

## XPA U 1004 SB and XPA U 2002 SB • Setup Guide

The Extron XPA U 1004 SB is a 4-channel power amplifier for use in low-impedance speaker systems or high-impedance line distribution audio systems, while the XPA U 2002 SB is a 2-channel power amplifier with the same usage.

The XPA U 1004 SB and XPA U 2002 SB are 1U high, half rack width, and rack mountable. The amplifiers have mounting holes for 9" and deeper rack shelves, and are plenum rated with an optional flex conduit adaptor. The units are convection cooled.

This guide provides instructions for an experienced installer to set up and operate both the XPA U 1004 SB and XPA U 2002 SB power amplifiers. For full installation, configuration, and operation details, see the *XPA U 1004 SB and XPA U 2002 SB User Guide* available at [www.extron.com](http://www.extron.com).

### Installation Steps

#### Step 1 – Mounting

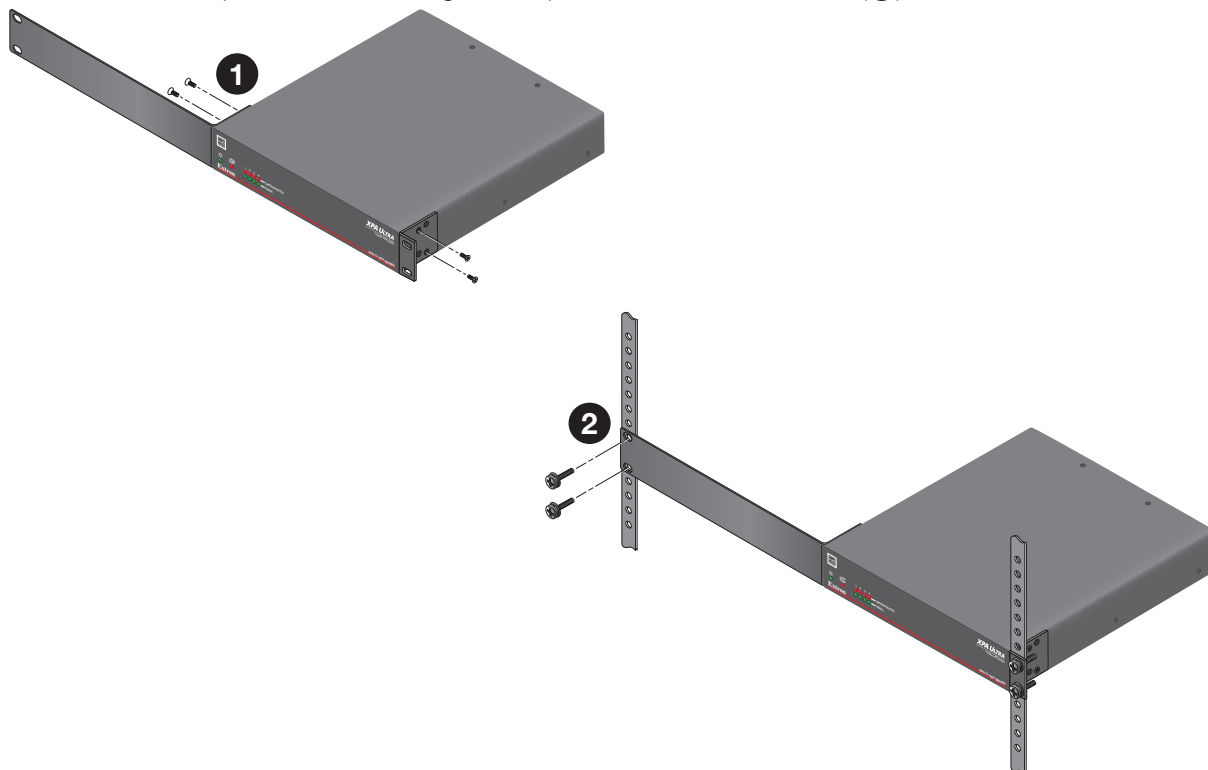
Turn off all of the equipment and disconnect it from the power source. Mount the amplifier as required; the unit can be securely mounted in a variety of locations using optional Extron Mounting Brackets and accessories (see the [Extron website](http://www.extron.com) for compatible optional mounting accessories) or using the included 3-piece bracket system. The brackets do not come attached to the amplifier.

Below are two methods of rack mounting the amplifiers.

