SMP 401

MULTI-CHANNEL 4K RECORDING AND STREAMING MEDIA PROCESSOR

Record and Stream - All in 4K

▸ High performance multi-channel 4K/60 recording and streaming media processor

▸ Up to five recordings and six streams including flexible two-window layouts and full screen views

▸ Simultaneous H.264 and H.265 video encoding

▸ Dual LAN ports for streaming and control

▸ LCD for video preview and enhanced configuration

▸ Flexible 4K/60 4:4:4 input capability to capture a variety of sources:

  – Three HDMI inputs

  – Two RTP/RTSP virtual inputs

  – One optional 12G-SDI input

Extron

SMP 401

The SMP 401 is a high-performance 4K/60 recording and streaming processor that easily captures, switches, scales, and distributes AV sources and presentations. Powerful processing with H.264/H.265 encoding provides up to five recordings and six streams concurrently. The SMP 401 captures a variety of sources from three HDMI inputs, two RTP/RTSP virtual inputs, and an optional 12G-SDI input. Additionally, the SMP 401 audio DSP provides independent audio mixing per channel and supports line or microphone level audio, with available +48V phantom power. The user-friendly front panel LCD screen enables video preview for confidence monitoring and simple menu navigation for easy configuration. The SMP 401 is a robust solution for any environment that requires multiple high-quality recordings and live streams.

The SMP 401 supports direct integration with popular enterprise video platforms including Kaltura, Panopto, YuJa, and Opencast. It also streams RTMP and RTMPS to popular third-party content delivery networks such as YouTube, Facebook Live, Twitch, and Wowza.
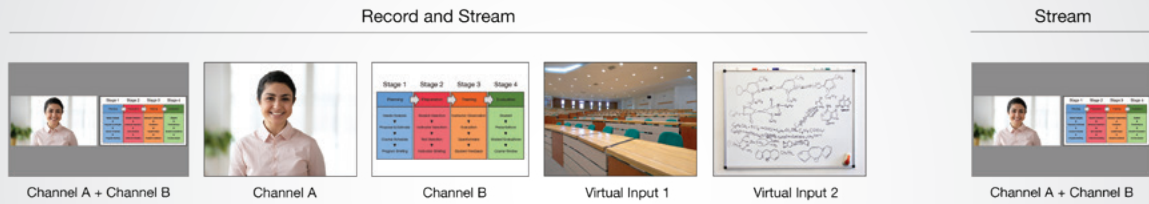
RCP 401

Extron RCP 401 Series are remote control button panels that enable remote operation of the SMP 401. User-friendly record, pause, stop, and mark buttons enhance the recording experience. Manage and save files directly to thumb drives or external portable drives through a USB port that supports writing speeds up to 5 Gbps. It also features buttons for swap and layout preset recall functions, streamlining the creative workflow. Status lights and audible alerts keep users informed of SMP 401 recording status.
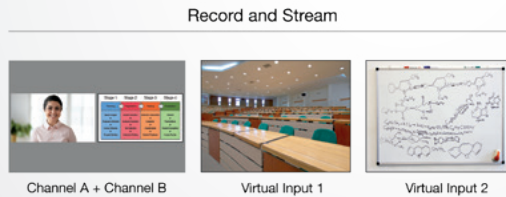
Powerful Processing

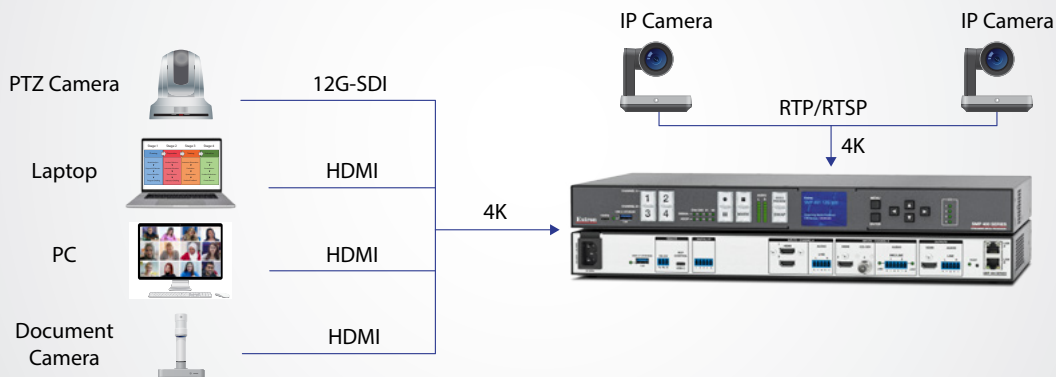At 1080p/60 the SMP 401 delivers up to 5 recordings and 6 streams

