

**IMPORTANT:**  
Go to [www.extron.com](http://www.extron.com) for the complete user guide, installation instructions, and specifications before connecting the product to the power source.

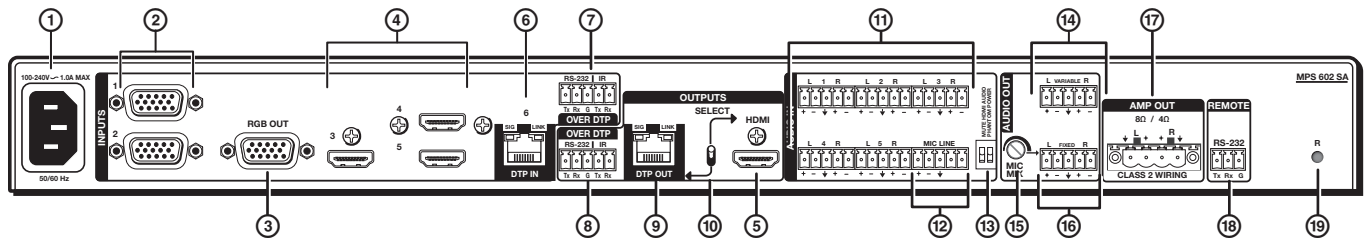
# MPS 602 Series • Setup Guide

This guide provides basic instructions for an experienced technician to install, set up, and operate the Extron Media Presentation Switcher, MPS 602. Installation and service must be performed by authorized personnel only. For additional information and specifications, see the MPS 602 product page at [www.extron.com](http://www.extron.com).

## Step 1 – Disconnect Power and Mount the MPS 602

Disconnect power to the MPS 602 and turn off all devices that will be connected to it. The MPS 602 is housed in a full rack width, 8.5 inch deep, 1U high metal enclosure that can sit on a table with the provided rubber feet or can be rack mounted. Select a suitable mounting location, choose an appropriate mounting option, and follow the instructions provided with the mounting kit.

## Step 2 – Cable the Switcher



**Figure 1. MPS 602 SA Rear Panel**

- ① **AC power** — Connect to standard AC power: 100-240 VAC, at 50-60 Hz

### Video

- ② **RGB/VGA video input group** — Two female 15-pin HD connectors for VGA input (numbered 1 and 2 on the rear panel). The connectors accept VGA signals.

**NOTE:** The MPS 602 does not scale or convert video, however it does convert an analog RGB/VGA input to digital for digital output. The output signal resolution is the same as the input resolution.

- ③ **RGB video output** — One 15-pin HD connector acting as a pass-through to output the selected RGB/VGA input.
- ④ **HDMI video input group** — Three HDMI connectors for HDMI compliant audio and video input (numbered 3, 4, and 5 on the rear panel). Connect to any HDMI source device using standard HDMI cable.
- ⑤ **HDMI video output** — Connect an HDMI display device for output from the selected HDMI input (④).

### DTP

- ⑥ **DTP In** — Connect a DTP 230 source (Tx) to this RJ-45 jack (numbered 6 on the rear panel). The DTP input includes the HDMI (or DVI) video with embedded audio, bi-directional RS-232 and IR, separate balanced/unbalanced analog audio, and remote power for a connected DTP Tx device (see [Twisted Pair Recommendations for DTP Communication](#) on page 4).
- ⑦ **RS-232 and IR (Over DTP) In** — One 3.5 mm 5-pole captive screw connector provides connection for bi-directional RS-232 and remote IR signals between the DTP Tx connected to input 6 (⑥) of the MPS 602.
- ⑧ **RS-232 and IR (Over DTP) Out** — One 3.5 mm 5-pole captive screw connector to connect and pass bi-directional RS-232 and IR between the MPS 602 and DTP 230 Rx.

#### RS-232 and IR Over DTP Wiring

To pass bidirectional serial command signals between DTP-compatible devices, connect a control device to the three leftmost poles (Tx, Rx, and G) of the 5-pole captive screw connector.

**NOTE:** RS-232 and IR data can be transmitted or received simultaneously.

- ⑨ **DTP output** — Connect an Extron DTP 230 receiver (Rx) using this RJ-45 jack. The DTP 230 signal format and protocol is used. The output can include HDMI (with embedded audio), bi-directional RS-232 and IR, separate analog audio (from the fixed audio output), and remote power for a connected DTP 230 receiver.
- ⑩ **DTP out or HDMI out selection switch** — One single-pole double-throw switch to select which output, DTP (⑨) or HDMI (⑤) is active.

# MPS 602 • Setup Guide (Continued)

## Analog Audio Input

- 11 **Audio input group** — Five 3.5 mm, 5-pole captive screw connectors provide analog audio input to the switcher. Inputs 1-5 accept either balanced or unbalanced audio. Adjust the audio level of each analog audio input using the configuration software or using the front panel (see **Audio Input Level Adjustment** on page 4).