#### Rack Ear Mounting (Single Unit)

The XPA U 1004 SB and XPA U 2002 SB ship with a set of rack ears, allowing the amplifier to be installed in a full rack-width space. Mount the amplifier with rack ears as follows:

1. If the amplifier has its flat bottom rubber feet installed, remove them.
2. Attach the rack ears to the sides with the four provided #6 machine screws (1).
3. Insert the amplifier into the rack and align the holes in the rack ears with the holes on the rack.
4. Secure the amplifier to the rack using the four provided 10-32 x 3/4" screws (2).

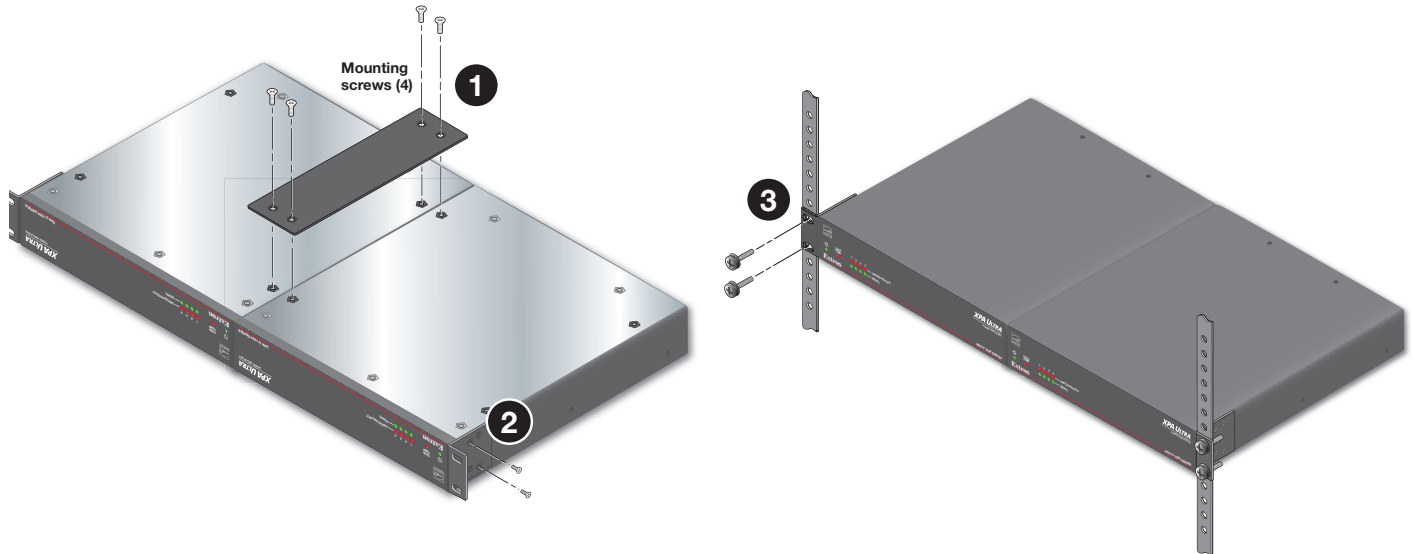


**Figure 1.** XPA U 1004 SB and XPA U 2002 SB Rack Ear Mounting

## Bridge Plate Rack Mounting (Side-by-Side)

The XPA U 1004 SB and XPA U 2002 SB ship with a bridge plate connector to connect two amplifiers together and form a full rack-width unit. Mount and connect two amplifiers as follows:

1. If the amplifier has its flat bottom rubber feet installed, remove them.
2. Position two amplifiers upside down and next to each other as shown below.
3. Use the bridge plate connector and the four provided #4 machine screws to connect the two units together (1).
4. Attach the two short rack ears to the units with the four provided #6 machine screws (2).
5. Insert the amplifier into the rack and align the holes in the rack ears with the holes on the rack.
6. Secure the amplifier to the rack using the four provided 10-32 x 3/4" screws (3).