Record and Stream

Channel A + Channel B | Channel A | Channel B | Virtual Input 1 | Virtual Input 2

Stream

Channel A + Channel B

At 4K/60 the SMP 401 delivers up to 3 recordings and 3 streams

Record and Stream

Channel A + Channel B | Virtual Input 1 | Virtual Input 2

Flexible 4K/60 4:4:4 Input Capability

The SMP 401 captures up to four video sources from three HDMI inputs, two RTP/RTSP virtual inputs, and one optional 12G-SDI input.

Independent H.264 and H.265 Video Encoding

Powerful, high-performance processing enables use of independent video codecs per encoder. H.265 facilitates lower size video files for optimized storage and less bandwidth, preserving high quality video. H.264 is widely supported on third-party video platforms.

H.264

H.265

FEATURES

High performance all-in-one multi-channel 4K/60 recording and streaming media processor

Easily capture, mix, switch, scale, and distribute up to four AV sources and presentations as recorded media or live streaming at up to 4K/60 resolution for high-performance applications.

Front panel LCD for video preview and enhanced configuration

A 2.2" LCD screen provides confidence monitoring and allows simple menu navigation for easy configuration. The user has the flexibility to change or disable the preview video.

Dual LAN ports for streaming and control

Two isolated, independent LAN ports can be configured to separate streaming and content upload from control traffic. It enables flexible system design with enhanced security and optimizes bandwidth management.

HDMI preview output for local displays

Provides 4K/60 HDMI output displays confidence encoder video in different PiP or Side by Side views.

RTMP and RTMPS streaming protocols support popular third-party hosting services

Supports RTMP and RTMPS streaming with stream name or key, and user authentication for a variety of popular streaming services.

Supports USB write speeds up to 5 Gbps

Front and rear USB ports offer recording to USB external storage and thumb drives. Writes speeds up to 5 Gbps provide an efficient recording workflow.

Produce mp4 media or m4a audio

Use recordings directly with any software media player, computer, or mobile device.

Analog line level or microphone audio inputs

Channel A accepts one stereo balanced or unbalanced audio signals. Channel B accepts one stereo or two mono microphone or line level audio signals.

Available phantom power

Internal pre-amplifier provides selectable +48V phantom power for two microphones.

Simultaneously record to a variety of storage destinations

Recordings can be saved to pre-defined locations convenient to the user's customized workflow, including internal solid-state drive, external USB storage, or directly to defined network storage.

Independent audio mixing for each encoder

Enables separate mixing of audio channels for customized AV content.

Overview

Independent audio mixing for each encoder
Independent audio encoding for all encoders allows separate mixing of Channel A, Channel B audio

Front panel recording controls
Record, Stop, Pause, Mark, and Swap buttons provide an efficient interface for managing recordings

Video preview buttons
Enable or disable video preview on LCD display

Front panel LCD screen
A 2.2" LCD screen enables unit configuration and preview of active content

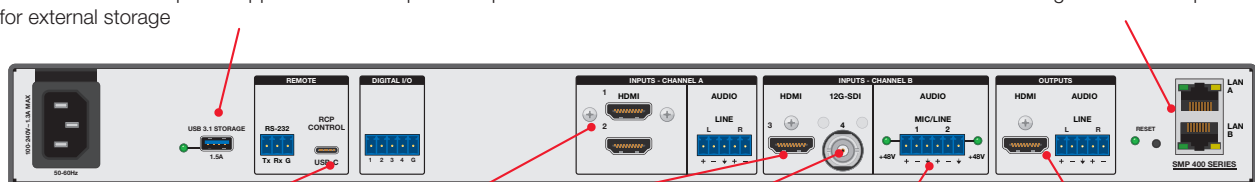**512 GB SSD**
For internal storage of recordings

USB 3.0
Front and rear USB ports support data rates up to 5 Gbps for external storage

