Specifications
SMP 351 Series

**Input**

- Number/signal type: 3 HDMI digital video (HDCP compliant), 1 component video (Y, R-Y, B-Y; interlaced, progressive, HD), or composite video
  Optional: 1 SDI, HD-SDI, or 3G-SDI digital component video

- Connectors: 4 female HDMI type A, 3 inputs and 1 loop-through
  3 female BNC; component video, composite video
  Optional: 1 female BNC: 3G-SDI, HD-SDI, SDI

- Nominal level: 1 Vp-p for Y of component video and for composite video
  0.7 Vp-p for RGB and for R-Y and B-Y of component video
  0.8 Vp-p for 3G-SDI

- Minimum/maximum level: Analog: 0.0 V to 1.0 Vp-p with no offset

- Impedance: 75 ohms

- Horizontal frequency: 15 kHz to 100 kHz

- Vertical frequency: 24 Hz to 75 Hz

- Resolution range: 640x480 to 1920x1200 (reduced blanking), 480p, 480i, 576p, 720p, 1080i, 1080p, NTSC, and PAL, sampled pixel for pixel

- Return loss (input 3): <-30 dB @ 5 MHz (input 3)

- Return Loss (Input 5, 3G-SDI): ≥15 dB @ 5 MHz to 1.5 GHz
  ≥10 dB @ >1.5 GHz to 2.97 GHz

- DC offset (max. allowable): 0.5 V

- Input cable equalization: Automatic for up to -30 dB of cable loss
  3G-SDI: 60 m (200 ft) using Extron RG 6 cable
  45 m (150 ft) using Extron RG 59 cable
  HD-SDI: 120 m (400 ft) using Extron RG6 cable
  90 m (300 ft) using Extron RG59 cable
  SDI: 150 m (500 ft) using Extron RG6 cable
  120 m (400 ft) using Extron RG59 cable

**Video processing**

- Analog sampling: 12 bits per color, 13.5 MHz standard (low resolution video), 165 MHz standard (RGB, YUVp, DVI)
- Digital sampling: 8-, 10-, or 12-bits per channel
- Digital processing: 4:2:2, 8-bits per color
- Compression: H.264/AVC (ITU H.264, ISO/IEC 14496-10) 4:2:0, 8-bit color
  Encoding profiles: High, Main, Baseline;
  Encoding levels: 4.1, 4.0, 3.2, 3.1, 3.0; configurable GOP

- Bit rate: 200 kbps to 10 Mbps
- Bit rate control: Selectable (variable, constrained, or constant)
- Latency: 130 msec* (encode), 600 msec* (encode/decode)

*Indicates minimum latency. Encoder, decoder, and network dependencies apply.
Video output

Number/signal type
- SMP 351, SMP 351 3G-SDI: 2 H.264/AVC digital video over Ethernet
  1 HDMI digital video (HDCP compliant)
- Models with LinkLicense: 3 H.264/AVC digital video over Ethernet
  1 HDMI digital video (HDCP compliant)

Connectors
- 1 female RJ-45 (streaming)
- 1 female HDMI type A

Scaled resolution
- Archive/record: 480p, 720p, 1080p, 512x288, 1024x768, 1280x1024, custom
- Confidence: 480p, 720p, 1080p, 512x288, 1024x768, 1280x1024, custom

Frame rate
- Up to 30 fps for all output rates

Formats
- H.264/AVC (Profile type: High, Main, Baseline. Profile level: 4.1, 4.0, 3.2, 3.1, 3.0)

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

Sync

Input type
- Tri-level or bi-level component video

Standards
- Input: NTSC 3.58, NTSC 4.43, PAL
- SDI (SMPTE 259M-C, 270 Mbps), HD-SDI (SMPTE 292M, 1.485 Gbps), 3G-SDI (SMPTE 424M, 2.97 Gbps)

Input level
- 0.6 Vp-p for component video tri-level sync
- 0.3 Vp-p for component video bi-level sync

Maximum level
- 5 Vp-p

Input impedance
- 75 ohms

Recording and storage

File system for USB storage
- FAT32, NTFS, VFAT long file name extensions, EXT2, EXT3, EXT4