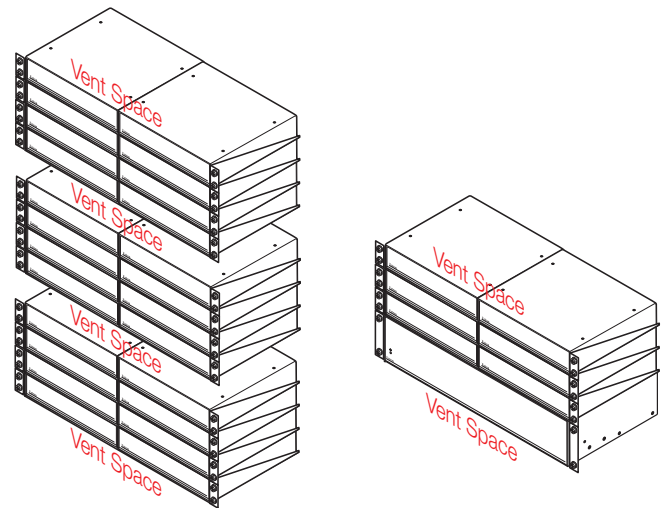
**Figure 2. XPA U 1004 SB/XPA U 2002 SB Bridge Plate Rack Mounting**

## Ventilation Recommendation

Excessive heat can decrease a power amplifier's lifetime. An Over Temp LED indicator on the front panel lights red when the maximum recommended operating temperature of +122 °F (+50 °C) has been surpassed.

To minimize the chances of overheating, the amplifier should be arranged in a rack so that the environment does not reach or surpass +122 °F (+50 °C). See the image to the right to see the most optimal way to arrange the XPA U 1004 or XPA U 2002 SB. No more than four stacks of amplifiers in a one-on-top-of-the-other arrangement should occur without an open between the stacks.

The XPA U 1004 SB and XPA U 2002 SB can also be arranged directly above or below a non-XPA Ultra device, but in any case, the environment should still not reach or exceed +122 °F (+50 °C).



## Set Amplifier Output Mode

### Step 2 – Rear Panel Configuration

Follow the instructions below to learn how to configure the rear panel for both the XPA U 2002 SB and XPA U 1004 SB. Both units are configured in the same way.

- Wire the source output to the Line Input 3.5mm captive screw port as shown below. Figure 3 shows both balanced and unbalanced inputs.

**NOTE:** In bridged mono output modes, only the odd-numbered input connector is used.

- Set the output mode for a selected channel pair by adjusting the 8-position rotary switch. There are two Stereo modes and six Bridged Mono modes.
- For stereo modes, connect a four 4-pin, 5 mm captive screw connector for two channels of speaker outputs. Each port has a screw flange to secure the plug to the connector.
- For mono modes, connect the same 4-pin, 5 mm captive screw connector but wire only the middle speaker output pins for a single channel of speaker output. See Figure 3 to learn how to wire the speaker output.

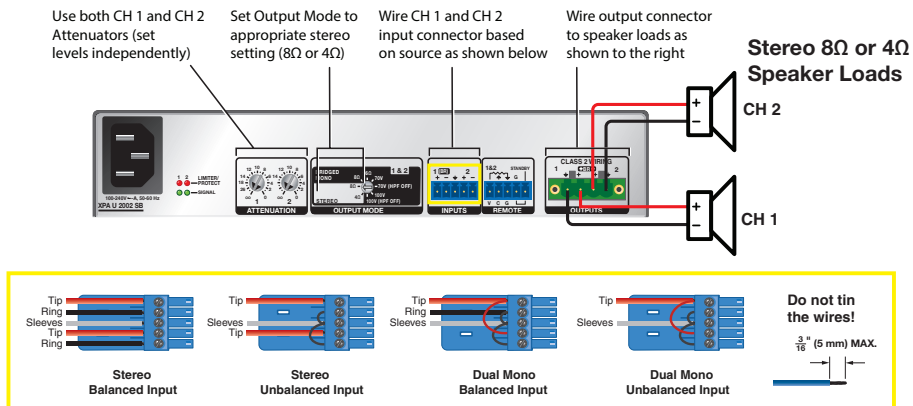
#### ATTENTION:

- Do not tie channel output pins to each other or to ground. Doing so will short out the outputs, damage the amplifier, or both.
- Ne pas lier les sorties 1 et 2 des canaux entre elles ou à la terre. Les sorties pourraient être court-circuitées et/ou l'amplificateur pourrait être endommagé.
- To avoid risk of damage to the amplifier or the speakers, always connect low-impedance speaker loads ( $8\Omega/4\Omega$ ) and high-impedance speaker loads (70V) to the appropriately marked output connectors on the amplifier.
- Pour éviter tout risque de détérioration de l'amplificateur ou des enceintes, connectez toujours les charges de l'enceinte faible impédance ( $8\Omega/4\Omega$ ) et les charges de l'enceinte haute impédance (70V) aux connecteurs de sortie correctement identifiés sur l'amplificateur.

