# Extron SMP 401 Streaming Media Processor User Guide



Extron

**SMP 401 • Setup Guide**

**IMPORTANT NOTE:**

Go to www.extron.com for the complete user guide, installation instructions, and specifications before connecting the product to the power source.

www.extron.com/product/smp401

**Mount the SMP 401**

The SMP 401 models are housed in a 1U high, full rack width metal enclosure that can sit on a table with the provided rubber feet or mounted using the attached rack mounts. Select a suitable mounting location, then choose an appropriate mounting option.

Before connecting the SMP 401, turn off all devices to be connected. Then make all external device connections to the SMP 401 before applying power to the devices.

Contents



## Rear Panel Overview

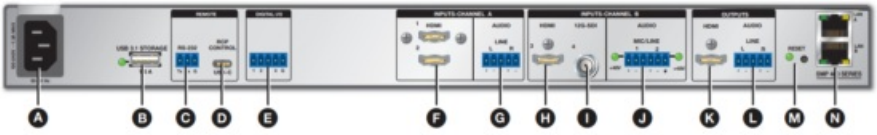



Figure 1. SMP 401 Rear Panel

| | | |
|---|---|---|
| A 100-240 VAC IEC power inlet | F HDMI inputs (1 and 2) | K HDMI output |
| B USB storage device port and LED | G Analog audio input | L Analog audio output |
| C Remote RS-232 port | H HDMI input 3 | M Reset button and LED |
| D RCP control port | I (Optional) 12G-SDI input 4 | N RJ-45 Ethernet LAN ports |
| E Digital I/O ports | J Analog Mic/Line audio input | |

## Power Connection

**A.** 100-240 VAC IEC power inlet – Connect the provided IEC cord. Verify the front panel buttons and LCD illuminate (see Front Panel Features on page 3).

### Control and External Device Connections

The SMP 401 can be configured and controlled from the remote port (see figure 1, C) using SIS commands or the front panel USB-C Config port (see figure 5,
B on page 3) or the LAN ports ( N) using a standard web browser. Extron recommends using the USB-C Config port or the LAN ports for configuration, remote control, and firmware upgrades.
**B.** USB storage device port and LED — Connect a USB compatible media device to this port. The storage device can be any standard external hard drive or USB flash drive formatted with a compatible file system. The LED lights:

- Green — Record Destination is set to USBRear or Auto and the attached storage device is ready for recording. Also, blinks green during both reading and writing.
- Red — Record Destination is set to USBRear and the attached storage device is detected, but recording will not start because the file is write protected, in an unsupported file format, or there is less than 10 minutes of free recording space.

**NOTE**: The SMP 401 can detect and record to USB storage devices using exFAT, FAT32, NTFS, VFAT long file name extensions, EXT2, EXT3, or EXT4 file systems.


LAN A IP Address: 192.168.253.254
LAN B IP Address: 192.168.254.254
Subnet Mask: 255.255.255.0
Default Gateway: 0.0.0.0
DHCP: OFF

**C.** Remote RS-232 port (figure 1 on page 1) — To control the SMP 401 using Simple Instruction Set (SIS™) commands over RS-232, connect the host RS-232 cable to the rear panel (see the image at right) using a 3.5 mm, 3-pole captive screw connector for bidirectional (±5 V) serial host control. The default protocol for this port is 9600 baud, no parity, 8 data bits, 1 stop bit, and no flow control (handshaking).

**D.** RCP control port — Connect the RCP 401 remote control button panel to this USB-C port.

**E.** Digital I/O ports — This 3.5 mm, 5-pole captive screw port provides four user-defined digital inputs and outputs.

**M.** Reset button and LED — The SMP 401 has several reset modes to return user-defined configuration settings or all settings back to factory defaults. The LED blinks to indicate the desired reset mode, and provides the reset status during the reset operation (see the SMP 401 User Guide for information on reset modes).

**N.** RJ-45 Ethernet LAN A and LAN B ports — Use a standard Ethernet cable to connect to a network. The table on the right has the default network settings.

NOTE: To connect the SMP 401 directly to a computer Ethernet port, use a crossover Ethernet cable.

**Input Connections**

The audio and video inputs are grouped into channel A and channel B. Channel A analog audio input can be selected for video inputs 1 or 2, and channel B analog audio can be selected for video inputs 3 or 4 (SDI model only).

Channel A

**F.** HDMI inputs (1 and 2) — Connect an HDMI (or DVI with a suitable adapter) source device to input 1, input 2, or both.

**G.** Analog audio input — Connect a balanced or unbalanced stereo line level audio device to this 5-pole 3.5 mm captive screw input.