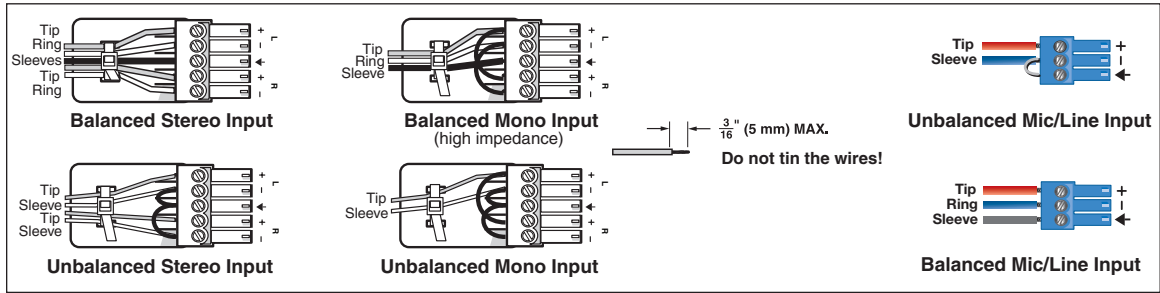


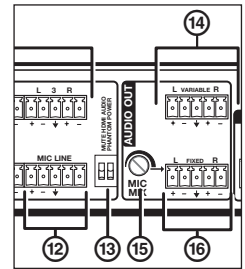
Figure 2. Audio Input Connector Wiring

- 12 **Mic Line input** — One 3-pole, 3.5 mm captive screw connector connects a mic or mono line level audio device to the MPS 602 (see figure 2, right). Use the configuration software to select the mic or line input level.

- 13 **Phantom Power and Mute HDMI** — Two 2-position DIP switches.

MUTE HDMI AUDIO (on left) mutes the HDMI embedded audio on both the HDMI output (5) and the DTP output (9) when the switch is UP.

PHANTOM POWER (on right) selects +48 V phantom power for the mic input in the UP position.



## Program Audio Output

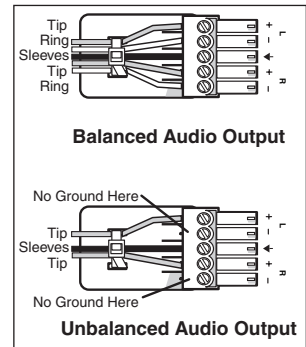
- 14 **Variable audio output** — 5-pole 3.5 mm captive screw connector outputs the program audio. The level is controlled by the front panel volume encoder.

### Connecting the 5-pole captive screw stereo output connector

Balanced or unbalanced program audio output is available on the MPS 602 using a 3.5 mm, 5-pole captive screw connector. Refer to the following illustration for proper wiring.

**ATTENTION:** For unbalanced audio output, connect sleeves to the center ground pin. **DO NOT** connect sleeves to the negative (-) contacts.

**NOTE:** Do not tin the audio leads. Tinned wires are not as secure in the connector and could be pulled out.



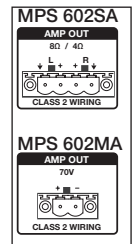
- 15 **Mic Mix** — One potentiometer controls the Mic Line input level (12) mixed into the fixed program audio output (16).

- 16 **Fixed audio output** — The bottom 5-pole, 3.5 mm captive screw connector is for balanced or unbalanced fixed level program audio output. The front panel knob does not control the audio level from this audio output port.

- 17 **Amplified program audio output (SA and MA models only)**

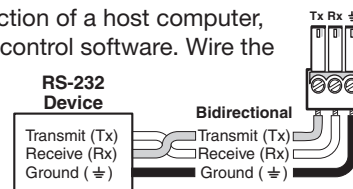
**SA models** — One green 4-pole, 5 mm locking captive screw connector for amplified dual channel output to a 4 or 8 ohm speaker system.

**MA models** — One green 2-pole, 5 mm locking captive screw connector for mono 70V output.

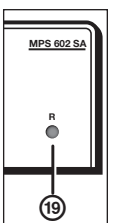


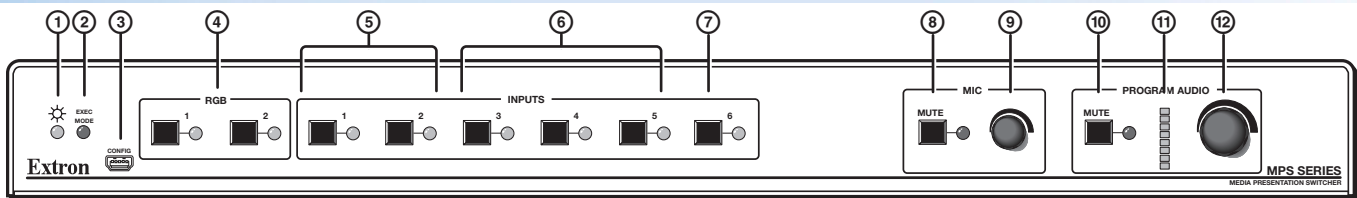
## Control

- 18 **RS-232 remote** — 3-pole, 3.5 mm captive screw connector for connection of a host computer, or a controller using Simple Instruction Set (SIS™) or Windows-based control software. Wire the connector as shown at right:



- 19 **Reset button** — Recessed button to return the MPS 602 to factory default settings.