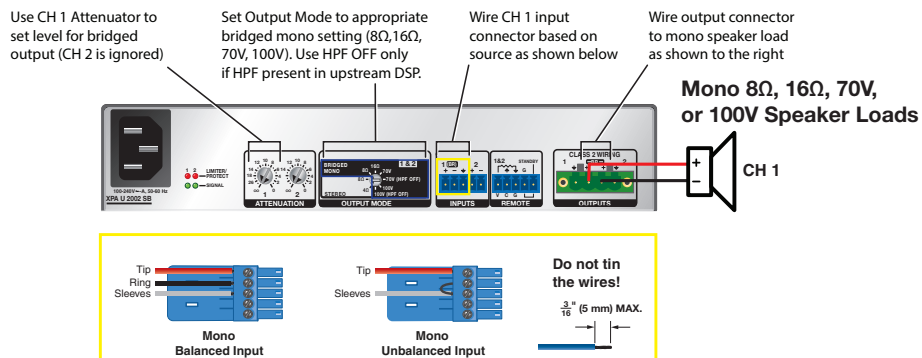
#### NOTE:

- You must use Class 2 wiring for this output to comply with UL requirements.
- XPA U 2002 SB is shown. Channels 3 and 4 of the XPA U 1004 SB are configured in the same way.

#### Stereo $8\Omega$ or $4\Omega$ Output Modes



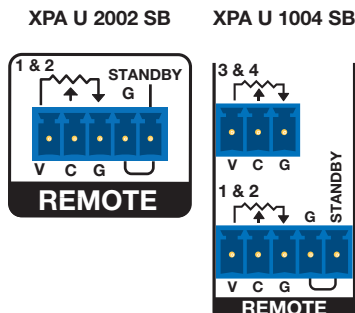
#### Bridged Mono $8\Omega/16\Omega/70V/100V$ Modes



**Figure 3. XPA SB Configuration Based on Output Mode**

# XPA U 1004 SB and XPA U 2002 SB • Setup Guide (Continued)

## Step 3 – Remote Ports



**Figure 4. Remote Volume Control and Standby Ports**

The 3.5 mm 5-pin captive screw remote control port (shown above) is used to control volume on channels 1 & 2 on pins 1, 2, and 3, and standby mode through contact closure on the pins 4 and 5. The XPA U 1004 SB has an additional 3-pole captive screw port directly above this port to control the volume on channels 3 & 4.

The volume control ports can be wired to Extron remote volume controllers such as an Extron VC 50, VCM 110 AAP, VCM 200 series, MLA VC10 Plus, and select MLC controllers. For more details on wiring the volume control ports see the *XPA U 1004 SB and XPA U 2002 SB User Guide*.

When the STANDBY pin (pin 5) is shorted to ground (Pin 4), the amplifier goes into standby mode. Standby mode turns off all the outputs, although the amplifier still receives power. The power LED on the front panel lights amber when the amplifier is in Standby mode.

**NOTE:** A 10k ohm resistor is included with the amplifier. If the resistor is connected between the **STANDBY** and **Ground** pin, the auto-standby timer is suppressed. The **STANDBY** pin can still be shorted to the **Ground** pin to put the amplifier in standby.

## Step 4 – Powering on Equipment

### ATTENTION:

- The amplifier must be powered on last.
- L'amplificateur doit être mis sous tension en dernier.

Reconnect all the power cables and switch on all of the other equipment before attaching the IEC power cable and powering on the unit. The power LED will light green.

## Step 5 – Adjusting Attenuation

**NOTE:** Set the volume control on the connected control device(s) to maximum and ensure that the amplifier is not currently forced into standby mode via the standby pin prior to making adjustments.

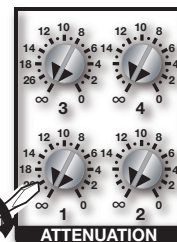
**NOTE:** When a channel pair is in bridged mono mode, only the odd channel's attenuator knob is used.

Adjust audio attenuation using the rear panel adjustment attenuators as seen to the right.

See Rear Panel Features in the *XPA U 1004 SB and XPA U 2002 SB User Guide* for more information.

## Step 6 – Checking LEDs

Check the Limiter/Protect and Signal LEDs on the front and rear panels to see if any problems are encountered (see Features and Troubleshooting in the *XPA U 1004 SB and XPA U 2002 SB 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.