Channel A audio can be selected for output with HDMI inputs 1 and 2 instead of the embedded audio. Wire the connector as shown in figure 2.

When input 1 or 2 is selected, audio is selected from either the HDMI embedded audio, Ch A analog audio, or the audio can be set to OFF (see Input Audio Selection on page 5).


Figure 2. Audio Input Captive Screw Connector Wiring

**Channel B**

**H.** HDMI input 3 — Connect an HDMI (or DVI with a suitable adapter) source device to input 3.

**I.** 12G/6G/3G/HD/SDI input 4 (SDI model only) — Attach a 12G/6G/3G/HD/SDI video source to this BNC connector.

**J.** Analog audio Mic/Line input and LEDs — Connect one or two balanced or unbalanced stereo line or mic level audio device to this 6-pole 3.5 mm captive screw input. The LEDs indicate whether phantom power is provided: green indicates phantom power, and off indicates no phantom power. Channel B audio can be selected from either the HDMI embedded audio, or the Ch B analog mic/line audio, or the audio can be set to OFF (see Input Audio Selection).


Figure 3. Mic/Line Captive Screw Connector Wiring

**Output Connections**

K. HDMI output — Connect an HDMI display device to the HDMI output to view the confidence output.

L. Analog audio output — Connect a balanced or unbalanced stereo line level audio device to this 5-pole 3.5 mm captive screw output.

Wire the connector as shown in figure 4 on page 3 .

The audio output is selected from channel A, from channel B, a mix of both channel A and channel B, or Off (see Output Audio Selection on page 5). Default is a mix of both channels.

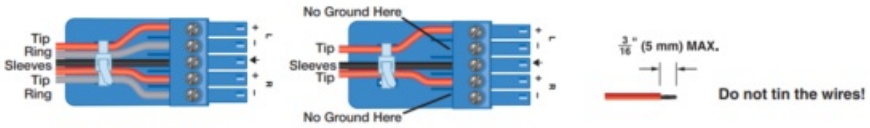



Figure 4. Audio Output Captive Screw Connector Wiring

**ATTENTION:**

- For unbalanced audio connect the sleeves to the ground contact. DO NOT connect the sleeves to the negative (–) contacts.
- Do not tin the wires. Tinned wires are not as secure in the connector and could be pulled out.
- The length of the exposed wires in the stripping process is important. The ideal length is 3/16 inch (5 mm). Any longer and the exposed wires may touch, causing a short circuit between them. Any shorter and the wires can be easily pulled out even if tightly fastened by the captive screws.

## Front Panel Features

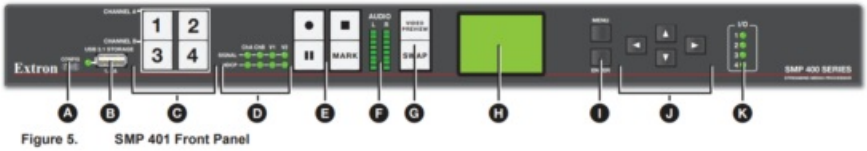



Figure 5. SMP 401 Front Panel

**A.** Config port — Connect a control device to this port with a USB-C cable (not supplied). Use this port to connect to the SMP internal web page via IP address 203.0.113.22 using a standard web browser for device configuration and control.
**B.** USB storage port and activity LED — Connect a USB compatible media device to this port. The storage device can be any standard external hard drive or USB flash drive formatted with a compatible file system. The LED lights:

- Green — Record Destination is set to USBFront or Auto and the attached storage device is ready for recording. Also, blinks green during both reading and writing.
- Red — Record Destination is set to USBFront and the attached storage device is detected, but recording will not start because the file is write protected, in an unsupported file format, or there is less than 10 minutes of free recording space.

**NOTE:** The SMP 401 can detect and record to USB storage devices using exFAT, FAT32, NTFS, VFAT long file name extensions, EXT2, EXT3, or EXT4 file systems.

**C.** Input selection buttons — Four buttons associated with the rear panel input connections:

- Channel A — Two buttons associated with rear panel HDMI inputs 1 and 2. Press the corresponding button to select the input. If analog audio (instead of embedded audio) is selected for an input, Ch A analog audio is output with the video.
- Channel B — Two buttons associated with HDMI input 3, and optional 12G-SDI input 4 (SMP 401 12G-SDI only).

Press the corresponding button to select an input. The currently selected input buttons light solid amber.
**D.** Signal and HDCP LED indicators — For each of the Channel A, Channel B, Virtual 1 and Virtual 2 inputs.

- Signal LED lights — Indicate no source, disconnected virtual inputs, and active signals. .
- HDCP LED lights — Indicate whether HDCP source is detected.