**Figure 3. MPS 602 SA Front Panel**

## Step 3 – Setup and Operation – Video Switching

The MPS 602 can be connected to as many as six input devices including a DTP transmitter. Either RGB input can be routed to the RGB output. Separately, any of the six inputs (2 RGB, 3 HDMI, and 1 DTP) can be routed to either the DTP output or the HDMI output (not both).

**NOTE:** The RGB inputs can be switched to output on both the RGB output and HDMI/DTP output.

- ① **Power LED** — Power all connected devices, then apply power to the MPS 602. The LED lights.
- ② **Exec Mode LED** — This red LED indicates the status of Executive (Exec) mode. Two levels of Exec mode, enabled and disabled from the front panel, prevent accidental configuration changes from the front panel. Control and monitoring are still accessible using RS-232 or the front panel USB.
 

Exec mode 1, locks out all front panel controls. Exec mode 2 locks out the Mic volume encoder and mute button.

To enable and disable exec mode:

  1. Press and hold RGB Input 1 (④) for 3 seconds to enter the Exec Mode.
  2. Continue to hold RGB Input 1, then press Input 1 of the Inputs group (⑤) to toggle through the executive modes in the following order:
    - If the switcher is not in exec mode (front panel LED is not lit), the first mode accessed is exec mode 1. When enabled, all front panel LEDs (with the exception of the power and Exec Mode LEDs) flash three times. If adjustments are attempted from the front panel, the same LEDs flash once.
    - If the switcher is in exec mode 1, exec mode 2 is accessed. In this mode, only the Mic volume encoder and Mute button are locked out. When this mode is enabled, the Mic Mute LED flashes three times. If adjustment of either the Mic volume or Mic Mute button is attempted from the front panel, the Mic Mute LED flashes once.
    - If the switcher is currently in executive mode 2, the switcher toggles to disable exec mode.
  3. Release the buttons to enter the Exec mode indicated by the LED flash.
- ③ **Config Port** — One mini Type-B female USB Config port connects to a host computer for configuring the switcher and upgrading firmware.

### Video Control

- ④ **RGB input group.** Two green LEDs and associated buttons select and indicate the RGB input currently routed to the RGB output.

The HDMI/DTP input group has six buttons with associated green LEDs. Press an input button in this group to switch it to the selected (HDMI or DTP) digital output. The associated LED lights. Only one of the six inputs can be selected at a time.

- ⑤ **RGB Inputs 1 and 2** — Select and indicate the current RGB input routed to the digital output (DTP or HDMI). Analog RGB signals are converted to digital signals before routing to the DTP or HDMI output. RGB inputs are not scaled. They are converted to digital signals at the same resolution.
- ⑥ **HDMI Inputs 3 to 5** — Select and indicate the current HDMI input switched to the digital output (DTP or HDMI).
- ⑦ **DTP Input 6** — Select and indicate the current DTP input switched to the digital output (DTP or HDMI).

### Audio Control

The audio buttons and indicators provide control of the mic input and program audio output levels.

- ⑧ **Mic Mute Button and LED** — Mute and unmute the Mic input. This mutes the Mic input for both the program audio output and amplified audio output. When lit, the red LED indicates the Mic input is muted.
- ⑨ **Mic Volume Knob** — Rotary encoder controls the Mic level mixed into the program audio output and amplified audio output (SA and MA models). It has no effect on the fixed audio output. Rotate the knob clockwise to increase, and counterclockwise to decrease mic volume. If the mic volume is muted, rotating the control unmutes the volume.
- ⑩ **Program Audio Mute button and LED** — Mutes and unmutes program and amplified audio. The red LED lights to indicate program audio and amplified audio is muted.

- ⑪ **Program Audio LEDs** – Stacked LEDs indicate the program audio volume. No segments lit indicate a volume level of 0 and all segments lit represent full volume (100). Segments in between track volume levels between 0 to 100. The LEDs continue to display the current volume level even when audio is muted (the red Mute LED lights).
- ⑫ **Program Audio Volume Knob** – Rotary encoder controls the line level program audio output and the amplified audio output (MPS 602 SA and MPS 602 MA only). It has no effect on the fixed audio output. Rotate the knob clockwise to increase and counterclockwise to decrease the audio volume.