Dual Gigabit Ethernet Ports
One LAN for control and another for streaming and content upload

USB-C RCP Control
USB-C for remote control and storage from RCP 401 panel

HDMI inputs
Supports computer and video signals up to 4096 x 2160 4:4:4 @ 60 fps, including HDCP 1.4 and 2.2

12G-SDI inputs
Optional 12G-SDI input that supports 4K/60 and embedded audio
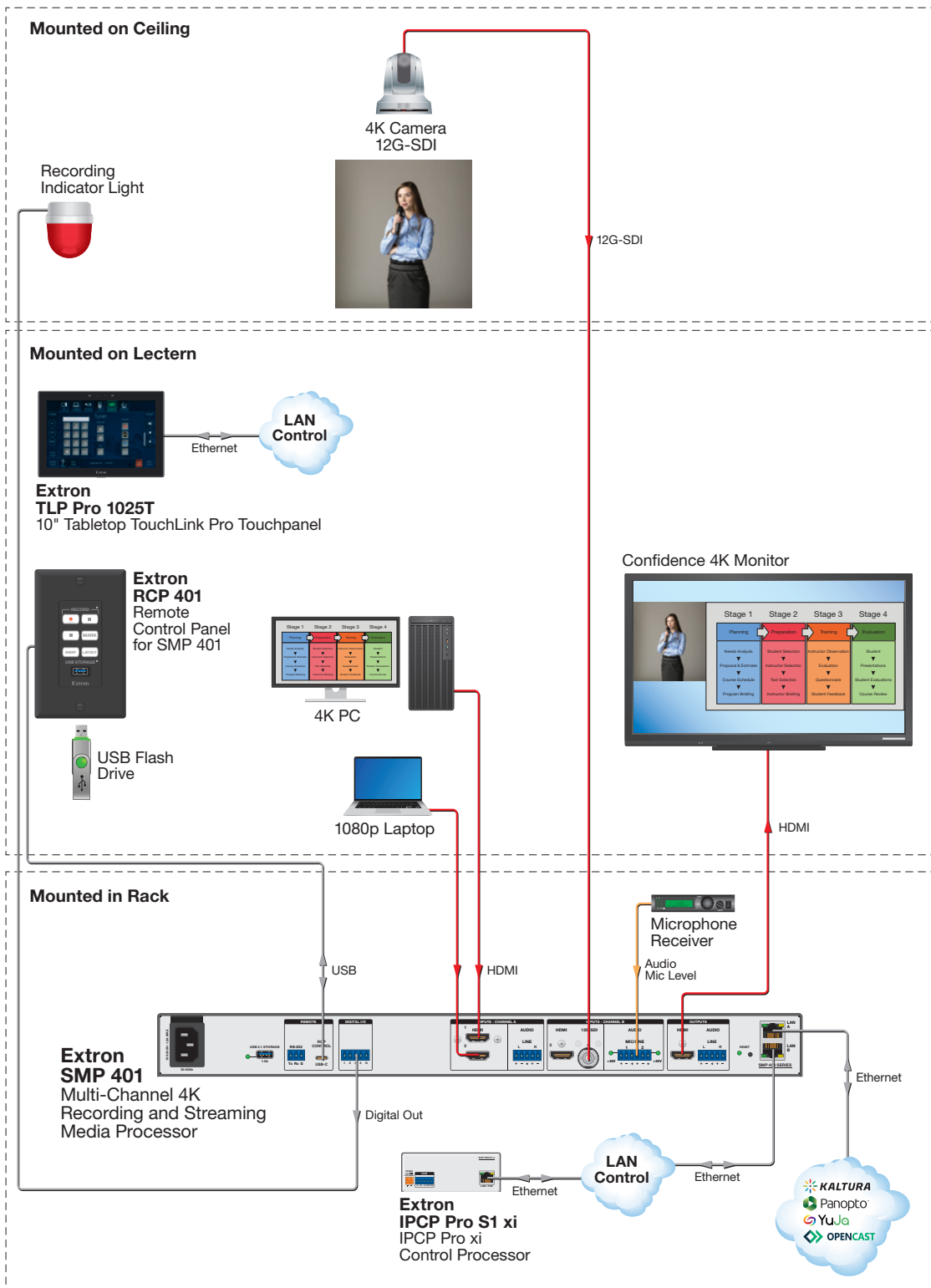
Mic/Line inputs
Accept line level stereo balanced or unbalanced audio and up to two microphone inputs with available +48V phantom power