**E.** Record controls with LED indicators — Record, Stop, Pause, and Mark indicate the current state of record operation:

- Record — Press to record the selected inputs. The red record button lights steadily during active recording.
- Stop — Press to stop the active recording. When pressed during a recording, the green stop button blinks while the recorded file is being finalized, then lights steadily when the file is finalized.
- Pause — Press to pause recording. When pressed, the green Pause button blinks to indicate video recording is paused. Press Record or press Pause to resume recording or Stop to halt the recording.
- MARK — Press to place a chapter marker in the recorded file. When pressed during recording, the green MARK button blinks momentarily to indicate a chapter marker is inserted. Also illuminates when JPG thumbnails are automatically created at 5 minute intervals by default.

**F.** Audio level indicator (see figure 5 on page 3)— Two stacks of eight green LEDs track the audio levels of the left and right audio channels of the confidence output. The LEDs help confirm signal presence and active input signal levels.

| LED | Audio Level | Range |
|---|---|---|
| 8 | -3 to 0 | 3 dBFS |
| 7 | -9 to -4 | 6 dBFS |
| 5 | -15 to -10 | 6 dBFS |
| 5 | -21 to -16 | 6 dBFS |
| 4 | -27 to -22 | 6 dBFS |
| 3 | -33 to -28 | 6 dBFS |
| 2 | -42 to -34 | 9 dBFS |
| 1 | -60 to -43 | 18 dBFS |

**G. VIDEO PREVIEW and SWAP buttons —**

- Press VIDEO PREVIEW to view the confidence video on the front panel LCD. The preview video is Off by default. The button lights green when video preview is active.
- Press SWAP to switch between the two windows, Channel A and Channel B inputs. The button lights for 2 seconds to indicate the input swap.

**H.** Video LCD display — 4:3 thin-film-transistor liquid-crystal display (TFT LCD) with 320×240 resolution, for menu selection and video preview. The dimming of the LCD and turning off the LCD can be configured from the front panel menu or the web UI.

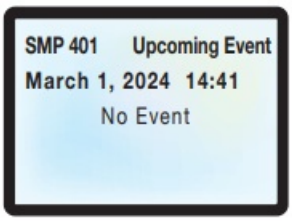
**I.** MENU and ENTER buttons —

- If the MENU button is pressed when the LCD display is active, the main menu is displayed.
- Press the ENTER button to confirm a menu selection.

J. Navigation buttons — Press the UP, DOWN, LEFT, and RIGHT buttons for front panel menu navigation.
K. I/O display LEDs — A stack of four green LEDs that correspond to the four digital I/O connections on the rear panel (see figure 1 on page 1). Each LED indicates the On or Off status of the corresponding ports, which can be configured as digital input or digital output from the DIOC FlexOS App.

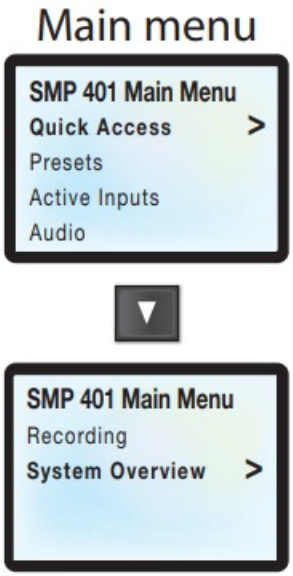
## Powering Up

When applying power, the unit undergoes a self-testing sequence. After the testing sequence is complete the default LCD display shows Upcoming Event (see image on right). This menu shows the next scheduled event of the same day.




## Configuring the SMP 401 Using the Front Panel

Press the MENU button to enter the main configuration menu. Within each main menu are submenus with specific configuration options. Press the DOWN arrow to advance through the configuration menus in the order shown in the image on the right. Stop on the desired menu, then press ENTER or RIGHT button (see figure 5 on page 3) to enter the submenus for the selected configuration.
Use the Navigation buttons ( J) to go to a specific submenu setting. After selecting new parameters, press ENTER (I) to apply the new parameter and then press the LEFT button to exit the submenu or press MENU (I) to return to the main menu.




**NOTE:** The front panel buttons can be locked (see To Lockout the Front Panel on page 6). By default, the menu times out after 15 minutes of inactivity.

**Main Menu Options**

- Quick Access menu gives access to the most commonly used unit information and settings.
- Presets menu allows the user to recall different presets.
- Active Inputs menu allows the user to configure physical and virtual inputs.
- Audio menu allows the user to set audio gain and output settings.
- Recording menu allows the user to select record destination.
- System Overview menu lists essential status.