File types
- H.264 and AAC in an MP4 container, JPEG, JSON, XML

File transfer protocols
- FTP, SFTP, CIFS

Network file share protocols
- CIFS/SMB, NFS

Resolution
- Same as primary streamed resolution: 480p, 720p, 1080p, 512x288, 1024x768, 1280x1024, custom

Recording frame rate support
- Same as primary streamed frame rate, up to 30 fps for all output rates

Internal storage capacity
- 80 GB (75 GB for recording files) or 400 GB (400 GB for recording files)

External USB ports
- 1 (front panel), 1 (rear panel), USB 2.0 (Each port is current limited to 1.5 A.)

Background image format
- PNG

Audio input

Analog

Number/signal type
- SMP 351, SMP 351 3G-SDI: 2 stereo, balanced or unbalanced, 1 with loop-through
- Models with LinkLicense: Ch. A: 1 stereo, balanced or unbalanced, with loop-through
  Ch. B: 1 stereo, balanced or unbalanced, or 2 mono, unbalanced

Connectors
- (3) 3.5 mm captive screw connectors, 5-pole

Digital

Number/signal type
- 3 stereo, digital de-embedded from HDMI
  1 loop-through from HDMI

Connectors
- 4 female HDMI type A

Impedance
- >10k ohms unbalanced, >20k ohms balanced

Nominal level
- +4 dBu (1.23 Vrms), -10 dBV (316 mVrms), adjustable via input gain

Maximum level
- +18 dBu, (balanced or unbalanced)

CMRR
- >70 dB @ 20 Hz to 20 kHz

Input gain adjustment
- -18 dB to +24 dB, 1 dB steps, adjustable per input
Audio system (line input to line output)

Gain ........................................ -6 dB unbalanced, 0 dB balanced
Frequency response ...................... 20 Hz to 20 kHz, ±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 .................................. ≤ -103 dB, at 20 Hz to 20 kHz, full loaded
Bass ........................................ LinkLicense models only: +12 dB to -24 dB @ 100 Hz
Treble ..................................... LinkLicense models only: +12 dB to -24 dB @ 8 kHz

Audio processing

Sampling rate ............................... 16 bit, 48 kHz or 44.1 kHz sampling
Bit rate ..................................... 80 kbps to 320 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 ................................ +0.1 dB channel to channel

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

Audio output — digital

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

Digital I/O control

Number/signal type ....................... 4 digital input/output (configurable)
Connectors ................................. (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 ports .......... 1 front panel female mini USB B
  Mouse and keyboard port ......... 2 rear panel USB type A
  USB standards ....................... USB 1.1, USB 2.0, high/full/low speed hosts
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
Extron SMP 351 Series Streaming Media Processors • Specifications

Ethernet control
- Ethernet host port: 1 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

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 (RFC4566), QoS (RFC 2474), NTPv4 (RFC 4330)

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

Ethernet default settings
- IP address = 192.168.254.254
- Subnet mask = 255.255.0.0
- Default gateway = 0.0.0.0
- DHCP = off

Program control
- Extron Simple Instruction Set™ (SIS™) Extron DataViewer, Microsoft® Internet Explorer®, Apple® Safari®, Mozilla® Firefox®, Google® Chrome™
  (*Certain browser dependencies may apply)

General

Power supply
- Internal
  - Input: 100-240 VAC, 50-60 Hz

Power consumption
- 30 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
- 96 BTU/hr

Mounting
- Rack mount: Yes, with pre-installed brackets

Enclosure type
- Metal

Enclosure dimensions
- 1.7” H x 17.5” W x 11.5” D (1U high, full rack wide)
  - (4.3 cm H x 44.4 cm W x 29.2 cm D)
  - (Depth excludes connectors)

Product weight
- 6.0 lbs (2.7 kg)

Vibration
- ISTA 1A in carton (International Safe Transit Association)

Regulatory compliance
- Safety: CE, c-UL, UL
- EMI/EMC: CE, C-tick, FCC Class A, ICES, KCC, VCCI

NOTE: CE and FCC testing is conducted with STP (shielded, twisted pair) cable.

Warranty
- 3 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.