## Audio Input Level Adjustment

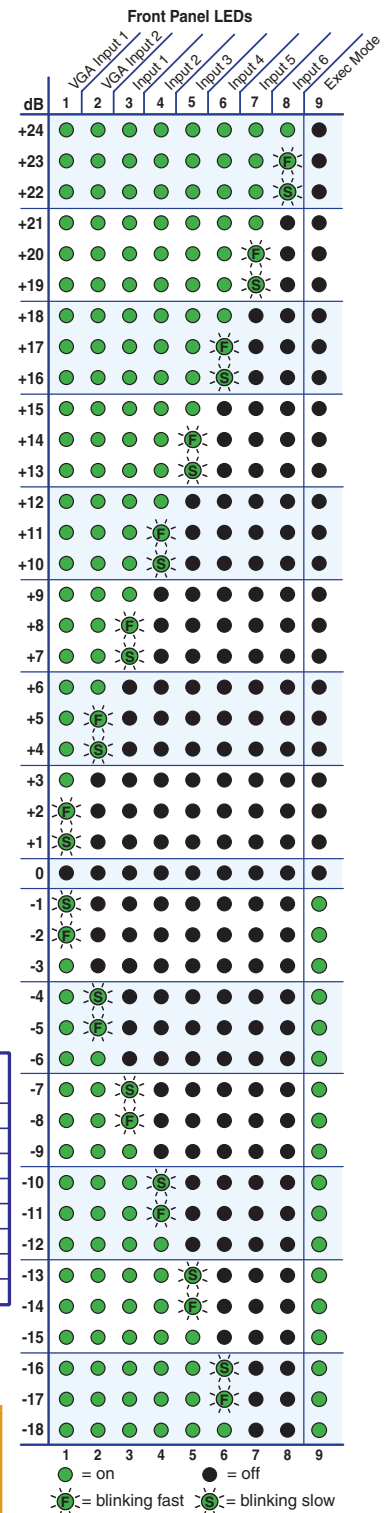
Each analog audio input can be adjusted within a range of -18 dB to +24 dB. When adjusting the audio level, the front panel LEDs used for RGB inputs 1 and 2 and Inputs 1 through 6 function as indicators of the current audio level for the selected input as shown on the right.

Gain or attenuation is shown by the red Exec Mode LED: off indicates gain (+dB), on indicates attenuation (-dB).

### To adjust an audio input level from the front panel:

1. Press and hold the Program Audio Mute and Mic Mute buttons for 3 seconds. The two mute LEDs flash 3 times.
2. Press the desired input button.
3. Once the input button is selected, the front panel input LEDs indicate the current gain or attenuation setting. By default, all inputs are set to 0 dB (all LEDs dark). Rotate the program volume encoder clockwise to increase and counterclockwise to decrease the selected input audio level. The front panel LEDs track the level as the knob is turned.
4. Once the desired input level is set, the user can press the two mute buttons to exit, or within 3 seconds, select another input to adjust.

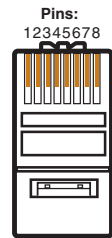
While in the input level adjustment mode, if a front panel button is not pressed or the program knob is not rotated for more than 3 seconds, the switcher times out and exits the mode.



## Twisted Pair Recommendations for DTP Communication

Extron recommends using the following practices to achieve full transmission distances up to 230 feet (70 m) and reduce transmission errors.

- Use Extron XTP DTP 24 SF/UTP cable for the best performance. If not using XTP DTP 24 cable, Extron recommends 24 AWG, solid conductor, STP cable with a minimum bandwidth of 400 MHz.
- Terminate cables with shielded connectors to the TIA/EIA T 568 B standard (shown to the right).
- Limit the use of more than two pass-through points, which may include patch points, punch down connectors, couplers, and power injectors. If these pass-through points are required, use CAT 6 or 6a shielded couplers and punch down connectors.



| Pin | T568B Wire color |
|-----|------------------|
| 1   | White-orange     |
| 2   | Orange           |
| 3   | White-green      |
| 4   | Blue             |
| 5   | White-blue       |
| 6   | Green            |
| 7   | White-brown      |
| 8   | Brown            |

### ATTENTION:

- Do not connect these devices to a computer or telecommunications network.
- DTP remote power is intended for indoor use only. No part of the network that uses DTP remote power should be routed outdoors.

### NOTE:

- When using CAT 5e or CAT 6 cable in bundles or conduits:
- Do not exceed 40% fill capacity in conduits.
  - Do not comb the cable for the first 20 m, where cables are straightened, aligned, and secured in tight bundles.
  - Loosely place cables and limit the use of tie wraps or hook and loop fasteners.
  - Separate twisted pair cables from AC power cables.

|  |  |  |   |
|--|--|--|---|
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