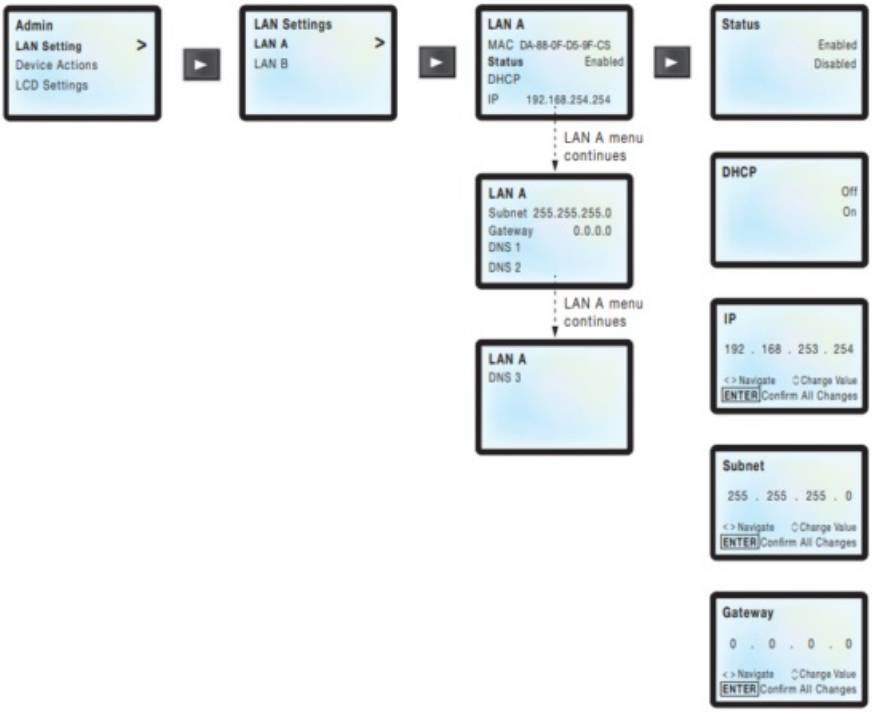
## Network Configuration

The SMP 401 is pre-configured with the network settings shown in the image below. These menus are part of the Admin menu that require sequential button presses to access.

**NOTES**:

- With these settings, the control PC and viewing devices must have an IP address within the 192.168.0.1 through 192.168.254.254 range and have the same subnet.
- When DHCP MODE is ON, the subsequent address submenus are hidden.

Use the following procedure to configure the network settings of the SMP 401, if necessary.

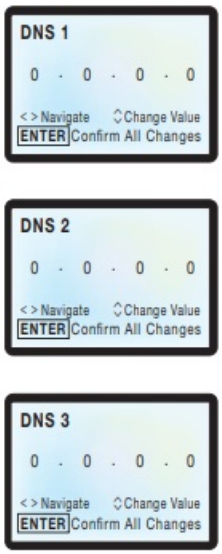



1. From the front panel, press MENU and Input 1 for approximately 3 seconds and then release both buttons together, to enter the Admin menu on the LCD display.
2. Press ENTER or RIGHT button on LAN Settings, the first option in the menu.
3. Press ENTER or RIGHT button to select LAN A or press the Down, then ENTER buttons to select LAN B.
4. Press the DOWN arrow to go to the enabled or disabled LAN port, IP address, subnet mask, and default gateway submenus DNS server as needed.
5. Change the static addresses (default values shown).
   To configure any of the static addresses:
   • Press the directional buttons (▲) (▼) to move to the desired octet.
   • Press the directional buttons (◀) (▶) to change the octet value.
   **NOTE**: The Admin menu times out after 30 seconds of inactivity.
6. Press ENTER to save the settings.
7. Select Save from the pop-up screen to confirm the change or select Cancel.
8. Manually reboot the SMP to apply the IP change.

**Input Audio Selection**

Audio input is selected per input. For Channel A (input 1 and 2), audio can be Digital Stereo of the selected HDMI input or Analog Stereo input. For Channel B (input 3 and 4), audio can be Digital Stereo, Analog Stereo input, dual mono (Mono 1, Mono 2), microphone inputs (Mic1, Mic2), or mono and microphone inputs (Mono, Mic).
To change the input:

1. From the main menu, press the DOWN arrow to Active Inputs.
2. Press ENTER or RIGHT arrow once to advance to the Active Inputs menu.
3. Press the DOWN arrow to select the desired input and press ENTER.
4. Select Audio and press the ENTER or LEFT arrow. Then make the audio input selection and press ENTER.
5. Press the LEFT arrow to go back or MENU to exit to the main menu.




