at 20 Hz to 20 kHz, full loaded
Bass	+12 dB to -24 dB @ 100 Hz
Treble	+12 dB to -24 dB @ 8 kHz

Audio processing

Sampling rate.....	16 bit, 48 kHz sampling
Compression.....	AAC-LC MPEG-4 (ISO/IEC 14496-3:2005)
Bit rate.....	64 kbps to 384 kbps, stereo

Audio output — analog

Number/signal type.....	1 stereo, balanced/unbalanced
Connectors.....	(1) 3.5 mm captive screw connector, 5 pole
Impedance	50 ohms unbalanced, 100 ohms balanced
Maximum level (Hi-Z).....	>+18 dBu balanced, +12 dBu unbalanced
Gain error.....	$\pm$ 0.1 dB channel to channel

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

Audio output — digital

Number/signal type.....	1 stereo, HDMI (embedded) 1 AAC-LC digital audio over Ethernet
Connector	1 female HDMI type A 2 female RJ-45

Digital I/O control

Number/signal type.....	4 digital input/output (configurable)
Connector	(1) 3.5 mm captive screw connector, 5-pole
Digital inputs	
Input voltage range.....	0 to 24 VDC, clamped at +30 VDC
Input impedance.....	29k 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 maximum
Pin configurations	1, 2, 3, 4 = digital I/O numbers 1, 2, 3, 4. 5 = Gnd

Communication

USB	
USB configuration port	1 front panel female USB type-C
USB standards	USB 2.0
USB protocols	RNDIS, ECM, IPv4, USB Suspend

Specifications • SMP 400 Series (Continued)

Serial control

Serial control port	1 bidirectional RS-232, rear panel 3.5 mm captive screw connector, 3-pole
Host control	Host control (Extron SIS), bidirectional
Protocols	Data bits: 7 or 8 (default) Stop bits: 1 (default) or 2 Parity: odd, even, or no (default) Flow control: no flow control (default)
Baud rates	9600 (default), 19200, 38400, 57600, 115200
Serial control pin configurations	1 = Tx, 2 = Rx, 3 = Gnd

Ethernet

Ethernet host port	2 female RJ-45
Ethernet data rate	10/100/1000Base-T, half/full duplex with autodetect
Maximum Transmission Unit ..	68 - 1500 MTU, adjustable
Protocols	
Streaming	Pull: RTP/RTCP (RFC 3550), RTSP (RFC 2326), Interleaved RTSP (RTP/RTSP), RTP/RTSP tunneled through HTTP unicast or multicast Push: MPEG2-TS/UDP* (ISO/IEC 13818-1), MPEG2-TS/RTP* (RFC 2250, IPTV-ID-0087, ETSI TS 102 034), Direct RTP (RFC 3984), SAP (RFC2974), SDP (RFC4566), unicast or multicast, RTMP
Transport	TCP, UDP, multicast IGMPv3 (RFC 3376) or unicast
All supported	IGMPv3 (RFC 3376), IP, UDP, SSL, DHCP, HTTP, HTTPS, RTP, RTSP, SNMP V2 (RFC 1213), SAP (RFC2974), SDP (RFC 4566), QoS (RFC 2474), NTPv4 (RFC 4330)

NOTE: *Indicates that portions of the RFC and other standards may apply.

Ethernet default settings	LAN A IP address = 192.168.253.254 LAN B IP address = 192.168.254.254 Subnet mask = 255.255.0.0 Default gateway = 0.0.0.0 DHCP = off
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Program control	Extron Simple Instruction Set™ (SIS™) Extron DataViewer, Microsoft® Internet Explorer®, Apple® Safari®, Mozilla® Firefox®, Google® Chrome™ (*Certain browser dependencies may apply.)
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USB device ports

Number/signal type	(1) 3-port, USB hub
Connector	2 female USB 3.1 type A (1 front panel and 1 rear panel for storage) 1 rear panel female USB type-C (for optional accessory RCP)
Maximum built-in USB HUBs	2 (front panel)
Minimum built-in USB HUBs	1
USB standards	1 USB 3.1 Gen 1
Available USB power	9 V at 1.5 A (for USB-C) and 5 V at 1.5 A (for USB Type A)

General

Power supply	Internal Input: 100-240 VAC, 50-60 Hz
Power consumption	27.5 watts typical
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	Fans, air flow left to right
Thermal dissipation	94 BTU/hr
Mounting	
Rack mount	Yes, with pre-installed brackets
Enclosure type	Metal
Enclosure dimensions	1.7" H x 17.5" W x 10.5" D (1U high, full rack wide) (43 mm H x 444 mm W x 267 mm D) (Depth excludes connectors.)
Product weight	5.5 lbs (2.5 kg)

Specifications • SMP 400 Series (Continued)

Regulatory compliance CE, C-Tick, c-UL, FCC Class A, ICES, UL, VCCI
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.

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