HDMI and audio output preview
Presents a preview of the encoded output that is recorded and streamed. Supports scaled resolutions up to 4K/60

LECTURE THEATER

An SMP 401 12G-SDI in a high-end lecture theater captures, mixes, and switches a 4K presenter camera as well as high resolution content from a lectern PC or BYOD laptop. Independent audio encoding directly captures the presenter microphone as well as embedded digital audio. A local 4K output provides connection to a monitor for confidence viewing of the recording. The RCP 401 remote control panel enhances the recording experience by providing easy button control of the SMP 401 12G-SDI and direct file storage via a USB port. High resolution instructional content is recorded and published to content management systems and 4K live streams are sent to popular third-party hosting services.

Mounted on Ceiling

4K Camera
12G-SDI

Recording
Indicator Light

12G-SDI

Mounted on Lectern

LAN
Control

Ethernet

**Extron
TLP Pro 1025T**
10" Tabletop TouchLink Pro Touchpanel

**Extron
RCP 401**
Remote
Control Panel
for SMP 401

USB Flash
Drive

4K PC

1080p Laptop

Confidence 4K Monitor

HDMI

Mounted in Rack

Microphone
Receiver

Audio
Mic Level

USB

HDMI

**Extron
SMP 401**
Multi-Channel 4K
Recording and Streaming
Media Processor

Digital Out

Ethernet

LAN
Control

Ethernet

Ethernet

**Extron
IPCP Pro S1 xi**
IPCP Pro xi
Control Processor

KALTURA
Panopto
YuJa
OPENCAST

TRUE 4K SPECIFICATION

Max 4K Capabilities

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

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

INPUT

Number/signal type	3 HDMI digital video (HDCP compliant) SDI model: 1 12G/6G/3G/HD/SD-SDI

VIDEO PROCESSING

Digital processing	4:2:2, 8-bits to 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

VIDEO OUTPUT

Number/signal type	4 H.264/AVC or H.265/HEVC digital video over Ethernet 1 HDMI/DVI (HDCP compliant)
Frame rate	Up to 60 fps for all output rates

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
Internal storage capacity	512 GB (430 GB for recording files)
External USB ports	1 (front panel), 1 (rear panel), USB 3.0 (Each port is current limited to 1.5 A.)

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)

Digital

Number/signal type	3 stereo, digital de-embedded from HDMI SDI model: 1 stereo, digital de-embedded
DC phantom power	+48 VDC ±10% (can be switched on or off per mic input)

AUDIO PROCESSING

Sampling rate	16 bit, 48 kHz sampling
Compression	AAC-LC MPEG-4 (ISO/IEC 14496-3:2005)

AUDIO OUTPUT — ANALOG

Number/signal type	1 stereo, balanced/unbalanced

AUDIO OUTPUT — DIGITAL

Number/signal type	1 stereo, HDMI (embedded) 1 AAC-LC digital audio over Ethernet

DIGITAL I/O CONTROL

Number/signal type	4 digital input/output (configurable)

COMMUNICATION

USB

USB configuration port	1 front panel female USB type-C

Serial control

Serial control port	1 bidirectional RS-232, rear panel 3.5 mm captive screw connector, 3-pole

Ethernet

Ethernet host port	2 female RJ-45
Ethernet data rate	10/100/1000Base-T, half/full duplex with autodetect
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)

USB DEVICE PORTS

Connector	2 female USB 2.0 type A (1 front panel and 1 rear panel for storage) 1 rear panel female USB type-C (for optional accessory RCP)

GENERAL

Power supply	Internal Input: 100-240 VAC, 50-60 Hz
Power consumption	27.5 watts typical
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.)
Regulatory compliance	CE, C-Tick, c-UL, FCC Class A, ICES, UL, VCCI

Model	Version Description	Part number
SMP 401	4K/60 Multi-Recording and Streaming	60-1825-01
SMP 401 12G-SDI	4K/60 Multi-Recording and Streaming w/12G-SDI	60-1825-02

For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

Extron

www.extron.com | Follow us on: (in) (X)