**Output Audio Selection**

The recording audio output is selected from the Channel A or Channel B audio inputs or can be a mix of both.

1. From the main menu, press the DOWN arrow to Audio.
2. Press ENTER once to cycle to the Audio menu.
3. Press the DOWN arrow to select Source and press ENTER.
4. Press the DOWN arrow to select Archive1, Archive2, Archive3, or Confidence and press ENTER.
5. Press the DOWN arrow to cycle through the following selections:
   - ChA — Selects only the Channel A audio.
   - ChB — Selects only the Channel B audio.
   - ChA + ChB — Selects a mix of both Channel A and Channel B audio inputs (default).
6. Press ENTER to save the settings.

**To Record a File**

With the default settings, the SMP 401 records three recording files at 1080p 60 resolution. The three recordings are saved in a composite layout of Channel A and B, Channel A full screen and Channel B full screen respectively. The Admin can select different resolutions and layouts for each recording. Recordings can be scheduled or started manually from the front panel or web-based user interface. Recordings are stored to internal storage, to recording media connected to the front or rear USB ports, or network folder. The recording location defaults to the internal storage.
To start an ad hoc recording with default encoder settings:

1. From the front panel main menu, press ENTER on Quick Access and the menu is displayed.
2. Press the DOWN arrow repeatedly until Record Mode is displayed.
3. Press ENTER once and select either Single Record (record to single location) or Single & Backup (record to Internal and second location) mode from the submenu.
4. Press the LEFT arrow to return to the Quick Access menu.
   a. If Single Record mode is selected, press the DOWN arrow to Primary Destination and press ENTER. Press the DOWN arrow to select Auto, Internal, USBFront, USBRear, or USBRCP.
   b. If Single & Backup mode is selected:

- Primary Destination defaults to Internal.
- Press ENTER twice and select Secondary Destination. Press ENTER to select Auto, USBFront, USBRear, USBRCP, or Network.

5. Select the audio source (see Output Audio Selection on page 5).
6. Press the desired front panel input buttons.
7. Press the front panel Record button. The Record button turns red when recording starts.
8. Monitor the record time and and remaining time on the LCD default display. Press the LEFT arrow to return to default LCD if required.
9. Press Pause to temporarily suspend recording. Press Pause or Record again to resume the recording and place a chapter marker on the file. Press Stop to cease recording.

**To Lockout the Front Panel**

Press MENU and MARK for 3 seconds to enter the Executive Mode menu. From this menu, the Admin can disable front panel lockout, completely lock the front panel, lock only the recording controls, lock the menu completely, or make the menu read only. Use the UP and DOWN arrows to scroll through the selections and press ENTER to activate a selection.

**About the Web-based User Interface**

The web-based user interface can view, configure, and control the SMP 401 with a PC from either LAN port or the front panel USB-C port using a standard web browser (see Network Configuration on page 5).

**Accessing the Web-based User Interface**

**NOTE**: The SMP 401 can be accessed using Microsoft® Edge ®, Mozilla™ Firefox™, or Google Chrome™, and on a mac os ® platform using Safari ® (see the SMP 401 User Guide for current compatibility).

1. Open a web browser on the control computer.
2. Enter the IP address of the SMP 401 into the address bar (for example, **http://192.168.253.254**).

   **NOTE**: If connecting through the front panel USB-C port the IP address is 203.0.113.22. This IP address cannot be changed.
3. Press <Enter>. The login page opens.
4. Enter the Admin Username and Password to access the unit configurations pages. .

   The navigation panel on the left remains open unless closed by the user. It provides access to all the controls and utilities.

**Access Internal Content**

The SMP 401 has internal SSD storage reserved for local content. Recording folders can be downloaded from the web-based user interface Storage section.

Recording folders and files can also be transferred directly from the SMP 401 to a computer on the same network using an SFTP client such as FileZilla®, a free FTP program. Connect to the SMP 401 at sftp://<SMP 401 IP>:22022. Log in using admin credentials (see the SMP 401 User Guide for more information).

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the Extron Safety and Regulatory Compliance Guide on the Extron website.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**68-3399-50 Rev. A**

## Documents / Resources

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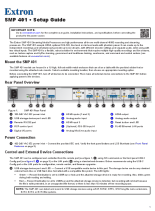
|---|---|
|  | Extron SMP 401 Streaming Media Processor [pdf] User Guide<br>SMP 401, 68-3349-50, SMP 401 Streaming Media Processor, SMP 401, Streaming Media Processor, Media Processor, Processor |

## References

- Extron - The AV Technology Leader
- User Manual